

Army Regulation 750-1

Maintenance of Supplies and Equipment

Army Materiel Maintenance Policy

**Headquarters
Department of the Army
Washington, DC
20 September 2007**

UNCLASSIFIED

SUMMARY of CHANGE

AR 750-1

Army Materiel Maintenance Policy

This rapid action revision, dated 20 September 2007--

- o Corrects typographical errors and updates administrative details (throughout).
- o Provides guidance for repair parts support and clarifies repair parts authorized by depot maintenance activities (chap 5).
- o Relocates "bill of material" under "Materiel Requirements Planning" (chap 5).
- o Adds procedures for unrestricted stocks in the Logistics Modernization Program and Enterprise Resources Planning Depot Maintenance activities (chap 5).
- o Provides guidance for depot maintenance reporting and recording (chap 5).


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:


JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

History. This publication is a rapid action revision. The portions affected by this rapid action 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, interservice and contract maintenance support, Sustainment maintenance including national maintenance, maintenance support during acquisition, maintenance programs, and depot maintenance.

Applicability. This regulation applies to the Active Army, the Army National

Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. During mobilization, the proponent may modify chapters and policies contained in this regulation.

Proponent and exception authority. The proponent of 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 the 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 commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

Army management control process. This regulation contains management control provisions and identifies key management 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, ATTN: DALO-SMM, 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, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Distribution. This publication is available in electronic media only and is intended for command levels A, B, C, D, and E for the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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*This regulation supersedes AR 750-1, dated 10 April 2007.

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Glossary

Chapter 1 Introduction

1-1. Purpose

a. 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.

b. It relates to two categories of maintenance: Field and Sustainment. Field consists of maintenance functions formerly known as Operator/Crew (equipment operators and vehicle crews), unit, and direct support. Sustainment consists of maintenance functions formerly known as general support (GS) and depot operations of the Army maintenance system and Armywide program for commodity-unique maintenance.

c. This regulation also applies to maintenance of all materiel owned or supported by the U.S. Army, except the following:

- (1) Material purchased with nonappropriated funds (Army Regulation (AR) 215-1).
- (2) Special intelligence property.
- (3) Real property.
- (4) Foreign material used for training.
- (5) Leased/rented materiel, unless the lease/rental agreement dictates otherwise.
- (6) Those aspects of combat and materiel development that impact the materiel maintenance function.
- (7) Materiel maintenance as implemented in AR 12-1.

d. The provisions of this regulation are applicable to all Army-funded property under the direct control of the U.S. Army Corps of Engineers (USACE). Civil-funded property under the control of USACE is exempt from the provisions of this regulation; however, these provisions may be used when considered to be in the best interest of the Government.

1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1-3. Explanation of abbreviations and special terms

Abbreviations and special terms used in this publication are explained in the glossary.

1-4. Responsibilities

Responsibilities are listed in chapter 2.

Chapter 2 Responsibilities

2-1. Assistant Secretary of the Army (Financial Management & Comptroller)

The Assistant Secretary of the Army (Financial Management & Comptroller) (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. Prepare, present, and defend the depot maintenance budget.

e. Participate in the program development process through membership in the Program Evaluation Group (PEG).

f. Provide general officer or Senior Executive Service (SES), representation as the chief financial officer, to the Army Depot Maintenance Corporate Board (DMCB) (see para 5-2).

g. Provide colonel (06)/general schedule 15 (GS-15) level representation to the Depot Maintenance Execution Council (DMEC) (see para 5-4).

2-2. Assistant Secretary of the Army (Acquisition, Logistics, & Technology)

The Assistant Secretary of the Army (Acquisition, Logistics, & Technology) (ASA(ALT)) will—

a. Promote interoperability by assuring that materiel developers acquire systems and equipment that are supportable using the Army maintenance system and associated Standard Army Management Information Systems (STAMIS).

b. Advocate maintenance considerations in role of co-chair for the Army Systems Acquisition Review Council (ASARC).

c. Establish reliability, maintainability, and supportability (RMS) exit criteria in system-specific acquisition decision memorandum (ADM).

- d. Approve type classification of systems as part of milestone C, ADM per AR 70-1.
- e. Coordinate with the materiel developers (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 maintenance capability review is conducted for all newly acquired systems/modifications for systems designated as core.
- g. Provide general officer or SES representation from acquisition and logistics to the Army DMCB (see para 5-2).
- h. Develop Army policy for integrated logistics support (ILS).
- i. In coordination with the ODCS, G-4, establish policies and procedures to support maintenance burden data requirements for force documentation as required by the ODCS, G-3
- j. Provide colonel (06)/general schedule 15 (GS-15) level representation to the DMEC (see para 5-4).

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

The Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA(M&RA)) will provide representation to the Army DMCB as required (see para 5-2).

2-4. Deputy Chief of Staff, G-1

The Deputy Chief of Staff, G-1 (DCS, G-1) will develop plans, policies, and programs for the management of military and civilian maintenance personnel.

2-5. Deputy Chief of Staff, G-2

The Deputy Chief of Staff, G-2 (DCS, G-2) will develop policies and procedures related to materiel maintenance of intelligence-unique materiel.

2-6. Deputy Chief of Staff, G-3/5/7

The Deputy Chief of Staff, G-3/5/7 (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 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/modernization resource information submission crosswalk for intensively managed weapon systems.
- g. Provide representation to the Army DMCB.
- 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 process.
- i. Include ready-to-fight (RTF) and maintenance float in the computations for the Army acquisition objective using the approved factors from the Total Army Equipment Distribution Plan (TAEDP).
- j. Coordinate with the ODCS, G-4 to redistribute operational readiness float (ORF) identified as excess or not authorized.
- k. Identify the maintenance burden data requirements and logistics data elements necessary to compute the number of maintenance personnel required in the Army force structure.

2-7. Deputy Chief of Staff, G-4

The Deputy Chief of Staff, G-4 (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 active and reserve components.
- b. Serve as the proponent for the Department of Defense (DOD) interservice, interdepartmental, and interagency maintenance support programs within the Army.
- c. Serve as Army principal on the Defense Depot Maintenance Council (DDMC).
- d. Ensure the materiel readiness and sustainability of the U.S. Army.
- e. Formulate concepts, policies, plans, and program guidance for the following materiel maintenance programs:
 - (1) Maintenance award programs (see para 8-1).
 - (2) Specialized repair authority (SRA) (see para 3-12).
 - (3) Sample data collection (SDC) (see para 8-4).
 - (4) Maintenance regeneration enablers (see para 8-7).
 - (5) National Maintenance Program (NMP) (see para 8-14).

- (6) Maintenance assistance and instruction team (MAIT) (see para 8–15).
- f.* Serve as the proponent for the functional requirements for maintenance management STAMIS or other maintenance automated information systems (AIS) used to support Army maintenance programs.
- g.* Provide final approval for funding of interservice support agreements (ISSAs) that exceed programmed support (see para 4–30).
- h.* Represent the Department of the Army (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 (DPAE); Headquarters (HQ), Army Materiel Command (AMC); and AMC major subordinate commands (MSCs).
- l.* Sponsor HQ, AMC reviews (at least annually) for the purpose of validating and prioritizing maintenance requirements.
- m.* Manage, validate, and monitor execution of the Army Depot Maintenance Operational 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.* Chair the Army DMCB (see para 5–2).
- r.* Provide Colonel (06)/general schedule 15 level representation to the DMEC (see para 5–4).
- s.* Sponsor and provide staff support to the Army Maintenance Board (AMB).
- t.* Serve as the proponent for the Army Oil Analysis Program (AOAP) and approve Army input to the Department of Defense Joint Oil Analysis program (JOAP).
- u.* Approve requests for additions or deletions to the operational readiness float support list and all new or revised float factors.
- v.* Coordinate with the ODCS, G–3/5/7 on approval of new float candidates and redistribution of unauthorized or excess ORF equipment.
- w.* Furnish AMC-approved float factors for publication in the TAEDP cycle.
- x.* Plan and program resources to support the ODCS, G–3/5/7 maintenance burden data requirements and associated logistical data elements needed to determine maintenance force structure requirements.
- y.* 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.

2–8. Chief Information Officer (CIO)/G–6

The chief information Officer (CIO)/G–6 will—

- a.* Develop and coordinate plans, and procedures for the maintenance of DA’s command, control, communications and computers (C4) and information technology (IT) equipment and systems using the Army maintenance system.
- b.* Provide policy, oversight and program direction to the Network Enterprise Technology Command (NETCOM)/9th Army Signal Command (ASC) (see para 6–33).

2–9. Deputy Chief of Staff, G–8

The Deputy Chief of Staff, G–8 (DCS, G–8) will—

- a.* Develop plans, policies, and procedures for building the maintenance input to the Program Objective Memorandum (POM).
- b.* Participate in annual maintenance requirement reviews to ensure maintenance funding and prioritization in compliance with programming goals and objectives.
- c.* Provide colonel (06)/general schedule 15 level representation to the Army DMCB (see para 5–2).
- d.* Provide colonel (06)/general schedule 15 level representation to the DMEC (see para 5–4).

2–10. Assistant Chief of Staff for Installation Management

The Assistant Chief of Staff for Installation Management (ACSIM) 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.* Provide general staff oversight and support of the U.S. Army Installation Management Agency (USAIMA).

- c. Assist ACOMs, ASCCs, and DRUs , MATDEVs, and other commands and agencies in identifying requirements for maintenance facilities and, when approved in accordance with AR 415–15, their design and construction.
- d. Provide general officer or SES representation to the DMCB (see para 5–2).
- e. Provide colonel (06)/general schedule 15 level representation to the DMEC (see para 5–4).

2–11. The Surgeon General

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.

2–12. Commanding General, U.S. Army Intelligence and Security Command

The Commanding General (CG), U.S. Army Intelligence and Security Command (INSCOM) will operate and maintain assigned command-unique intelligence materiel through Sustainment level.

2–13. Commanding General, U.S. Army Training and Doctrine Command

The CG, U.S. Army Training and Doctrine Command (TRADOC) will—

- a. Execute assigned combat development mission.
- b. Develop Army maintenance concepts and doctrine for Field and Sustainment maintenance operations of the Army Maintenance System in coordination with materiel developers, HQ Installation Management Agency (IMA) and ODSC, G–4 (Maintenance Policy Division).
- c. Develop automated systems to support the Army Maintenance System.
- d. Evaluate fielded systems to update maintenance training for Field and Sustainment maintenance operations.
- e. Ensure that newly identified maintenance tasks are included in soldiers’ manuals.
- f. Ensure that training materials are developed to provide the training required supporting maintenance military occupational specialties (MOSs).
- g. Ensure battle damage assessment and repair (BDAR) techniques are included in all resident maintenance training courses and doctrinal literature.
- h. Ensure operator- and leader-level preventive maintenance checks and services (PMCS) instruction is included in all resident training courses.
- i. Develop and incorporate AOAP instructions for appropriate programs of instruction (see para 8–2).
- j. Develop and update concepts and doctrine for employing depot-level repair organizations in a theater of operations.
- k. Represent SKOT users for all matters associated with the review and update of SKOT and corresponding supply catalogs.
- l. Support DCS, G–4 requirements for logistical data elements necessary to meet DCS, G–3/5/7 maintenance force structure requirements determination.

2–14. Combat developers

Combat developers (CBTDEVs) 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 system maintenance support proponent (SMSP) 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/mutilation decisions based on time limits and available skills.
- i. Review all new and revised equipment technical publications, including maintenance allocation charts (MACs), before publication. (AR 25–30 provides guidance.)

2–15. Commanding General, Army Materiel Command

The CG, AMC, as the National Maintenance Manager for the U.S. Army, will—

- a. Develop Army depot-level maintenance concepts and support systems, with participation by ODSC, G–4 (Maintenance Policy Division), CBTDEVs, and MATDEVs.

- b. Manage the depot maintenance system, including forward repair activities (FRA).
- c. Establish and operate logistics assistance offices (LAOs) and manage the Logistics Assistance Program (LAP) per AR 700-4.
- d. Ensure that spares and repair parts are available in sufficient quantities to support materiel throughout its life cycle.
- e. Develop and operate a standard, integrated, and centralized maintenance management information system to provide multisource, multilevel equipment performance, maintenance, and logistics data (to include CLS) in support of Army materiel development, improvement, management, and sustainment efforts.
- f. Support DCS, G-4 requirements for logistical data elements necessary to meet DCS, G-3/5/7 maintenance force structure requirements determination.
- g. Leverage lubricant technology advances by conducting a business case analysis of all equipment lubrication orders (not less than every 5 years) using OEM, engineering resources and Oil Analysis Standard Interservice System (OASIS) data to publish changes to lube orders that synchronizes the maintenance effort with current technology.
- h. Manage program operations and execution for the AOAP, to include—
 - (1) Providing management guidance, technical supervision, and assistance to all Army activities regarding the AOAP.
 - (2) Programming and funding for the procurement and sustainment of unique AOAP laboratory test instruments.
 - (3) Programming and budgeting for the development and fabrication of additional AOAP mobile laboratories.
 - (4) Ensuring that AMC major subordinate commands—
 - (a) Recommend systems for inclusion in the AOAP and sampling intervals for these systems. The program executive officer (PEO)/program manager (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/PMs for retrofit during depot-scheduled timeframes, where feasible.
 - (c) Coordinate with PEOs/PMs to ensure embedding of inline/online diagnostics capabilities in future systems as technology allows.
 - (5) Providing information to AMC MSCs and materiel developers on changes to laboratory capabilities and component wear metal criteria.
 - (6) Establishing AOAP certification criteria for both contract and organic laboratories, as described in AR 700-132 and Technical Manual (TM) 38-301.
 - (7) Conducting unannounced annual quality assurance Laboratory Assistance and Assessment Review visits to review laboratory operations, performance, and validate AOAP laboratory certification compliance.
 - (8) Serving as the functional manager for the joint OASIS data system, as prescribed in AR 70-1. The PM AOAP serves as the Army point of contact with the Navy for interservice standardization of OASIS laboratory software.
 - (9) Approving weapon system and component enrollment in the AOAP through coordination with MSCs, PEOs/PMs and the ACOMs, ASCCs, and DRUs.
 - (10) Approving equipment oil sampling intervals through coordination with MSCs, PEOs/PMs and the ACOMs, ASCCs, and DRUs.
 - (11) Ensuring procedures prescribed in TM 38-301 regarding certification of test instruments, laboratories and personnel are consistent with requirements for AOAP laboratories.
 - (12) Serving as technical advisor for the development, fabrication, and operation of AOAP mobile laboratory facilities.
 - (13) In coordination with appropriate ACOMs, ASCCs, and DRUs, designating AOAP laboratory regional support areas and facilitate laboratory establishment and closures.
 - (14) Serving as technical advisor and facilitator for non-contract AOAP laboratory personnel training and for contractors, at the contractor's expense.
 - (15) Serving as technical advisor to ACOMs, ASCCs, and DRUs and reviewing, recommending, and facilitating planning for the establishment of AOAP laboratories.
 - (16) Hosting an annual in-process review with the ODCS, G-4, ACOMs, ASCCs, and DRUs, AMC MSCs, and PEO/PMs to review program operations, requirements, and coordinate program out-year planning objectives. This includes a review of systems/components enrolled, sampling intervals, and wear-metal criteria.
 - (17) Developing and publishing, not later than 45 days following the end of the fiscal year, an annual executive summary outlining program operations, benefits, and costs.
 - (18) Serving as proponent for TB 43-0211 and as Army coordinating authority for AOAP procedures and material contained in all Army and joint service regulations, technical bulletins, pamphlets, and field manuals.
- i. 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).

- j.* Manage the Army Warranty Program (see AR 700–139).
- k.* Manage the Army Chemical Agent Resistant Coating (CARC) and Camouflage Pattern Painting (CPP) programs.
- l.* Manage and staff requirements for the maintenance allocation chart (MAC).
- m.* Manage and oversee the SRA program.
- n.* Program and budget DA-approved SDC projects.
- o.* Manage the Depot Repair and Return Program (see para 5–9).
- p.* As the Army lead organization for the National Tire Retread Program, establish a worldwide program for management of aircraft and vehicle tires.
 - q.* Provide life-cycle maintenance engineering support for materiel acquired by the DA.
 - r.* Develop and submit an Army business plan to the Joint Depot Maintenance Activity Group for the Joint Depot Maintenance business profile that is provided to the DDMC. Maintain the DDMC business plan.
 - s.* Develop and submit depot maintenance OP–29 to the DCS, G–4.
 - t.* Conduct maintenance requirements reviews with MSCs.
 - u.* Perform initial provisioning in accordance with AR 700–18.
 - v.* Manage the DOD interservice, interdepartmental, and interagency maintenance support programs within the Army.
 - w.* Provide maintenance support to field-level units as necessary.
 - x.* Manage the Army Corrosion Prevention and Control Program per AR 750–59.
 - y.* Determine ORF and RTF factors and requirements (see AR 710–1) in coordination with the MATDEV and submit them to DCS, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 20310–0500, for approval.
 - z.* Evaluate and resolve technical and maintenance problems reported by using units through deficiency reports.
 - aa.* Manage and execute the National Maintenance Program (NMP).
 - ab.* Manage and update SKOT. The outline guidance and procedures for acquisition, maintenance, and disposition of SKOT are contained in DA Pam 700–60.
 - ac.* Establish theater foundation logistics support element (LSE) for coordination of AMC maintenance support provided to the theater.
 - ad.* Monitor compliance with depot maintenance core policy. Use DOD-approved methodology to determine core depot maintenance requirements to ensure Army depots maintain sufficient core capability.
 - ae.* Provide two general officer or SES members to the Army DMCB to serve as the chief operating officer and one additional board member.
 - af.* Serve as a member of the HQDA AMB.
 - ag.* Chair the DMEC (see chap 5). Review recommendations for additions/deletions to maintenance float and develop and submit the proposed ORF support list with float factors to HQDA for approval (RCS exempt: AR 335–15, para 5–2e(1)).
 - ah.* Validate ORF authorizations in the requisition-validation (REQVAL) system against the TAEDP authorizations. The total of ORF on hand plus on requisition will not exceed the TAEDP authorization.
 - ai.* Recompute float factors annually as required, based on usage data reported by ACOMs, ASCCs, and DRUs or HQDA guidance.
 - aj.* Publish approved float factors in current Federal Logistics Record (FED LOG).

2–16. Materiel developers

MATDEVs as identified in AR 700–127 will—

- a.* Coordinate the materiel maintenance considerations to be included in requirement documents with CBTDEVs, including the SMSP.
- b.* Ensure that the materiel-fielding plan meets the requirements of the Army maintenance system.
- c.* Ensure that reliability, availability, and maintainability 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.
- e.* Determine, in coordination with the designated MSC, the source of repair for depot-level maintenance (such as organic or contract).
- f.* Ensure ILS/logistic support analysis results are incorporated in initial maintenance planning/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.* Establish and monitor modification work order (MWO) programs per AR 750–10.
- j.* Develop BDAR techniques, procedures, and related tool and materiel requirements in accordance with CBTDEV. The developers will also ensure BDAR concepts are incorporated into new materiel development.

- k. Develop factors for determining ORF requirements. These factors will be submitted to the ODCS, G-4 (Maintenance Policy Division) for approval.
- l. Emphasize condition-based maintenance plus technologies and concepts in the design, development, and improvement of equipment.
- m. 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.
- n. Ensure that equipment is designed with the need for a minimum number of common and special tools.
- o. Support the SDC program as required in paragraph 8-4.
- p. Establish and maintain an age exploration program.
- q. Include requirements for compliance with Federal environmental quality standards for equipment procured and supported by the Army (in accordance with AR 200-1).
- r. Coordinate BOIP feeder data with the CBTDEV to include the SMSP to facilitate planning for distribution of operator and support personnel and support equipment.
- s. Implement management controls to ensure support of the Manpower Requirements Criteria (MARC) program in accordance with guidelines outlined in AR 71-32, AR 70-1, and associated publications.
- t. Ensure that BOIPFD documents the major item system map required by AR 5-23.
- u. Ensure that modifications to Army equipment are applied and reported in accordance with AR 750-10.
- v. Ensure that maintenance float requirements established for equipment being fielded are based on usage data for similar items or best available engineering data.
- w. Coordinate with ODCS, G-3/5/7; TRADOC; and ACOM, ASCC, and DRU ORF coordinators to ensure that maintenance float is properly documented and authorized at ACOM, ASCC, and DRU level in conjunction with materiel fielding plan development.
- x. Provide procedures and help desk assistance to facilitate the repair or replacement of automation system ORF items authorized for repair or replacement at the Field or Sustainment maintenance level.

2-17. Army commands (Active Army)

- a. Major Army commanders will—
 - (1) Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.
 - (2) Ensure evaluation of maintenance is included in the Command Inspection Program.
 - (3) Ensure that subordinate commanders comply with the policies in this regulation. One copy of any implementing instructions will be sent to DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.
 - (4) Ensure that maintenance operations at all levels within their command are properly supervised.
 - (5) Establish and supervise training programs for equipment operators/crews and maintenance personnel in the conduct of maintenance operations.
 - (6) Provide timely and accurate cost, readiness, and maintenance data to management systems.
 - (7) Acquire and maintain a self-sufficient capability and capacity for unit and maintenance provider support of combat, combat support, and combat service support elements.
 - (8) Program funds for support of equipment and rank any unfinanced requirements.
 - (9) Ensure that maintenance is performed at the lowest level possible according to MACs. This process must preclude table of distribution and allowances (TDA) maintenance activities in USAIMA from absorbing maintenance workload that should be performed at modification table of organization and equipment (MTOE) organizations.
 - (10) Comply with materiel maintenance standards and maintenance-related logistical performance and readiness standards.
 - (11) Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750-43.
 - (12) Establish a warranty control office/officer to implement the Army Warranty Program per AR 700-139.
 - (13) 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).
 - (14) Provide air traffic control materiel support.
 - (15) Establish effective corrosion prevention and control program for assigned equipment per AR 750-59.
 - (16) Determine if reimbursement for fabrication services of Field or Sustainment maintenance activities is authorized.
 - (17) Carry out quality programs under the provisions of AR 70-1 for assigned maintenance and calibration operations.
 - (18) Designate points of contact (POCs) for the SRA, SDC, MWO, AOAP, unique item tracking (UIT), and maintenance float programs.

- (19) Assist responsible official and AMC MSCs as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.
- (20) Ensure subordinate commanders with sustainment maintenance missions comply with NMP business procedures when scheduling and executing sustainment maintenance operations.
- (21) 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.
- (22) Ensure that assigned maintenance and supply personnel are utilized in the MTOE/modification table of distribution and allowances (MTDA) positions for which they have been requisitioned and trained, including those positions identified with additional skill identifiers (ASIs).
- (23) Ensure subordinate commands participate in the AOAP.
- (24) 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 a PM AOAP.
 - (c) Ensure AOAP enrolled equipment and component oil samples are submitted to the regional oil analysis laboratory.
 - (d) Ensure personnel are trained in the proper technique to take oil samples and in the preparation of AOAP forms.
 - (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 standing operating procedures. AOAP procedures are outlined in DA Pam 750-8 and DA Pam 738-751. Laboratory products and services are identified in TB 43-0211.
- (25) Incorporate quality assurance provisions and technician qualification required by the AOAP performance work standards (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.
- (26) Sustain the mobile AOAP laboratories upon arrival in the Army Service Component Command AOR based on DCS, G-3 approval of deployment.
- (27) Approve the establishment of ORF and appoint a float coordinator.
- (28) Distribute ORF within the command.
- (29) Establish repair time criteria to be used as the basis for issue of ORF assets.
- (30) Determine the minimum quantity of ORF required to meet their needs and ensure that ORF on hand and on requisition does not exceed the TAEDP authorization.
- (31) Report the previous calendar year demand data for ORF to the AMC Logistics Support Activity, ATTN: AMXLS-RB, Redstone Arsenal, AL 35898-7466. (RCS exempt: AR 335-15, para 5-2e(1)). An example of the required data follows:
- (a) Routing identifier code (RIC).
 - (b) LIN.
 - (c) National stock number (NSN).
 - (d) Nomenclature.
 - (e) Total ORF downtime (days).
 - (f) ORF-authorize (TAEDP).
 - (g) Current on-hand ORF assets.
- (32) Report any excess or unauthorized ORF assets to the ODCS, G-4 (Maintenance Policy Division) for disposition instruction. Excess includes ORF assets on hand with no utilization during one reporting period. Excess will be distributed as directed by HQDA.
- (33) Recommend additions or deletions to the ORF support list throughout the year. These recommendations, with supporting justifications, will be forwarded to the AMC Logistics Support Activity (LOGSA).
- b. The Commander, U.S. Forces Command (FORSCOM), in support of the AR, will—
 - (1) Conduct a continuing analysis and evaluation of the AR Materiel Maintenance Program to ensure that the objectives of the program are attained by all subordinate commands.
 - (2) 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 AR Materiel Maintenance Program. AR 570-4 will be used as a guide for determining manpower requirements of maintenance activities.
 - (3) Maintain Army BASOPS communications-electronics (CE) equipment; other assigned automation, communication, printing, audio-visual and records management equipment; and the Army portion of the Defense Communication System.

- (4) Maintain information systems at INSCOM sites.
- c. Commanders at all levels will—
 - (1) 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.
 - (2) Provide leadership, technical supervision, and management control of materiel maintenance programs of subordinate commands and activities.
 - (3) Emphasize the conduct and supervision of PMCS performed at unit level. Materiel will be maintained at the maintenance standard specified in paragraph 3–2.
 - (4) Develop and sustain a high degree of maintenance discipline within their commands, including management of repair parts per AR 710–2.
 - (5) Establish, maintain, and conduct training of operators, crews, and maintenance personnel to properly use and maintain equipment.
 - (6) 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.
 - (7) Exercise management controls sufficient to ensure prudent and efficient use of all resources (people, money, materiel, and time) required to perform assigned maintenance missions.
 - (8) 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.
 - (9) Provide materiel maintenance support to all assigned units and activities.
 - (10) Recommend improvements to the Army maintenance system.
 - (11) Comply with the provisions of AR 750–43 for TMDE used in support of maintenance operations.
 - (12) 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/aviation equipment).
 - (13) Encourage establishment of an aggressive awards program for operators and maintainers.
 - (14) Implement an effective quality program per AR 70–1. Quality programs will be defined, quantified, specified, measured, and assessed.
 - (15) Ensure that all field-level PMCS, including field-level services, are scheduled and performed as required by the TM XX–10, XX–20, and XX–30 series.
 - (16) Ensure prompt compliance with requirements dictated by safety-of-use messages in accordance with AR 750–6 and AR 95–1.
 - (17) Ensure that sufficient numbers of personnel are trained in various BDAR skills so that combat resilience requirements can be met in wartime operations.
 - (18) Support the SDC program, when implemented, by providing proponent agency contractor personnel reasonable access to equipment and data relevant to the SDC project.
 - (19) Emphasize the prompt movement of unserviceable reparables to maintenance.
 - (20) Appoint logistics readiness officers.
 - (21) Support the implementation of the NMP.
 - (22) Ensure modifications to assigned equipment are done in compliance with AR 750–10.

2–18. Director USAIMA

The Director, USAIMA will—

- a. Ensure that there is only one IMMA on an installation. Installation commanders may consolidate Director of Logistics (DOL) and Director of Engineering and Housing (DEH) (or Director of Public Works (DPW)) 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 USAIMA structure, Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) with other Army commands, interservice or intraservice support agreements (ISSAs), or contracts will be considered.
- d. Ensure subordinate commanders comply with NMP business procedures when scheduling and executing sustainment maintenance operations.
- e. Ensure that maintenance supports readiness. Installation commanders will be held accountable for the conduct of maintenance operations.
- f. Ensure that subordinate commanders comply with the policies in this regulation. One copy of any implementing instructions will be sent to DCS, G–4, ATTN: DALO–SMM, 500 Army Pentagon, Washington, DC 20310–0500.
- g. Ensure that maintenance operations at all levels within their command are properly supervised.

- h.* Provide timely and accurate cost, readiness, and maintenance data to management systems.
- i.* Acquire and maintain a self-sufficient capability and capacity for field and selected sustainment maintenance provider support of combat, combat support, and combat service support elements.
- j.* Program funds for support of equipment and rank any unfinanced requirements.
- 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, SMMAs, and equipment maintenance missions (EMMs) to DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.
- l.* Comply with materiel maintenance standards and maintenance related logistical performance and readiness standards.
 - m.* Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750-43.
 - n.* Establish a warranty control office/officer to implement the Army Warranty Program per AR 700-139.
 - o.* Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment. (AR 200-1 provides guidance.)
 - p.* Provide air traffic control materiel support.
 - q.* Establish effective corrosion prevention and control program for assigned equipment per AR 750-59.
 - r.* Determine if reimbursement for fabrication services of Field or Sustainment maintenance activities is authorized.
 - s.* Carry out quality programs under the provisions of AR 70-1 for assigned maintenance and calibration operations.
 - t.* Designate POCs for the SRA, SDC, MWO, AOAP, UIT, and maintenance float programs.
 - u.* Assist responsible official and AMC MSCs as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.
 - v.* Ensure that support installations provide maintenance support to the AR when required, as established by AR 5-9.
 - 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 utilized in the MTDA positions for which they have been requisitioned and trained, including those positions identified with ASIs.
 - y.* Ensure installations participate in the AOAP.
 - z.* Ensure each 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 by the supporting AOAP laboratory staff or through a 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 trained in the proper technique to take oil samples and in the preparation of AOAP forms.
 - (5) Ensure subordinate units record a laboratory-identified deficiency in equipment maintenance records. Units will notify the laboratory on DA Form 3254 within 5 days of maintenance action taken.
 - (6) Ensure units incorporate AOAP processes in local standing operating procedures. AOAP procedures are outlined in DA Pam 750-8 and DA Pam 738-751. Laboratory products and services are identified in TB 43-0211.
- aa.* Installation commanders in support of the AR will—
 - (1) Provide Field maintenance as required for AR 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.
 - (2) Provide logistical support to AR units during annual training (AT), as required.
 - (3) Maintain an effective liaison program to the supported AR maintenance activities, including ground, air, watercraft, rail, and water and petroleum within the logistical area of responsibility.
 - (4) 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 Reserve (OMAR) program elements.
 - (5) Ensure compliance with NMP business procedures when scheduling and executing sustainment maintenance operations.
- ab.* Appoint a float coordinator.

2-19. Chief, Army Reserve

- a.* The Chief, Army Reserve (CAR) will—
 - (1) Develop materiel maintenance plans, policies, programs, and budgetary requirements pertaining to the AR.
 - (2) Manage the AR Depot Maintenance Program.
 - (3) Develop, program, budget, and defend depot maintenance requirements for AR materiel.
 - (4) Coordinate AR depot maintenance requirements determination with AMC MSCs to ensure AR depot maintenance is programmed in depot-maintenance workload projections.

- (5) Coordinate all MOUs/MOAs involving depot maintenance of AR materiel.
 - (6) Develop a depot maintenance requirement determination process for AR materiel consistent with policy and guidance in this regulation.
 - (7) Provide representation to the Army DMCB and AMB.
 - (8) Provide lieutenant colonel (05)/general schedule 14 level representation to the DMEC (see para 5-4).
- b. The Commander, USARC will command AR commands in CONUS and provide administrative, logistical, and technical assistance to outside the continental United States (OCONUS) AR units in support of Army materiel maintenance programs, and will—
- (1) Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.
 - (2) Ensure evaluation of maintenance is included in the Command Inspection Program.
 - (3) Ensure that any implementing instructions are sent to the DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.
 - (4) Ensure that maintenance operations at all levels within their command are properly supervised.
 - (5) Establish and supervise training programs for equipment operators/crews and maintenance personnel in the conduct of maintenance operations.
 - (6) Provide timely and accurate cost, readiness, and maintenance data to management systems.
 - (7) 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 elements.
 - (8) Program funds for Field and Sustainment maintenance and rank any unfinanced requirements.
 - (9) 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.
 - (10) 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 may consolidate DOL and DEH (or DPW) maintenance operations when cost effective.
 - (11) Evaluate all available methods of providing maintenance support before forwarding requests to the ODCS, G-4 (Maintenance Policy Division) for the establishment of IMMAs. Consider the use of IMMA MOUs/MOAs, ISSAs, and/or contracts. Submit requests to the DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.
 - (12) 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.
 - (13) Coordinate all requirements for TMDE procurement with PM TMDE per AR 750-43.
 - (14) Establish a warranty control office/officer to implement the Army Warranty Program per AR 700-139.
 - (15) 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.
 - (16) Provide air traffic control materiel support.
 - (17) Establish effective corrosion prevention and control program for assigned equipment per AR 750-59.
 - (18) Determine if reimbursement for fabrication services of Field and Sustainment or installation maintenance activities is authorized.
 - (19) Carry out quality programs under the provisions of AR 70-1 for assigned maintenance and calibration operations.
 - (20) Designate POCs for the SRA, SDC, MWO, AOAP, UIT, and maintenance float programs.
 - (21) Assist SDC-responsible official and AMC MSCs as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.
 - (22) Ensure that subordinate commanders with Sustainment maintenance missions comply with NMP business procedures when scheduling and executing Sustainment maintenance operations.
- c. USARC Regional Readiness Command commanders will—
- (1) Supervise maintenance functions of subordinate maintenance activities and provide maintenance support for AR units and activities within their assigned areas.
 - (2) Ensure that AR units under their command perform maximum maintenance within authorization and capabilities on issued or loaned equipment.
 - (3) Ensure that AR Field and Sustainment maintenance units are assigned support missions within existing capabilities and resources.
 - (4) Provide assistance to AR units during AT, inactive duty training (IDT), or other scheduled training assemblies.
 - (5) Provide backup road service within capabilities of subordinate units/maintenance activities to AR units in transit within their assigned area of responsibility.

(6) Coordinate with Active Army support facilities to develop maintenance support and resource requirements mutually.

(7) Establish procedures to—

(a) Monitor, measure, and control the performance of maintenance activities.

(b) Maximize the use of AR table of organization and equipment (TOE) maintenance units to perform field and sustainment maintenance consistent with their MTOE mission, training status, and capabilities.

(8) Provide maintenance support of AR equipment within a prescribed area and develop and publish an AR equipment maintenance support plan.

(9) Ensure that complete field maintenance support, including scheduling and maintenance of equipment records, is provided to units that do not have a TOE Field maintenance capability. This does not include operator or crew maintenance unless adequately justified as an exception by the unit commander on a DA Form 2407 (Maintenance Request).

(10) Ensure that an effective maintenance-training program is developed for each MTOE unit having field-level maintenance capability.

(11) Ensure that AR maintenance support activities provide hands-on repair assistance during periods of IDT when requested by supported units. Administrative requirements such as prescribed load list (PLL) and U.S. Army Regional Readiness Command staff will provide technical assistance support.

(12) Manage a program to validate DA Form 2406 (Materiel Condition Status Report) through comparison with PMCS completed by unit personnel.

d. AR organization/unit commanders will—

(1) Schedule adequate training, time, and resources for performance of preventive maintenance on assigned equipment. This will ensure the involvement of personnel available for training in, and the performance of, PMCS during each daily scheduled training assembly. Specific time will be included in the unit-training schedule.

(2) Develop an operator-training program and assign a licensed operator to each item of equipment.

(3) Schedule and supervise maintenance training.

(4) Be responsible for performance of all authorized maintenance on borrowed equipment. A unit's rating for AT will reflect any failure to complete field-level maintenance before return of borrowed equipment.

(5) Submit DA Form 2404 (Equipment Inspection and Maintenance Worksheet), DA Form 2407, or electronic unit level logistics system (ULLS) DA Form 5988-E (Equipment Inspection/Maintenance Worksheet (Automated)) or ULLS DA Form 5990-E (Maintenance Request), to the supporting maintenance facility for maintenance support beyond the unit's capability. ULLS-generated forms will be the primary method used to transmit requests when the units have the capability.

2-20. Chief, National Guard Bureau

a. The Chief, National Guard Bureau (CNGB) will—

(1) Provide overall coordination and administration for developing materiel maintenance plans, programs, and budgetary requirements pertaining to the ARNG.

(2) Manage ARNG depot maintenance.

(3) Develop, program, budget, and defend depot maintenance requirements for ARNG materiel.

(4) Coordinate ARNG depot maintenance requirements determination with AMC MSCs to ensure ARNG depot maintenance is programmed in depot maintenance workload projections.

(5) Be a party to all MOAs/MOUs involving depot maintenance of ARNG materiel.

(6) Develop a depot maintenance requirement determination process for ARNG materiel.

(7) Provide representation to the Army DMCB and AMB.

(8) Provide lieutenant colonel (05)/general schedule 14 level representation to the DMEC (see para 5-4).

b. The State Adjutants General will—

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

(2) Establish procedures to provide for timely maintenance and/or servicing of equipment.

(3) Establish a MAIT program as detailed in chapter 8.

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

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

(6) Establish unit maintenance facilities to provide support for home station equipment.

(7) 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.

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

c. 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 (CSMS), maneuver area training equipment sites (MATES), UTES, and Field maintenance shops (FMS).

(7) Serve as the program manager 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 NMP business procedures when scheduling and executing sustainment maintenance operations.

d. The State Army Aviation Officer (SAAO) 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.

e. The Army Aviation Support Facility (AASF) commander is a member of the SAAO's staff and will—

(1) Supervise implementation of aviation logistics programs.

(2) Maintain ARNG aviation assets using DA readiness goals listed in AR 700-138.

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

f. The State Aviation Maintenance Officer is a member of the AASF commander's staff and will—

(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.

g. Commanders and supervisors responsible to the State Adjutant General will—

(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 2404, DA Form 2407, or ULLS DA Form 5988-E, or ULLS DA Form 5990-E to the supporting maintenance facility for backup maintenance support beyond the unit's capability. ULLS-generated forms will be the primary method used to transmit requests when the units have the capability.

(8) Maintain records applicable to hand receipt, operation, maintenance, modification materiel readiness reports, and transfer of equipment as prescribed in appropriate publications.

(9) Submit requests for replacement of basic issue items (BII), component of end items (COEI), initial troop installed and authorized items, and repair parts for equipment under their control.

Chapter 3 Maintenance Policies and Structure

Section I Maintenance Policies

3-1. Overview

a. The purpose of Army maintenance is 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 replace or renew service life of 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 the preventive maintenance checks and services known as 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 XX-10 and XX-20 series 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 condition based maintenance plus (CBM+).

(2) Equipment services are specified maintenance actions performed when required where equipment, components, and systems are routinely checked, adjusted, changed, analyzed, lubed, and so forth, 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 or performance of service tasks. They include repair of faults and deficiencies as determined by performance observations, system and component checks, and analysis and updates. Maintenance personnel should use services to replace faulty items or avoid projected component failures based on analysis, engineering documentation, and so forth. 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, and tools to accomplish this process.

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

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

(d) The goal of the Army is to correct all deficiencies and shortcomings as they occur. The correction of all faults (deficiencies, and shortcomings) as established by Army TMs is the basis for the Army standard.

(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.

c. 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) 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.

3-2. The Army maintenance standard

- a. The Army has one maintenance standard, TM XX-10/20.
- 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 XX-10 and XX-20 series PMCS tables. Aviation faults are determined by using the aircraft preventive maintenance inspection and service (PMIS) per TM 1-1500-328-23.
 - (3) All repairs, services, and other related work that will correct field-level equipment/materiel faults for which the required parts/supplies are available have been completed in accordance with DA Pam 750-8 or DA Pam 738-751.
 - (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 MAC must be on a valid support maintenance request (DA Form 5990-E and DA Form 2407).
 - (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 prepositioning ships-Afloat are excluded from this variance requirement.)
 - (7) All routine, urgent, and emergency MWOs are applied to equipment in accordance with AR 750-10. In addition, actions required by one-time safety-of-use messages and emergency safety-of-flight messages are completed per 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). 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/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 TAT standards**

Maintenance priority designator	TAT standard
01–03	5 days
04–08	8 days
09–15	30 days ¹

Notes:

¹ 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/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 LOGSA.
- (3) The unit/activity is unable to perform assigned training missions.
- (4) Repair of essential facilities of an industrial/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/activity’s ability to perform its assigned operational mission is impaired. Without such materiel, the unit/activity may temporarily accomplish assigned missions, but at reduced effectiveness and efficiency below the level of acceptable readiness.

(2) The materiel is equipment readiness code (ERC) A or ERC B materiel 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, DA Form 3266–1 (Army Missile Materiel Readiness Report), or DA Form 1352 (Army Aircraft Inventory, Status, and Flying Time)).

(3) AR 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, including ERC C materiel.

e. Maintenance units/activities manage repair of materiel by maintenance priority designator 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 resequencing maintenance work.

f. As a general rule, an issue priority designator (IPD) used on a requisition perpetuates the maintenance priority designator assigned on DA Forms 5990–E/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 integrated database (LIDB) and Operating and Support Management Information System. Records from such AIS as ULLS, Standard Army Maintenance System (SAMS), Global Combat Support System–Army (GCSS–A), Standard Depot System, or other ODCS, 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 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 LIDB and from other available database files. MM/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 MM of 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, STAMIS end user manuals, and other applicable publications or directives.

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 Army Planning, Programming, Budgeting, and Execution (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, and DRUs and the Army staff, HQDA (ARSTAF) by the ODCS, 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/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 ODCS, G-3. 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/attached military maintenance personnel are used in maintenance operations as outlined in paragraphs 3-12b(1) through 3-12b15.

d. Maintenance operations resource requirements to support active Army and reserve component (RC) installations and non deployable 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. 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.

Notes:

¹ 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 staffs using the Strategic Readiness System (SRS). The item or component may undergo some or all of the status changes as outlined in DA Pam 750-8, table B-21.

² TLRT-M is a DOD-recognized and Armywide metric that recognizes that war-fighter support requirements have the highest priority.

b. Army maintenance organizations will take steps to minimize TAT and provide assistance so that customer organization TLRT-M is minimized. Commanders will—

(1) Manage manpower and, when available, contract manpower. Commanders will adhere to manpower utilization standards as described in paragraph 4-14 of this regulation. Commanders will utilize 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 combat spares (shop and bench stocks) 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, “walk up” 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 IPDs that are consistent with the maintenance priority designators (MPD) 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 regeneration enabler management policy.

(4) Ensure that maintenance facilities will adequately support mission operations. Commanders will review, at least annually, the adequacy of garrison/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. LOGSA will extract maintenance TAT and TLRT-M historical information from the MM of the LIDB and provide performance reports as described in (1) and (2) below and using formats outlined in figures 3-1 through 3-4:

(1) TLRT-M:

(a) MTOE TLRT-M status.

(b) TDA TLRT-M CWT status.

(c) Contractor TLRT-M status.

(2) TAT status:

(a) MTOE maintenance organization TAT.

(b) TDA maintenance organization TAT.

(c) Contract maintenance organization TAT.

UIC: WXXXXX

TLRT-M Report description and instructions:

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 an 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

Force tree selected: STANDARD FORCE

From: 2004-11-01

MACOM: Eighth U.S. Army

To: 2004-12-05

Total items selected: (insert number)

Date grouping method: Yearly

Report: Maintenance summary

UIC Type: Field maintenance

Unit Type: MTOE

Total number of CWOs

MACOM	Organizaton	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 MTOE maintenance organization TAT report

Force tree selected: STANDARD FORCE

From: 2004-11-01

MACOM: IMA

To: 2004-12-05

Total items selected: (insert number)

Date grouping method: Yearly

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.

Figure 3-3. Sample TDA maintenance organization TAT report

Force tree selected: STANDARD FORCE

From: 2004-11-01

MACOM: USAMC

To: 2004-12-05

Total items selected: (insert number)

Date grouping method: Yearly

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 TAT report

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 noncommissioned officer as the maintenance officer.

b. Standing operating procedures 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 above.

- d.* Repair will be done by replacing components at the point of failure, whenever possible, using the lowest level 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/sustainment locations.
- (1) Contractor maintenance personnel will not be permanently stationed in combat or hazardous duty areas (see AR 715–9). Contractor maintenance personnel may travel to a brigade combat team operational area on a case-by-case basis, as approved by the responsible area commander, to provide temporary onsite maintenance support. After an appropriate risk assessment has been performed, the theater commander may station civilian maintenance personnel such as contractors, Government employees, local nationals, and so forth near or within a brigade combat team operational area, depending on what is the safest course of action.
- (2) In garrison/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.
- f.* All Army maintenance operations will be conducted in accordance with the environmental security provisions of AR 200–1 and the underlying Federal, State, and local 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 AIS 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 HQDA (OACSIM).
- g.* Commanders will establish policies for the evacuation of unserviceable equipment that are based, in part, on maintenance time standards and maintenance capabilities outlined in the MAC.
- h.* Field maintenance commanders 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/activity with appropriate resources (mortuary affairs, preventive medicine teams, and local chaplains) as required.
- 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/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 COCOM forces, other repair facilities, or United States Customs officials for shipments to CONUS.
- j.* The Army Maintenance Regeneration Enabler program is described in detail in chapter 8 of this regulation.
- (1) All RTF exchange decisions will be coordinated between the brigade combat team through command channels to commander AMC or the designated representative.
- (2) The ORF will be used to achieve the equipment availability objectives in AR 700–138 and unit readiness objectives in AR 220–1. These availability objectives (operational ready rates) are 90 percent for ground equipment and 70 percent for aviation equipment.
- (3) All ORF exchange decisions will be approved by commanders O–5 or above, after coordination with G–3/5/7 and S–3 channels of the next higher command level, or the G–3/5/7 and S–3 staff on behalf of the commander of grade O–6 or above.
- (4) Combat and combat support organizations will not maintain custody of ORF assets. Maintenance functions will be performed by combat service support organizations that have appropriate maintenance capabilities.
- (5) In accordance with AR 710–2, an accountable officer will maintain formal accountability for ORF assets.
- (6) Commanders will implement float policies above in local policies and standard operating procedures.
- 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 (RDD). 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 critical safety items (CSIs) 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 items, 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, Army acquisition executive (AAE) aviation project managers in PEO Aviation, and other data claimants. AAE 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 and Repair/Overhaul Record) as rapidly as possible. The Commander, AMC and Commander, AMCOM will ensure that management structures and database facilities fully support the safety surveillance requirements of CSI.

m. Modification or alteration of Army materiel is forbidden, 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.

n. The Army will, to the maximum extent possible, use common maintenance terminology and data in maintenance management programs and literature.

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

(2) The ODCS, G–4 (Maintenance Policy Division) 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.

o. Management of maintenance at serial number level of detail.

(1) The maintenance of all end items and Class IX repairable items with a maintenance repair code (MRC) of F, H, D, or L will be managed at the serial number level of detail.

(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 automatic identification technology devices/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, without written approval by the applicable AMC life-cycle management command of AMC.

(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.

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

q. 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.

r. Maintenance policies, programs, and procedures unique to medical materiel will be maintained in accordance with AR 40–61.

s. Maintenance policies and procedures unique to those nontype-classified and nonstandard items of equipment used by DEH or DPW personnel to accomplish their installation's facilities engineering mission are contained in AR 420–18.

t. Maintenance policies and procedures for nontactical vehicles will comply with policy and procedures contained in AR 58–1.

u. Consolidated express and military-owned demountable containers are maintained within the capability of the using unit or activity. Additional maintenance policies are contained in DOD 4500.9–R, Part II.

Section II

The Army Maintenance System

3–8. Army maintenance system components

a. The Army Maintenance System consists of two categories, Field and Sustainment. Field maintenance, also known as on-system 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.

b. Maintenance tasks will be performed in accordance with the MAC.

3-9. Field maintenance

- a. Field maintenance is the first function of the Army maintenance system.
- b. Operator/crew maintenance is the most critical operation of the Army maintenance system. It 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/crew performing PMCS from the applicable TM XX-10 series is the cornerstone of the Army Maintenance System. The before-, during-, and after PMCS checks concentrate on ensuring equipment is FMC and maintained in accordance with the TM XX-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/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/crew include—
 - (a) Performance of PMCS.
 - (b) Inspections by sight and touch of accessible components per the TM XX-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.
- c. Field mechanics will use the TM XX-10, XX-20, and XX-30 series to identify and correct faults. The TM XX-20 series PMCS tables are used to perform scheduled PMCS services that sustain and extend the FMC time of the equipment.
 - d. Maintenance operations normally assigned to Field maintenance include—
 - (1) Performance of PMCS.
 - (2) Inspections by sight and touch of accessible components per the TM XX-10, XX-20, and XX-30 series and condition-based maintenance indicators or instrumentation.
 - (3) Lubrication, cleaning (including corrective actions to repair corrosive damage), 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.
 - (6) Requisition, receipt, storage, and issue of repair parts.
 - (7) Verification of faults and level of repair of unserviceable materiel prior to evacuation.
 - (8) Evacuation to the appropriate maintenance support activity of unserviceable repairables beyond the MAC authorization or unit capacity to correct/repair.
 - (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 Maintenance Master Data File provided by LOGSA.
 - (12) Ensuring that TM XX-10, XX-20, and XX-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 STAMIS with an appropriate fault code based on the classification of the MWO in accordance with paras 8-5c through 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 stop corrosion or restore structural integrity.
 - (16) Turn-in of maintenance repair codes F, D, H, and L economically repairable 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).

e. Performance of field-level maintenance will be documented using the automated forms and records in the SAMS–Enhanced (SAMS–E), ULLS–Aviation (enhanced) ULLS–A(E), ULLS–ground (ULLS–G), ULLS–aviation (ULLS–A), and the SAMS 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. In addition to the regulatory guidance in this publication, doctrinal and technical guidance for field-level maintenance operations is found in DA Pam 750–35 and DA Pam 750–1.

f. Field maintenance personnel will perform technical inspections of Class II, V, VII, 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. If negligence or willful misconduct is suspected, repair will not be made until a commander’s release statement is received per AR 735–5.

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

g. Authority to perform communication security (COMSEC) repair cannot be delegated. Request for waivers will be submitted through command channels to Director, U.S. Army Communications Security Logistics Activity (USACSLA), ATTN: SELCL–IA, Fort Huachuca, AZ 85613–7041 for approval.

h. AR specific guidance will include the following:

(1) AR maintenance activities have been established to perform field-level maintenance, which is beyond the AR 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 (G) for ground support equipment, (W) for watercraft, or (G/W) for ground and watercraft.

(2) Equipment concentration sites (ECS) 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 annual training site to minimize transportation costs and time delays during mobilization.

(3) Area maintenance support activities (AMSA) 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/ECS when the small arms are evacuated to the AMSA/ECS by the owning unit. MTOE maintenance personnel may perform duties of TDA maintenance activities to maintain skills and update MOS training.

(4) AR 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. If used, an installation support activity (ISA) 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. Owning 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/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 (FMSS) 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 collocated with a CSMS, provides full-time field-level support on ARNG

equipment assigned to the site. When a MATES is not collocated 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 SMM. 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 5990-E, if using ULLS, or DA Form 2407, if using manual system, to the supporting SAMS-1 for Field and national 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 ULLS-G for each unit positioning equipment at the UTES per AR 700-138 and current MMDF.
 - (g) Ensure that forms are completed per DA Pam 750-8 and are submitted to the property book officer and automatic data processing activity.
 - (h) UTES and MATES operations are outlined in National Guard Bureau (NGB) 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 SMM and provides Field and Sustainment maintenance to—
- (a) Equipment prepositioned at a collocated MATES and/or UTES.
 - (b) Augment support to noncollocated MATES.
 - (c) Supported FMSs.
 - (d) Any DOD agency when authorized by CNGB.

3-10. 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/bay or production line operations with the capability to task/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 National Maintenance Program repair standard.
- c. Operations assigned to Sustainment-level maintenance units/activities will normally include—
 - (1) Inspection, diagnosis, isolation, and repair of faults within modules/components per the MAC. Components repaired and returned to stock will be repaired to the National Maintenance Program 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 supply support activity.
 - (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 request (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.

(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) if 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 technical inspections of Class II, V, VII, 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, ISA, 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 national maintenance manager (NMM).

j. Sustainment maintenance activities will use STAMIS, including SAMS–E, Maintenance Data Management System, Depot Maintenance Operations Planning System, and Logistics Modernization Program.

Section III

Maintenance Providers Below Depot

3–11. TDA installation maintenance

a. *Installation materiel maintenance activity (IMMA).*

(1) There is only one IMMA at an installation.

(2) Operations assigned to an IMMA will normally include—

(a) Maintenance and issue of operational readiness float when the IMMA is assigned the mission.

(b) Operation of a cannibalization point.

(c) Maintenance technical assistance to supported units and activities.

(d) Maintenance of all materiel required to operate the installation.

(3) IMMAs do not include—

(a) MTOE units.

(b) Area maintenance and supply facilities (AMSF).

(c) COMSEC communications logistics support facilities.

(d) Regional training site maintenance (RTSM).

(e) MATES operated by the ARNG.

(f) Maintenance activities operated by the AR.

(g) Area maintenance facilities.

(h) Biomedical maintenance activities operated by the medical treatment facility.

(4) Installation DOLs will provide an IMMA to augment MTOE Field maintenance capability. IMMAs will also perform Field maintenance for MTOE units that do not have Field maintenance capability (orphan units).

(5) IMMAs will not be work loaded to the detriment of TOE and TDA units. This is to ensure that TOE Field and Sustainment maintenance units maintain skill proficiencies and mission capabilities.

(6) IMMAs must be readily expandable to support mobilization workloads and maintenance requirements when MTOE units are displaced or inactivated.

(7) The Field maintenance workload requirements that are beyond IMMA capability or capacity will be done by other Field maintenance activities in the geographical support area. This workload will be accomplished on a reimbursable basis and may also be done by ISSA or contract. Contracts with commercial sources are administered per the Federal Acquisition Regulation (FAR).

(8) The national maintenance manager may workload qualified IMMAs to perform national maintenance repairs based on national need.

b. Installation materiel maintenance officer (IMMO).

- (1) Installation commanders will appoint the IMMO on orders.
- (2) The IMMO will review all installation maintenance activities on annually to ensure continued effectiveness and economical support and to recommend TDA maintenance consolidations, when required, through the chain of command.
- (3) Centralized maintenance production planning and control activities are established under the control of the IMMO.

3–12. Delegation of authority to field commands to perform depot maintenance

a. Depot maintenance tasks will not be performed by Army commands, the National Guard of the United States, United States Army Reserve, ASCCs, and DRUs unless the authority to do so has been officially delegated by the Commander, AMC. This authority is meant to support near-term readiness when the supply posture for a given item is in a weak position. These tasks are marked with the MRC “D” or “L” in the applicable technical manual MAC. Depot maintenance work in the Army will be tightly controlled to ensure component quality, safety of equipment operation, and to comply with U.S. law. There are two methods of delegations to perform depot maintenance: special repair authority (SRA) and one-time repair (OTR).

(1) SRA is an authorization by HQ AMC, to perform a specific MRC “D” and/or “L” for a period not to exceed one year.

(2) OTR is an authorization by HQ AMC to provide a local commander when the authority to repair a critically needed item of equipment with it is in the Army’s operational interest or critical to mission accomplishment.

b. The following policy applies to SRA/OTR:

(1) Work performed under an SRA/OTR for unit readiness purposes will be directly funded with cutomer-level operations and maintenance (O&M) funds.

(2) An SRA/OTR will not be required for those SORs that have been technically certified to perform repair to the national standard in support of NMP (AWCF). An SRA is required for depot-level repairs performed outside the NMP (O&M).

(3) OMA-funded items repaired under SRA/OTRs will be returned to owning units for mission requirements.

(4) SRAs will normally expire after 1 year. In exceptional cases, the approving authority may grant renewals. Units requesting SRA for a continued repair requirement will resubmit a renewal request within 90 days prior to the expiration of the current approved SRA.

(5) SRA/OTRs will be granted only when the requesting organization demonstrates that there is a significant readiness need. OTRs expire upon completion of the one authorized repair action.

(6) Only maintenance organizations that have the technical skills, tools, test equipment, necessary facilities, quality assurance (inspection), and testing capability to perform depot-level repairs will be approved.

(7) SRA/OTRs will not be approved when like serviceable assets are available or where assets exist to meet the readiness/mission needs of the requiring organization in a timely manner.

(8) SRAs will not normally be approved for items that are on the NMP current fiscal year workload program. Repair of items that are on the NMP current fiscal workload would better qualify for an OTR authorization.

(9) The MSCs and AMC will carefully screen requests for SRAs on obsolescent and obsolete items. A clear Army benefit will be demonstrated in a readiness assessment before approval is granted.

(10) Approval of SRAs for items that are in excess of their national requirements objective (RO) stockage level at an Army IMMC or other DOD source of supply will be reserved for ODCS, G–4 decision and will only be approved when critical readiness or training circumstances exist.

(11) The processing time for each SRA/OTR request will not exceed 60 calendar days except as outlined below:

(a) The MSCs will not exceed 20 business days processing time. In those instances where an SRA request involves a CSI, the processing time at the MSC will be extended 45 days.

(b) MSCs experiencing delays processing SRA requests will request an extension from AMC, ATTN: AM-COPS–SMN, 9301 Chapek Road, Fort Belvoir, VA 22060–5527, and provide notification to the ACOM, ASCC, or DRU of the requesting unit.

(12) Initial request packets for SRA/OTR approval will be submitted using the data elements in figure 3–5, below.

-
1. Unit Identification Code (UIC) of requesting activity/unit.*
 2. National Stock Number (NSN) of item.*
 3. FED LOG Source of Supply (SOS) code. (B14, B16 and so on).*
 4. Nomenclature.*
 5. End Item Code (EIC). Enter EIC for end item of application.*
 6. FEDLOG Maintenance Repair Code (MRC), (D or L).*
 7. Repair of NSN: Which depot tasks are proposed to be performed by the SRA/OTR?
(List specific tasks).
 8. Skills, tools, TMDE, facilities and publications on hand at the requesting unit.* (If needed, add a continuation sheet as follows:
 - a. Skills.
 - b. Tools/equipment (state if required or on hand).
 - c. TMDE/TPS (state if required or on hand)
 - d. Facilities. (State if required or on hand)
 - e. Publications.
 9. Yearly number of items to be repaired.
 10. Cost benefit analysis.*
 - a. Buy costs. (FED LOG price less turn-in credit.)
 - b. Local repair costs. (Direct labor hours X rate) + (indirect labor X rate) + (average parts cost (total per repair)) + (overhead costs X rate).
 - c. Unit savings. (a-b)
 - d. One-time start-up costs, which are nonrecurring, including facilitization. Amortize against item 9.
 - e. Total estimated savings. (10c X 9). (Instructions keyed to numbers on format)
 11. Readiness benefit.*
 12. Maintenance liaison engineer comments.*
 13. Prior one time repairs.
 14. Submitting activity POC.*

Figure 3–5. Format for a request for SRA/OTRA authority

(13) All SRA/OTR requests will be submitted through the appropriate ACOM, ASCC, and/or DRU level headquarters (ARNG, AR, IMA, and so on) to the AMC MSC identified as the agency responsible for management of the SRA item.

(a) AMC MSC completes the MSC SRA/OTR approval/disapproval sheet (fig G-1) upon receipt of an SRA request packet to document the process and decision.

(b) SRA/OTR packets recommended for disapproval will be forwarded to Commander, U.S. Army Materiel Command, ATTN: AMCOPS-SMN, 9301 Chapek Road, Fort Belvoir, VA 22030-5527.

1. Provide a copy of the initial request packet, the MSC SRA approval/disapproval sheet with the recommendation to the Commander, AMC.

2. Provide the additional information outline in figure 3-6 to the Commander, AMC as part of the packet submission.

3. Document the decision using the SRA/OTR approval/disapproval sheet. The AMC MSC Commander will provide the final decision to the ACOM, ASCC, and/or DRU using the SRA/OTR approval/disapproval sheet.

-
1. The national requirements objective (RO).
 2. Current depot program (maintenance activity and annual production requirements, YTD production).
 3. Current NMP source of repair (formerly COE) (maintenance activity annual production requirements, YTD production)
 4. Number of unserviceable assets.
 5. Number of serviceable assets.
 6. Number of issuable assets not in war reserves or programmed requirements.
 7. Applicable procurement actions (currently active or planned). Delivery schedule.
 8. Average monthly demand for the item.
 9. Item manager's name and phone number.

Figure 3-6. Required data elements for SRA request forwarded to Commander, AMC

(14) AMC and/or MSCs will monitor maintenance operations performed under the SRA to assure the quality, safety, and technical standards are met.

(15) The repairing organization will use type maintenance request codes (TMRCs) per DA Pam 750-8 and DA Pam 738-751. TMRCs are entered correctly on maintenance work orders to indicate the repairs being accomplished. TMRCs must be reflected in the SRA/OTR quarterly report as outlined in figure 3-7.

(a) Enter the SRA/OTR number in the Work Center "MALFUNCTIONS DESCRIPTION" box of the DA Form 2407. Following the SRA/OTR number, enter the method of repair support, either "O" for organic or "C" for contractor.

(b) Enter the DA project code on the DA Form 2407 (Work Order). Use project code "064" to identify National Level Maintenance performed for OTR. Use DA project code "065" for SRA.

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

d. AMC will submit quarterly reports to the ODCS, G-4 (Maintenance Policy Division) using the data elements (RCS exempt: AR 335-15, para 5-2a(5)) in figure 3-7, below.

e. The ACOM, ASCC, DRU or other command performing work under an SRA/OTR will submit a quarterly report in spreadsheet format containing the data in figure 3-7, below, to: Commander, AMC, ATTN: AMCOPS-SMN, 9301 Chapek Road, Fort Belvoir, VA 22060-5527 (RCS exempt: AR 335-15, para 5-2a(5)).

-
1. ACOM, ASCC, DRU/IMA Region. (ACOM, ASCC, DRU or IMA Region where item is being repaired).
 2. Installation Name.
 3. SRA/OTR. (Identify type of authorization)
 4. SRA/OTR Number. (SRA or OTR number).
 5. Expiration date.
 6. National Item Identification Number (NIIN).
 7. Nomenclature.
 8. End Item.
 9. Quantity repaired. (Quantity repaired during the present quarter.)
 10. TMRC.
 11. Organic/Contractor. (Indicate if repairs were accomplished organically or by contractor.)
 12. Average repair cost.
 13. Parts costs.
 14. Labor costs.
 15. Type Funds. (Indicate the type of funding used to conduct the repairs (Army Working Capital Fund (AWCF), OMA, OMA-Reserve, and OMA-National Guard))
 16. If OTR, approval authority.

Figure 3-7. SRA/OTR quarterly report data elements

3-13. 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 TAMMS, the ULLS automated system that generates DA Form 5988-E, or DA Form 2408-14 (Uncorrected Fault Record) to record maintenance that has been deferred. ULLS will be upgraded to enable commanders to report their total deferred maintenance status to the LIDB at LOGSA.

b. Field commands will report their deferred maintenance status monthly to LOGSA via SAMS-1 sites in accordance with policy in paragraph 4-16 of this regulation. Deferred maintenance reports will reflect the unit status as of the last day of each month and will arrive at LOGSA no later than the 10th calendar day of the following month.

c. LOGSA will maintain deferred maintenance records for each reporting UIC and will aggregate the total Army status records of deferred maintenance by command and commodity, with associated labor and parts costs. LOGSA will provide raw deferred maintenance data to the ILAP for the more detailed reports generation required by field commands.

d. The ODCS, G-4 (Maintenance Policy Division) 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.

3-14. Authorization for Army National Guard maintenance facilities

a. Requests to establish surface maintenance facilities and requests to establish Army aviation activities, which will be in accordance with NGR 415-10, will be submitted to Headquarters, National Guard Bureau, ATTN: NGB-AVN, 111 South George Mason Dr., Arlington, VA 22204-1382, for approval. These requests will include—

(1) List of units by TOE, authorized and on-hand equipment density to be supported, and the MTOE/TDA maintenance capabilities of the designated parent unit.

(2) How the facilities are acquired, leased, or licensed and the estimated cost.

(3) The annual cost, if the facility is leased.

(4) Renovation and/or rehabilitation costs that are required before occupancy.

(5) Estimated annual operations and maintenance cost of proposed facility.

(6) The effect that relocation will have on the technician workforce.

b. Upon approval of a maintenance facility request, the State Adjutant General will publish a change to the State equipment maintenance support plan.

c. NGB Pam 570-1 prescribes the manning criteria for maintenance activities.

d. Criteria for the construction of maintenance facilities are prescribed in NGR 415-10 and NG Pam 415-12.

3-15. Designation of parent units in the Army National Guard

a. The parent unit of a CSMS or MATES with support is an ARNG MTOE unit that possesses a Field or Sustainment maintenance capability. When the State troop structure does not provide a unit with the required MTOE maintenance capability, authority will be requested from the CNGB to modify the TDA to reflect the necessary maintenance capability. Where partial mobilization would have an adverse impact on the State, the adjutant general may request an exception to this policy from the CNGB.

b. The parent unit of an Army aviation activity is the ARNG MTOE unit supported by the facility with the greatest aviation maintenance capability. NGB-Aviation has determined total equipment requirements for Army aviation activities based on assigned missions. TDAs have been established that represent differences between equipment authorizations of the parent unit and equipment required to perform assigned missions.

c. Requests to establish an FMS/UTES will include the following factors:

(1) Support to a minimum of three MTOE company-size units, or an equipment density to support nine surface maintenance equipment mechanics. A request to establish an FMS/UTES to support less than three units will include complete justification for the requirements and specify why the units cannot depend on existing facilities for support.

(2) Density and type of equipment to be supported.

(3) Availability of facilities and additional facilities required.

(4) Geographic location of proposed site for the facility in relation to units to be supported. Unit integrity is the primary consideration, but it is not intended that every battalion-size organization be supported by a separate FMS. The maintenance support plan can be developed to require dependent units to be supported by the FMS nearest the equipment requiring the maintenance support.

(5) The parent unit should be an MTOE unit having Field maintenance capability—that is, battalion maintenance platoon, battalion maintenance section, or the maintenance sections of a separate company. If this is impractical, authority may be requested from the CNGB to assign another activity as parent unit. Unit maintenance tools and

equipment not available in the approved TOE of the parent unit or other units supported by the FMS will be requested for inclusion on the State Joint Force Headquarters TDA.

(6) The FMS should be located at, or near, the parent unit armory.

d. Upon approval by the CNGB, a State may be authorized an FMSS as follows:

(1) Authorization may be made for the specific purpose of supplementing available shop space of a parent FMS or an FMSS may be requested for NGB consideration when a unit is located an appreciable distance from the parent FMS.

(2) The FMSS will be designated with the parent FMS number and an alphabetic suffix; that is, the first subshop of FMS 3 will be designated 3A.

e. Each State, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands will prepare and maintain a current State surface equipment maintenance support plan located on the NGB Guard Knowledge Online Web site under the Logistics Maintenance Branch.

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 repairability of unserviceable materiel will be determined by Field units per paragraph 4-4 prior to initiating any action to repair the materiel.

d. The decision to repair or evacuate materiel is based on the maintenance repair and recoverability codes, urgency of need, and mission, enemy, time, terrain, and troops-available analysis.

e. Uneconomically repairable materiel will not be evacuated beyond the level authorized to dispose of or reuse the materiel.

f. All actions relative to the inspection, classification, verification, and disposition of uneconomically repairable 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 65 percent of the forecasted annual mileage/hours of operation may have Field (TM XX-20/23 series) and Field/Sustainment (XX-24 and XX-40 series) services extended. 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/hours by taking 65 percent of the unit's planned OPTEMPO by vehicle/equipment category. Use the mileage/hours outlined in DA Pam 750-8, chapter 3 when the unit's anticipated OPTEMPO is uncertain or unknown. The figures in DA Pam 750-8 represent 65 percent of the Army average in FY 04.

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

(3) Use of actual forecast data is preferred.

b. All service and lubrication tasks in the equipment's TM XX-20, XX-34, XX-40 series LOs must be performed 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 on DD Form 314 (Preventive Maintenance Schedule and Record) or the ULLS-equivalent form.

c. Equipment that exceeds the specified criteria at any time during the year will be immediately returned to scheduled servicing at normal TM/LO intervals from the date and usage data that was entered in SAMS-E or DD Form 314.

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.

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. Operator/crew level (TM XX-10 series) maintenance intervals in TMs/LOs will not be changed to low usage.

h. The AOAP schedule will not be extended.

i. 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 65 percent of the listed equipment utilization rate in accordance with DA Pam 750-8, chapter 3.

(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 65 percent of the listed equipment utilization rate in accordance with DA Pam 750-8, chapter 3.

(3) Generators; pumps; air compressors; support equipment (reverse osmosis water purification units, bath units, and so on); 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 equipment in communication shelters anticipated to accumulate less than 75 hours of operation in the current year. All remaining communications-electronics equipment, such as ground/vehicle mounted radios, switchboards, individual night vision goggles, and so forth, will be serviced annually if they are anticipated to accumulate fewer than 75 hours of operation in the current year. Hours of operation are estimates only and are not intended to be formally tracked.

(5) Nonpower-driven nuclear, biological, and chemical equipment anticipated to accumulate fewer than 75 hours of operation in the current year.

(6) Tenting and canvas items, immersion heaters, field ranges, and space heaters or stoves that are not used will be erected or assembled annually.

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

j. All equipment, except that stated in 4-2i(6) and (7), will be inspected by operators semiannually. Operators/crews that conduct inspection will—

(1) Perform all PMCS through monthly (daily, weekly, and monthly).

(2) Drive combat vehicles, tactical vehicles, and pull trailers sufficiently (5 miles is suggested) to exercise seals and ensure mission capability. Perform all PMCS on mounted radios through monthly (daily, weekly, and monthly) per the TM.

(3) Operate construction equipment, engineer equipment, wreckers, and 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 NBC 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.

4-3. Unserviceable materiel

a. Unserviceable end items that cannot be repaired promptly at Field level will be evacuated to the supporting sustainment maintenance activity, or turned in through the appropriate supply support activity.

b. Field and Sustainment maintenance units may provide lateral support to units when maintenance requirements exceed capabilities.

c. Materiel will be protected (packaged/crated) to prevent further damage during evacuation. This includes all BII and components.

d. Field and Sustainment maintenance units will promptly evacuate unserviceable materiel that they do not intend to repair in accordance with AR 710-2.

4-4. Technical inspections

a. A technical inspection (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- 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 estimated cost of damage (ECOD).
- (6) Determine if all applicable MWOs have been applied.

b. TI sheets will accompany all requests for disposition to the national inventory control point (NICP). An inspector, maintenance technician, or maintenance/motor officer as specified by the unit commander will verify each request. The TI sheet will accompany the full-time equivalent turn-in documentation to the managing NICP so that accurate disposition instructions can be provided about the major end item.

c. When an inspector discovers or suspects that biohazards including human body tissue or fluids are in/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. 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 METT-TC 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 reassembly. See paragraph 4-8 for detailed instructions.

d. When a technical inspector at Field or Sustainment maintenance levels detects damage to an end item/Class IX component through other than fair wear and tear, this damage will be documented on DA Form 5988-E/DA Form 2404/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/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 (see AR 735-5, para 13-31c).

e. When an owning unit suspects that damage to the end item/Class IX component has been caused by negligence or willful misconduct, a work order for the component will be sent to the supporting maintenance activity for determination of ECOD. After completion of the ECOD, the end item/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.

f. 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 a report of survey is in AR 735-5.

g. DA Form 5988-E/DA Form 2404/ DA Form 2408-13-3 will be used to record results of technical inspections.

4-5. Verification inspections

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

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

(1) Technical inspections 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 original inspection form. The required data elements are—

- (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.

4-6. Maintenance expenditure limit

a. Maintenance expenditure limit (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 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 LAO.
- (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 FED LOG for the source of the replacement price.
- (2) For reparable components and repair parts, use the FED LOG for the source of the replacement price.
- d. Local/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—
- (a) A replacement item is not available by the RDD.
- (b) Resources are available or can be made available to the requesting organization to do the repairs prior to the RDD.
- (c) Requesting organizations submit a repair cost estimate and justification for retention.
- (d) Requests will not exceed the MEL waiver ceiling. Figure 4–1 show how to calculate the MEL waiver ceiling.

MEL Waiver Ceiling = FEDLOG price + (P_w) × (Command Average Years to fielding)

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

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

$$\text{MEL Waiver ceiling} = \$56,832 + (\$176,428/20 \text{ years}) \times (5 \text{ years})$$

$$\text{MEL Waiver ceiling} = \$56,832 + (\$8821.40/\text{years}) \times (5 \text{ years})$$

$$\text{MEL Waiver ceiling} = \$56,832 + \$44,107$$

$$\text{MEL Waiver ceiling} = \$100,939$$

Figure 4–1. Sample of a MEL waiver ceiling computation

(2) Only the appropriate NICP has the authority to issue fleet waivers.

(3) Requesting organizations submit 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 technical inspections:

(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/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 (computed using DFAS-IN Regulation 37-1) to the estimated direct labor man-hours. The indirect expense rate will include—

(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 (RPSTL).

(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 forward distribution points (FDPs) at SSAs in an expeditious manner consistent with the cost of the items and their criticality to Army readiness programs.

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 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 reparable 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/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. Other 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 formalized through an MOA. Equipment that is transferred between ACOMs, ASCCs, and DRUs—including AR and ARNG—transferred into Army prepositioned stocks, prepared for storage below 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) Equipment to be transferred will be inspected by the losing command a minimum of 120 days prior to the transfer date, allowing parts to be requisitioned and received so that corrective actions can be completed prior to the acceptance inspection. Equipment being transferred will be inspected for acceptance by the receiving command or appropriate agency a minimum of 60 days prior to transfer date. This inspection serves as the final acceptance

inspection and certifies that the item is at the maintenance standard or establishes corrective action required by the losing ACOM, ASCC, and DRU unit before transfer. It also serves as a baseline for the verification of equipment condition at the receiving location. ACOMs, ASCCs, and DRUs and agencies are responsible for funding temporary duty (TDY) expenses related to their responsibilities for inspections as outlined.

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

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

(6) Equipment accepted for depot overhaul via the Combat Vehicle Evaluation (CVE) program or identified as a depot recapitalization candidate per MOA/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, and DRUs /agencies are responsible for funding TDY related to their responsibilities for transfers as outlined above.

c. AMC responsibilities for unit set transfers between ACOMs, ASCCs, and DRUs include—

(1) Serving as arbitrator for inspections outlined in paragraph 4-8a(3), unless AMC is an active party in the transfer. In all matters concerning this type of transfer the arbitrator is HQDA ODCS, G-4 (Maintenance Policy Division).

(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/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 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 an active Army unit to a Reserve component; this materiel will be transferred in accordance with the requirements of *a*, above. Use of TM XX-10 and XX-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 condition code 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/activity with the

capability to assemble, disassemble and clean equipment. Commanders will plan to augment field and sustainment maintenance units/activities with military manpower, mortuary affairs teams, preventive medicine teams, and local chaplains as required.

(2) Equipment selected for repair in depot maintenance facilities will arrive at the depot repair site in the same 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. Commanders of AMC MSCs 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/custodial commander will retain the induction candidate item at the same level of serviceability as specified on the depot evaluation-TI noted in paragraph 4-8f(1). To ensure that these candidate items are in the same better condition of serviceability, the equipment being turned in will be reinspected for acceptance by the receiving command, or appropriate agency, a minimum of 90 days prior to turn-in. This reinspection will be based on the original qualifying inspection noted in paragraph 4-8f(1).

(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 reserve components must have AMC item manager disposition instructions for turn-in to the Defense Reutilization and Marketing Office (DRMO) in addition to maintenance expenditure limit documentation.

(4) Equipment used for base operations or for the original purpose operator/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 FDP 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.

h. 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 base operations or for the original purpose operator/crew training that meet the transfer/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 repairable end items for immediate reuse in restoring a like item or weapon system to an MC 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 source of supply within the IPD 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 repairable 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 not mission capable supply (NMCS).

(5) Aircraft from which a serviceable component is removed must be classified as one of the following: NMCS, not mission capable maintenance, or partially mission capable (PMC).

(6) Aircraft maintenance manual instructions require that a known serviceable component be temporarily used while troubleshooting. Such components may be temporarily exchanged from an FMC or PMC 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/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 reparable 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. Controlled exchange by using units is authorized only when—

(1) All the unserviceable reparable 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.

e. 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 IPD on the maintenance request.

(2) Approved by the Field maintenance or Sustainment maintenance commander, IMMO, or a designated representative.

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

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

h. Controlled exchange is not authorized on ORF assets.

i. 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 located at <https://www.arims.army.mil>.

4–10. Cannibalization of materiel

a. Cannibalization is 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.

b. Materiel awaiting disposition instructions from an NICP will not be cannibalized without prior approval of the owning NICP.

c. Policies and procedures for establishment and operation of cannibalization points are contained in AR 710–2 and DA Pam 710–2–2.

d. During combat, commanders may authorize the cannibalization of disabled equipment only to facilitate repair of other equipment for return to combat. No parts will be cannibalized for stockage. However, service collection/classification companies—standard requirement code 43439L0—have the explicit mission to remove items for return to stock in accordance with section I of their TOE.

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, 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/Field maintenance management

Commanders and managers will manage their Field maintenance per the procedures contained in FM 4-30.3, DA Pam 750-8, and DA Pam 750-35.

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 IMMOs 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 appendix 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 primary functions of maintenance management include forecasting, distribution, scheduling, and production control of maintenance workloads, including inspections, services, repairs and warranty claim actions.

b. SAMS-E and ULLS-A(E) is the DA standard to automate TAMMS and TAMMS-A respectively at field maintenance activities including installation maintenance operations and contractor logistics support. SAMS-E and ULLS-A(E) takes precedence over all manual system, ACOM, ASCC, and DRU, installation-unique and contractor logistics support automation for Army materiel maintenance management. Management procedures for SAMS-E and ULLS-A(E) are in the applicable user's manual.

(1) Combat and Materiel developers and contracting officers will require contractors to use SAMS-E or ULLS-A respectively. Where circumstances do not allow this, PMs are responsible for funding the development of data interfaces between CLS-unique systems and SAMS-E using performance and data specifications provided by Program Manager, Logistics Information Systems (PM LIS).

(2) PM LIS will publish the performance specifications that CLS-unique systems must provide including data fields; specific data character lengths; protocols, frequency of reporting and the SAMS-E report formats to support Army field commanders.

c. SAMS-E will replace ULLS-G and SAMS when it is fielded.

d. When SAMS-E is fielded, the requirement for manual system forms, such as the DA Form 2404 will be discontinued and automated system-generated forms such as the DA Form 5988-E will be routinely accepted.

e. The Maintenance Module 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 SAMS-E.

4-16. The logistics integrated data base (LIDB) maintenance module (MM)

a. The LIDB MM is a national-level database of historical maintenance data that is received from Field and Sustainment maintenance activities worldwide. The Active Army, Army Reserve, Army National Guard, Army depots, and Government contractors performing maintenance on Army equipment will report weekly open and closed work-order production (DA Form 5990-E or DA Form 2407 SAMS equivalent) information to LOGSA by close of business each Friday of the operating production period. OCONUS organizations with high-volume maintenance operations may submit reports more frequently during the week to avoid automated time-outs during data transfers.

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

c. Maintenance activities participating as a Qualified National Provider (QNP) within the National Maintenance Program (NMP) are required to send open and closed work order information to LIW daily. The LIDB 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 standard operating procedures 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/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 a AMC worldwide LAP for proponent materiel by determining requirements and establishing, staffing, and maintaining LAOs. The Chief of Engineers (COE), TSG, CG, U.S. Army Signal Command, and CG, U.S. Army Intelligence and Security Command provide logistics assistance personnel for materiel under their proponency.

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 POC for ILAP is the LAO.

d. In accordance with FM 4-30.3, 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 710-2, AR 420-18, 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.

c. Commanders contracting for commercial Field or Sustainment repair of equipment will ensure that these contracts include provisions for collection of work order (DA Form 5990-E/DA Form 2407/SAMS equivalent) data from the contractor. Contractors will provide (DA Form 5990-E/DA Form 2407/SAMS equivalent) data via automated means to the LIDB MM.

d. Any contract for commercial application of MWOs will include provisions that MWOs will be applied and reported in accordance with AR 750-10.

4-21. Prohibitions

a. Maintenance by contract personnel is prohibited when—

(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 will not be permanently stationed in combat or hazardous duty areas (see para 3-7*e*).

(2) 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.

4-22. Foreign enterprise limitations

a. Foreign private enterprise can be used for contracts awarded and performed OCONUS only in the following situations:

(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 materiel developer 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 stand-alone 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/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/SIGINT and EW equipment, density supported, and levels of maintenance to be performed, should be submitted through DCS, G-3/5/7, ATTN: DAMO-C4T, 400 Army Pentagon, Washington, DC 20310-0400, to Director, National Security Agency, ATTN: 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, section IV, apply to further processing.

Section V

Interservice Maintenance Support

4-26. General

The ISSAs will be fully explored prior to submission of requests through ACOMs, ASCCs, and DRUs to the ODCS, G-4 (Maintenance Policy Division) 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 U.S. 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 HQDA, G-4 (Maintenance Policy Division) 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 ODCS, G-4 (Maintenance Policy Division) approval.

4-31. Provisions of interservice 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 interservice 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 planning, programming, budgeting, and execution of depot maintenance.

b. The term *depot maintenance* consists of material maintenance or repair requiring the overhaul, upgrading, or rebuilding of 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 designated or coded as depot (D or L) that are performed in field or other nondepot locations. The term includes—

- (1) All aspects of software maintenance classified by DOD as of 1 July 1995 as depot maintenance and repair.
- (2) Interim contractor support or contractor logistics support (or any similar contractor support), to the extent that such support is for the performance of services described above.

c. In accordance with Section 2460, Title 10, United States Code (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/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/engineering change proposals in the process and allow for technology insertion.

e. Depot maintenance also includes—

(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).

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 FUED.

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/equipment will be given priority during the depot maintenance planning phase. As part of the planning effort, consideration will be given 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, repair cycle float, spare parts, facilities, transportation, plant equipment, test equipment, personnel, supply pipeline costs, and the impact on the CONUS base, including mobilization/surge capability, will be considered.

j. Overseas depot maintenance will include the cost accounting and production reporting provisions of DFAS-IN Regulation 37–100.

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 contractor logistic support operations is needed to sustain mission critical systems or components.

5–2. Depot Maintenance Corporate Board roles and responsibilities

The DMCB is responsible for—

a. Providing strategic direction for the Depot Maintenance Enterprise.

b. Establishing strategic indicators/metrics/parameters that will define future DMCB 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 SRS.

c. Establishing right and left limits and red lines for the strategic indicators/metrics/parameters.

d. Meeting semiannually or as required to review DM Enterprise programs and strategy. Semiannual meetings will occur mid-late March to influence the Mid-Year Review and mid-late June to implement necessary program changes to ensure key performance objectives such as the depot maintenance carryover and "50/50" targets are met. The DMCB will meet if required during the year to resolve issues that cannot be deferred until a semiannual DMCB meeting is held.

e. Resolving issues associated with Depot Maintenance 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/working groups as required or directed by the DMCB Chairman.

f. Resolving DM Enterprise issues raised by other Army agencies, other services, or the OSD.

g. Providing guidance to the DMEC as required.

h. Ensuring that the Depot Maintenance Enterprise complies with all DOD and U.S. Army policies, regulations, and guidance, to include the following specific legislative provisions:

(1) *Definition of Depot Maintenance.* In accordance with 10 USC 2460, “the term ‘depot level maintenance and repair’ means . . . material maintenance or repair requiring the overhaul, upgrading, or rebuilding of parts, assemblies, or sub-assemblies, and the testing and reclamation of equipment as necessary, regardless of the source of funds for the maintenance or repair or the location for the performance of the maintenance or repair. The term includes software maintenance and interim contractor support or contractor logistics support. The term does not include the procurement of major modifications or upgrades of weapons systems that are designed to improve program performance. A major 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 funds made available in a fiscal year to the Army 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 Army. 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 DOD employees.

(3) *Core logistics.* In accordance with 10 USC 2464, the Secretary of Defense (SECDEF) must maintain core logistics capabilities in Government-owned and 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 Centers of Industrial and Technical Excellence for each nonbase realignment affected DOD depot based on core capabilities and provide appropriate reports to Congress. This statute also encourages and enables private-public partnerships between public depots and private sector contractors.

5-3. Reporting depot-level workload execution

Effective with the enactment of the National Defense Authorization Act for Fiscal Year 1998, not more than 50 percent of the funds made available in a fiscal year 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 Department of Defense. The percentage limitation includes depot maintenance interim contractor support, contractor logistics support, and similar contracts as required by the National Defense Authorization Act for Fiscal Year 1998.

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 Title 10 USC 2466(d)(1) to submit a report to the Congress by February 1 of each year for each of the Armed Forces (other than the Coast Guard) and each defense agency on the percentage of funds that were expended during the preceding 2 fiscal years for performance of depot-level maintenance and repair workloads by the public and private sectors. The ODCS, G-4 (Maintenance Policy Division) will provide additional guidance in the data-call request.

(2) *Quarterly report.* This report will be submitted quarterly to the ODCS, G-4 (Maintenance Policy Division) via DMOPS 30 days after the close of the quarter. (RCS exempt: AR 335-15, para 5-2b(1).

b. Amounts expended for the performance of a depot-level maintenance and repair workload by non-Federal Government personnel at a Center of Industrial and Technical Excellence under any contract entered into during fiscal years 2003 through 2009 will not be counted for purposes of applying the percentage limitation in 10 USC 2466(1), or 10 USC 2474(f) if the personnel are provided by private/public partnership or other entities outside DOD pursuant to a public/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 fiscal years.

5-4. Depot Maintenance Execution Council responsibilities

The DMEC is responsible for—

a. Providing management oversight of the integration and execution of inter- and intra-ACOMs, ASCCs, and DRUs depot maintenance programs, to include sponsored and funded workloads for the Army maintenance depots, PEOs, RC, interservice, and the ACOM, ASCC, and DRU’s contractor and locally operated “depot level tasks” performed at Field maintenance activities.

b. Capturing and measuring strategic level indicators/metrics/parameters of the Army’s DM Enterprise quarterly to ensure all depot maintenance programs are being executed as planned and cause adjustments as necessary to meet “the 50-50 Rule” as established by Congress.

- c. Recommending depot maintenance program policy changes as appropriate to the DMCB.
- d. Recommending to the DMCB the "right-sizing"—that is, the capabilities and capacity of Army maintenance depots, as well as the Army's contractor and locally operated depot maintenance type activities at the field-level maintenance, based on valid workload and core requirements.
- e. Maintaining a long-term Army Depot Maintenance Strategic Plan (DMSP) for approval by the DMCB. The DMSP will be reviewed and revised annually.
- f. Serving as the steering committee for the DMOPS. As such, the DMEC will establish and oversee a DMOPS Working Group to define and prioritize requirements, establish policies, and develop business rules for DMOPS. The DMEC 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 DMCB and DMEC in fulfilling their responsibilities.
- h. Meeting quarterly or as required and reporting to the DMCB at a minimum of twice a year. The DMEC will also support DMCB meetings that may be scheduled as required to resolve issues that cannot be deferred until a semiannual DMCB meeting is held.

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 nongovernment 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 (see app F) to determine required depot maintenance core capabilities and the workload needed to sustain these capabilities on a biennial basis.
- 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 (ACAT) II and below programs and documented in the milestone B ADM.

5-6. Interservice 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 interservice support will be used and provided to the maximum extent possible.
- b. Army commands, activities, and organizations will seek mutually beneficial support arrangements with other Army organizations and with other services/agencies when feasible and not detrimental to mission and military requirements.
- c. Army commands, activities, and organizations will provide support to other services/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 HQ 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 interservice 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/PEO and the MSC will adhere to current U.S. public laws, DOD directives, and Army policies in determining a depot maintenance SOR. Planning for depot maintenance SOR will commence at milestone A. In accordance with Department of Defense Directive (DODD) 4151.18, a logical decision process will be used to

assign the depot maintenance SOR to either an Army, interservice, 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 interservice, intraservice, 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 source of repair 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/PEO will, in conjunction with the MSC interservice 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 interservice 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/PEO and MSC interservice support office of the implementation actions necessary.

f. Each PM/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 ADM. The results will be presented/reviewed at the milestone B ASARC. Documentation should be updated, as appropriate, throughout the life cycle of the system.

5–8. 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.

5–9. 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/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 AR materiel will be provided by MOU/MOA with OCAR.

5–10. Postproduction software support

a. Life-cycle software support (LCSS) embraces all software-related activities for a weapon systems embedded operational software. PPSS is a subset of LCSS 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 fiscal year after the hardware production of the weapon system is completed.

c. The MATDEV is responsible for all software support and PPBES 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 fiscal year 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 PPBES 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 ODCS, G–4 and ASA (ALT) approval and document the approved transition date.

5–11. Acceptance criteria

A quality assurance and reliability management program will be established and maintained by each U.S. 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.

5–12. 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, 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/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 ODCS, G–3/5/7 prioritization guidance. To obtain a copy, requests should be forwarded to the DCS, G–3/5/7, ATTN: 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 source of repair, will program requirements for the current year, one budget year, and five out-years for the POM submission. 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 fiscal year (FY) 01 that there is a projected requirement in FY 05 for depot maintenance of a specific end item. The requirement should be submitted into DMOPS during the FY 03–07 POM (in FY 01) but no later than the FY 05–09 POM update (in FY 03). 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.

(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. PPSS 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 fiscal year 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 fiscal year OMA funds are used. The MATDEV will use the system management decision packages (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 (PRON) for depot-level deferred maintenance will be recorded in DMOPS at priority 155 (deferred maintenance).

(2) The Federal Accounting Standards Advisory Board requires the ODCS, 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 fiscal year 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 Financial Management Regulation, chapter 12, volume 6B, requires the ODCS, G-4 to prepare OP-30 reports on depot maintenance requirements. Army personnel responsible for compiling and reporting deferred maintenance will disclose required unfunded maintenance supplemental information on weapon systems using the OP-30 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 Financial Management Regulation, chapter 6, volume 4, allows the ODCS, 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.

5-13. 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/manufacture, reclamation/disassembly, and maintenance assistance (support for deployed and deploying units).

c. A depot maintenance mobilization plan (DMMP) will be developed and include major and secondary items, ARNG and AR requirements, interservice 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 interservice support agreement will project interservice maintenance mobilization requirements. Negotiated depot maintenance interservice support agreements 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 U.S. Army item during a period of mobilization.

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

h. Repair/overhaul MEL limits will be relaxed or eliminated.

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

j. DMMPs will include—

(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 postmobilization 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 time frames 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. 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.

5-14. Depot maintenance plant equipment

a. Depot maintenance plant equipment (DMPE) requirements will be identified in the DMSP for all new equipment entering the Army inventory that will require depot-level repair 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/procured for new weapon systems to coincide with the generation of the first repairable 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/prepared for DMPE. Maximum use will be made of COTS manuals as prescribed by AR 25-30.

5-15. Training

a. AMC will provide maximum support to the ARNG and the AR training at AMC installations/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 37-49. Incremental costs are only those costs that would not have been incurred had the unit not been supported.

b. Depot/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/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 AR and 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/depot activity it will augment upon mobilization.
- d. AMC will allocate not more than 10 percent of its potentially contractual cargo/equipment movements as training opportunities for AR/AC transportation and related troop units. Hazardous cargo movements will also be included as RC training opportunities.

5-16. The aviation depot maintenance round-out units

a. There are four aviation classification and repair activity depots (AVCRADs) and one mobilization AVCRAD control element (MACE). During premobilization, AVCRADs perform intermediate and selected depot-level maintenance as approved by appropriate authority. During mobilization, they provide AMC with an employable mobilization surge workload capability for depot-level classification and repair of aviation materiel. The aviation depot maintenance round-out units (ADMRUs) consist of teams from the MACE and AVCRADs integrated into composite deployable units.

b. When mobilized, AMC may direct that the AVCRADs perform surge workload at home station. AMC may direct the AVCRADs 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 ADMRUs and deploy them to augment AMC forward commands in the area of operations. The Field support centers will provide warm bases for deploying ADMRU.

c. MACE and AVCRAD units remain under the command of their respective State Adjutant Generals during premobilization. Upon mobilization, the MACE and AVCRADs are assigned to AMC to perform sustainment maintenance. The U.S. Army Aviation and Missile Command (USAMCOM) assumes command and control of the mobilized units or teams when the unit or team arrives onsite (for example, CONUS depot). If the ADMRU deploys in whole or part, the AMC forward command assumes operational control when the unit arrives in theater.

d. USAMCOM 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 MACE and AVCRADs. 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 fiscal year.

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

- (4) Provide guidance and assistance to MACE and AVCRADs in implementing the Army training management system.

- (5) Provide management guidance necessary to enhance MACE and AVCRAD mobilization readiness through training together with the Chief, NGB.

- (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 AVCRADs, on request, to perform onsite training and assistance.

e. The MACE and AVCRADs will be prepared to deploy the ADMRU within 3 days of mobilization. The MACE and AVCRADs will also be prepared to augment CONUS depots within 3 days of mobilization.

- (1) From the day of mobilization to M+90, the remainder of the CONUS AVCRADs 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 AVCRADs perform the assigned AMC mobilization workload in support of the national aviation pipeline.

5-17. Army Materiel Command forward commands

a. AMC has established forward commands in theater. They are AMC–Southwest Asia, AMC–CONUS, AMC–Far East, and AMC–Europe. During operations, AMC will 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 Army prepositioned stocks, materiel fielding, and technology insertion. The AMC forward commands will work in coordination and cooperation with the Defense Logistics Agency (DLA) contingency support team.

b. AMC also manages the Logistics Civil Augmentation Program and maintains its support contract. The contract is

written for peacetime planning and contingency operations. The support contract has the capability for a wide range of engineering, construction, and logistics services, including maintenance.

5-18. 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 NICP 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 PRONs will be classified as priority or routine. Priority reclamation PRONs (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 NICPs will prepare save lists, with appropriate narrative, for items to be recovered and will forward the lists to the recovery program control officer (RPCO) 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 source of supply. Exemption will be noted on the save list.

d. Depot commanders will designate an RPCO responsible for the coordination of all reclamation programs with NICPs and within the depot and the resolution of any problems. The RPCO will—

(1) Establish and maintain the current status and a suspense file on all reclamation programs.

(2) Ensure that sufficient quantities of the major items/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 PRON.

f. Quality assurance procedures will be instituted to—

(1) Inspect and classify removed components as serviceable, unserviceable repairable, or noneconomically repairable.

(2) List missing assemblies/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.

5-19. Materiel requirements planning

a. *Bill of material.* A bill of material (BOM) is the formally structured list of items (a parts manual) that comprise components and/or assemblies of weapon systems and equipment. Additionally, a BOM describes equipment in terms of its assemblies, sub-assemblies, and basic parts.

b. *Bill of material function.* The primary function for 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 materiel requirements planning (MRP). The MRP process works to ensure repair parts and components are available to meet the maintenance, repair, overhaul, or fabrication schedule while maintaining the lowest possible level of inventory. Life Cycle Management Commands (LCMC) are to ensure the current BOM and other updated technical data are the basis for MRP and long-term decisionmaking.

5-20. Repair parts support

a. U.S. Army depot maintenance activities performing depot level repairs are authorized to requisition and store spares, repair parts, and consumable items to support valid funded maintenance programs and fabrication requirements. 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 repairable assets, the LCMC and depot will review the depot maintenance forecasted requirements for the fiscal year plus 4 out-years. Range and quantity of repair parts forecast will be determined through the maintenance parts explosion process by the applicable LCMC. Requisition and/or procurement action will be initiated sufficiently in advance of the induction schedule, to take in to account all administrative/production lead time factors and order-ship time factors to ensure parts sufficiency for successful and on-schedule completion of the depot's requirements.

c. The materiel manager at the LCMC for the repairable asset and depot item managers will coordinate with other Army material managers, other services, and DLA/Government Services Administration (GSA), as applicable, to determine repair part requirements to support the projected/planned maintenance program. Coordination will include forecasting, prepositioning, alteration, or changes necessary to also ensure compliance with paragraph 5-18b, AR 750-1.

d. A temporary shortage of critical maintenance repair parts may be alleviated by local procurement, depot fabrication, controlled exchange, or reclamation.

e. Repair parts authorized by Depot Maintenance activities are of two basic types: material charged to overhead and prorated across programs (such as bench stock) and material charged directly to programs. Enterprise Resources Planning (ERP) systems consider both types to be material and define material 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 materiel 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/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, brackets, and so forth).

(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) Materials must represent a valid requirement for the performance of a maintenance or fabrication requirement.

(d) 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 be responsible for the planning and control of materials for all maintenance and fabrication programs.

(e) The single point of management and control will maintain inventory control for all materials used in maintenance and fabrication production operations. When an oversupply situation exists, the single point of management and control will take action to reduce inventory.

(f) The single point of management and control will review the materials inventory status semiannually. Review will include, as a minimum, total inventory lines and dollar value, and aged stock lines and dollar value as compared to depot demand for inventory. An aged material is defined as material stored more than 60 days. Long-lead items may be an exception to this policy and are to be managed on a case-by-case basis.

(g) Materiel procedure for Non-Logistics Modernization Program (LMP) Depot Maintenance activities. Materials charged directly to programs (inventory provided for specific programs) will be managed on an individual program by program basis and integrated into (restricted to) materials inventory for specific programs.

(h) Materiel procedure for LMP/ERP Depot Maintenance activities. Materials charged directly to programs (stocks based on parts explosion for the rebuild, overhaul, and repair programs) in an ERP environment will be managed on a collective (unrestricted/not restricted to a specific program) requirement basis.

Note. Refer to HQAMC Sup 1 at <http://www.amc.army.mil/amc/ci/sups.html> for the detailed policy and procedures that depot maintenance activities functioning in an LMP/ERP environment should use.

5-21. Depot maintenance reporting and recording

All applicable documents, forms, 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. Personnel preparing contract statements of work will ensure that the provisions of this publication 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 CVE 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 a 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 CVE 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/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/low usage rate until a replacement is available.

6–2. ARNG 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/repair support.

(2) Calibration services and red tag repair of TMDE will be funded by NGB and provided by 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 per AR 130–400.

(4) Reconditioning and repair of combat vehicle tracks and road wheels and related rubber products will be funded directly by 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 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 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 fully mission capable (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/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 categories. 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.

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 (currently known as intermediate) for selected high-value components and subassemblies.

(2) Perform authorized intermediate maintenance (current terminology in aviation TMs) in accordance with the 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/flight troops and aviation maintenance companies/aviation maintenance troops will—

(1) Perform authorized unit (current terminology in aviation TMs) maintenance in accordance with the MAC.

(2) Have appropriate resources (both the personnel and equipment) to perform field (current unit-level tasks) maintenance.

(3) Be staffed and equipped to perform high frequency "on aircraft" maintenance tasks.

c. ASBs/aviation support companies and AVCRAD or AASF will furnish mobile, responsive, one-stop maintenance support and perform all maintenance functions as designated by the MAC in materiel publications.

(1) Authorized maintenance includes—

(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/Army aviation flight activity (AAFA) units by repairing selected items for return to stock when such repairs cannot be accomplished at the AMC/AAFA 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/AAFA 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.

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/AASF to repair will be evacuated to the designated sustainment base maintenance activity.

f. Ground support equipment and TMDE will be evacuated to the appropriate Sustainment unit of action/ground maintenance unit when it is beyond the capability of an aviation support company/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 NGB Pam 750-2. AAFA and AASFs will perform field-level maintenance actions authorized by and detailed in NGB Pam 750-2. These include diagnosis, servicing, preventive maintenance intermediate (PMI), 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/work hours) will be forwarded to Chief, NGB (NGB-AVN-A) through the supporting AVCRAD.

b. An AR aviation support facility collocated with a supported aviation support company/ASB unit is authorized by

ODCS, G-4 (Maintenance Policy Division) to perform field-level maintenance using tools/equipment authorized to the supported unit.

6-6. Aviation Sustainment maintenance

The Sustainment base comprises the ARNG AVCRADs or theater aviation sustainment maintenance group, depots, the original equipment manufacturers maintenance and overhaul facilities, installation support activities, and AMCOM contract maintenance support. The theater aviation sustainment maintenance group 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. In peacetime, the ARNG AVCRADs perform Field and Sustainment base maintenance in support of regional ARNG aviation assets. In addition to Field and Sustainment maintenance, the AVCRAD performs National Maintenance Program repair, limited depot airframe repair, aircraft painting, major airframe repair, depot-level component repair (DLR), and component repair and management, as directed by AMC. These functions are specifically discussed in NGB Pam 750-2. Requests to exceed maintenance authority and/or expenditure limits (funds/work hours) will be forwarded to AMCOM.

c. The Aviation Depot Maintenance Program consists of depot maintenance such as aircraft recapitalization and overhaul, crash and battle damage repair, and major airframe modifications.

d. 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.

e. Aircraft in combat areas will be selected for depot maintenance per TM 1-1500-328-23.

f. 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.

(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.

g. Aircraft requiring crash or battle damage repair will be reported to, and disposed of, per instructions received from the NMP/NICP, using procedures prescribed in TB 43-0002-3.

h. 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.

i. All applicable documents, forms, and records will be processed per DA Pam 738-751 during depot maintenance. Personnel preparing contract statements of work will ensure that the provisions of this publication are included in all applicable maintenance contracts.

6-7. Army National Guard Sustainment maintenance

Aircraft that requires unscheduled or urgent depot repair will be reported to NGB-AVN. Aircraft will be selected for recapitalization/remanufacture or depot repair based on rebuild induction criteria or when estimated cost of repair exceeds field level maintenance capability. When aircraft repair cycle floats (RCF) 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 AR 385-95, 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 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 ODCS, G-4 (Maintenance Policy Division) 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 categories A and 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 fiscal year consolidated requirements for maintenance training aircraft, maintenance trainers, components, and test equipment. Institutional training equipment requirements for the subsequent fiscal year will be obtained from annual requirements presented to the ODCS, G-3/5/7 in May/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 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/components required for program of instruction will be maintained operational and updated per the latest applicable MWOs. Removal and turn-in of systems/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/systems not covered in paragraph 6-13d(2) will be preserved and periodically inspected, operated per appropriate TMs, and reprerived.

(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) Categories A and 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 categories A and 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 B maintenance training aircraft that are no longer required will be reported to HQ, TRADOC. HQ, TRADOC will report excess maintenance training aircraft to HQ, AMCOM.

(10) Maintenance training airframes and devices that are no longer required will be reported to HQ, TRADOC. Excess maintenance training airframes and devices will be reported by HQ, 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 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 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 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 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 XX–10 and XX–20 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/TDA watercraft used by the U.S. Corps of Engineers in its civil works projects/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. U.S. Army Tank-automotive and Armaments Command (TACOM) will establish and maintain watercraft configuration and logistics support management programs necessary to support watercraft throughout its lifecycle.

b. TACOM will provide the following maintenance plan for the performance of maintenance and/or repair actions on Army watercraft:

(1) Servicing and overhauling/repairing 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 manufacturers technical manual will provide guidance.

(2) Providing 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) Performing a marine survey/technical condition inspection by a qualified marine inspector or surveyor. The inspection will determine the scope of work required to return a watercraft to a serviceable condition (TM XX-10 and XX-20 series standard).

c. When MAC depot maintenance requested by evacuation work order is beyond the capability of the using command, disposition instructions and funding guidance will be requested from the TACOM through the normal STAMIS work order process. Depot-level maintenance will be accomplished case by case as directed by TACOM, as follows:

(1) When repairs dictate that a watercraft be drydocked to accomplish the necessary maintenance tasks, a drydock report will be provided by the TACOM to the user.

(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 STAMIS work order data responsibility remains at the appropriate MAC level.

(3) Watercraft awaiting disposition instructions will be maintained using low usage policy or guidance provided by TACOM.

(4) The above policy is also applicable to maintenance of C4 intelligence, surveillance, and reconnaissance (C4ISR) materiel and equipment installed onboard watercraft.

d. Emergency repairs are maintenance actions required to maintain the watercraft in a seaworthy, safe, and operable condition.

(1) A vessel master is authorized to perform any level of maintenance when engaged in sailing operations (underway/deployed away from home port) and maintenance problems occur where normal corrective action cannot be completed. This decision will be made while considering the availability of resources at sea, the skill of the crew, and the impact the repairs will have on the basic seaworthiness and operability of the watercraft.

(2) Materiel repaired under emergency conditions must be inspected through the work order process by the appropriate maintenance authority as soon as possible and determined properly repaired to TM XX-10 and XX-20 series standards. Vessel configuration control will be maintained.

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. If 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 Army Materiel Status System guidelines after the waiver period (90 days after the service due date) has expired. OCCM is the depot-level service 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.* Marine condition surveys incident to the performance of OCCM will be accomplished per paragraph 6-14.

(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 drydocking, a drydock 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 United States Coast Guard and the American Bureau of Shipping (ABS) for retention of "load line" certification will be accomplished per Parts 41-69, Title 46, Code of Federal Regulations (46 CFR 41-69) and TB 55-1900-201-45/1. When such inspections are required, the services of ABS will be employed.

(4) 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.

c. *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 drydock inspection/underwater hull survey.

(3) Overhaul/replacement/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/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 ABS; 46 CFR 41–69; and International Convention for Safety of Life at Sea, 1974 (SOLAS) to maintain the load-line documentation in a current status.

Table 6–1
On condition cyclic maintenance/drydocking intervals by class/type of watercraft

Class/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

6–17. Marine condition surveys

a. General. Marine condition surveys are TIs and written evaluations performed by qualified marine surveyors per TB 55–1900–201–45/1, 46 CFR, ABS criteria, and SOLAS 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.

b. 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 condition code “B” as defined by AR 725–50.

c. Responsibilities.

(1) TACOM is responsible for the performance of all marine condition surveys incident to the repair and/or overhaul of Army watercraft when the maintenance/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 STAMIS 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.

6-18. Maintenance reporting

Watercraft will be maintained and reported using TAMMS, DA Pam 750-8, and the associated supporting STAMIS. Additional information can be found in TB 43-0002-26, TB 55-1900-201-45/1, TB 55-1900-205-24, and AR 56-9.

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 U.S. 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

COMSEC 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 380-67 and AR 25-12.

b. COMSEC materiel consists of—

(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—

(1) All elements of the active Army, ARNG, and AR 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. DA Pam 25-30 contains a listing of those publications that apply to COMSEC materiel and gives requisitioning instructions for DA publications.

d. The provisions of DOD 5220.22-R 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, TB 380-41, and DA Pam 25-380-2. Requests for policy waivers and exceptions to established COMSEC procedures will be submitted through command channels to the Director, USACSLA, ATTN: SELCL-ID-P3, Fort Huachuca, AZ 85613-7041, for approval.

6-24. Modification of communications security materiel

Modification of Army-owned COMSEC materiel will be reported in accordance with AR 750-10.

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. Formal programs of instruction available at U.S. Army training centers for structured classroom training of COMSEC technicians are listed in DA Pam 351-4.

b. National policy for COMSEC materiel maintenance training standards and maintenance operations, as promulgated by the NSA, is contained in DOD Instruction (DODI) 4660.2. This publication provides general policy for all services on the requirements and security considerations applicable to the training of COMSEC maintenance personnel.

c. DODI 4660.2 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 (see also DA Pam 25-380-2).

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, USACSLA, ATTN: SELCL-IA.

(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 communications-electronics equipment operator/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 to the Commander, Tobyhanna Army Depot, ATTN: COMSEC account 5B1099, 11 Hap Arnold Blvd., Bldg 73, Tobyhanna, PA 18466-5110. Unserviceable unclassified COMSEC materiel, including CCI, will be evacuated through supply channels to the Commander, Tobyhanna Army Depot, ATTN: DODAAC W81U11, 11 Hap Arnold Blvd., Bldg. 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 Standard Form (SF) 368 (Product Quality Deficiency Report) as a category II quality deficiency report under DA Pam 750-8. When practical, exhibits (defective components, parts, or assemblies) will be forwarded with the quality deficiency report. Those parts not forwarded will be tagged with DA Form 2402 (Exchange Tag) and held for further disposition instructions.

6-28. Controlled cryptographic items

- a.* CCI are declassified COMSEC items. Accounting and requisition/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.

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 (C4) intelligence, electronic warfare, and sensors (IEW) equipment, including MTOE, TDA, and loaned materiel. C4IEWS 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, -procured, and -fielded IEW equipment, including nondevelopmental items and COTS items.
- (4) Other selected C4IEWS equipment that receives Sustainment/depot forward support from the electronic sustained 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 (USACECOM) 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 C4IEWS 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. USACECOM 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 USACECOM. 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 will be integrated into the RSC whenever 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 AR 710-2, for repair parts supporting IEW equipment repair.

c. Shop stock will be maintained using the ULLS and SAMS.

d. Appropriate MTOE, TDA, TM, or letter authorization authorizes tools and TMDE required for the maintenance of IEW materiel. Materiel will be obtained per AR 710-2.

e. Maintenance requirements beyond the Field level require a DA Form 5990-E /2407 to be processed through the unit's field-level SAMS to the Sustainment-level RSC.

6-32. Intelligence and electronic warfare Sustainment reporting committee symbol maintenance

The IEW RSC will centralize IEW maintenance management and maximize the integration of the military Sustainment maintainers in the Corps Support Command with the contractors/civilians in the IEW RSC. The IEW RSC will provide maintenance support for items not reparable at the IEW Field level. The 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 NETCOM/9th ASC.

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 (DOIM) 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 ASC to support as a FORSCOM MSC. ASC is now a direct reporting unit (DRU) under the CIO/G-6 and reflaged as NETCOM/9th ASC. The CIO/G-6 and the CG, NETCOM/9th ASC must approve all new maintenance responsibilities.

b. The CG, NETCOM/9th ASC is responsible for—

- (1) Maintenance support of all echelons above corps (EAC) communications equipment assigned as his or her responsibility by HQDA and/or the CIO/G-6.
- (2) Organization and operation of all AMSFs supporting OCONUS commanders.
- (3) NETCOM/9th ASC Maintenance Support Teams (MST).
- (4) COMSEC Logistics Support Units (CLSU).
- (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 ASC will approve maintenance levels authorized for all NETCOM/9th ASC 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 ASC 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 ASC 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 the U.S. Army Communications-Electronics Command (CECOM) Communications Security Logistics Activity, CLSUs 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 ASC 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 MSTs, area maintenance and supply facilities (AMSF), 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 hardwired components is accomplished at this level to the maximum extent authorized by the MAC and approved by NETCOM/9th ASC.

d. SRA maintenance actions coded L or D per the maintenance allocation chart is performed by maintenance support facilities identified by the NMP.

e. Unless authorized by an SRA granted by AMC, NETCOM/9th ASC units are not authorized to perform depot-level maintenance. For accomplishment of depot-level maintenance, NETCOM/9th ASC 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

FM 4-30.3 establishes AMSF doctrine for Sustainment facilities managed and operated by NETCOM/9th ASC. The AMSF is assigned the mission of furnishing centralized supply and maintenance support of NETCOM/9th ASC telecommunications materiel and other CE materiel as assigned. This includes—

- a.* Furnishing maintenance support for all assigned Army communications materiel at EAC 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 authorized stockage list (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 ASC 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/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 (ECUs) 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 ASC Field or Sustainment maintenance facility that brings mobile maintenance support to CE fixed facilities or other NETCOM/9th ASC 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 CLSU.

6-38. Quality assurance

All NETCOM/9th ASC Field and Sustainment maintenance support facilities will institute effective quality control procedures in carrying out HQDA and NETCOM/9th ASC quality assurance programs. Quality control must be sufficiently independent of maintenance operations to ensure that inspections are not constrained.

Section VIII

Information Technology

6-39. General

This section applies to the maintenance of Information technology equipment including MTOE, TDA, and loaned materiel. Army IT consist of equipment and components designed to store, process, display and move information. IT categories include embedded IT, AIS in support of STAMIS, and COTS computers, personal digital assistants, and associated devices.

a. Embedded IT is a system or component that is specifically designed and produced to perform functions as an integrated part of noninformation systems. Embedded IT has no general-purpose capability outside the system of which it is a part and is not separable for other uses without redesign or modification. All embedded IT will be maintained consistent with the maintenance concept for the end item and the Army maintenance system.

b. All AIS STAMIS will be maintained as follows:

(1) The unit AIS maintenance personnel, in coordination with the Combat Service Support Automation Management Office (CSSAMO), will support the user/operator in diagnosis and restoration of STAMIS computer systems to an operational status. Failed LRUs will then be turned into the supporting SSA.

(2) To the greatest extent possible, the CSSAMO, in coordination with the maintainer, will provide a mobile support team to restore and repair STAMIS systems onsite.

(3) The CSSAMO may, in coordination with the supporting maintenance activity and on a case-by-case basis, perform hardware repair of STAMIS systems to facilitate systems availability.

(4) Software-related problems will be resolved in coordination with the supporting CSSAMO, personnel automation section, or other appropriate automation office.

(5) The CSSAMO or supporting maintenance activity will provide a replacement STAMIS tactical computer

exchange (TCX) asset to unit personnel from on-hand TCX assets and work order the faulty TCX to the supporting maintenance activity.

(6) If an LRU is under warranty, it will be screened by the maintenance activity or CSSAMO for evidence of failure. If an LRU under warranty is found to be unserviceable after testing, the warrantor should be contacted and the item returned to the warranty provider. LRUs not under warranty will be forwarded to the maintenance activity for repair or disposition. Repaired assets will be returned to the CSSAMO TCX. LRUs found NRTS by the maintenance activity will be turned into the SSA for disposal.

(7) Maintenance (hardware and software) including float transactions, will be managed and documented using maintenance STAMIS.

c. The decision to repair/upgrade of COTS computers, personal digital assistants and associated devices will be based upon a cost-benefit analysis (CBA) of replacing vs. repairing/upgrading the system. With the rapid advancement in technology, the repair/upgrade of COTS may not be the best economic choice.

(1) The following factors should be considered during the decision process:

(a) Cost of replacement from GSA Schedule.

(b) Warranty/no warranty.

(c) Age of the equipment (consider substantially improved technology).

(d) Mission impact while the system is being repaired/upgraded.

(e) Extent of repair/upgrade.

(f) Cost of repair/upgrade vs. the MEL constraints.

(g) Availability of parts.

(h) Manpower availability versus manpower required in accomplishing the repair/upgrade.

(i) Estimated service life after repair/upgrade.

(j) Most timely method of getting system back into the hands of the end user.

(2) The maintenance of military equipment and standard/common and/or unique Army systems will have priority over the repair of locally procured COTS computer systems.

(3) The cumulative cost to repair or upgrade a COTS 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 CBA. 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 COTS computer repair/upgrade effort must be maintained. If audited, the repair shop must be able to produce these reports upon direction from higher headquarters.

(4) A COTS 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).

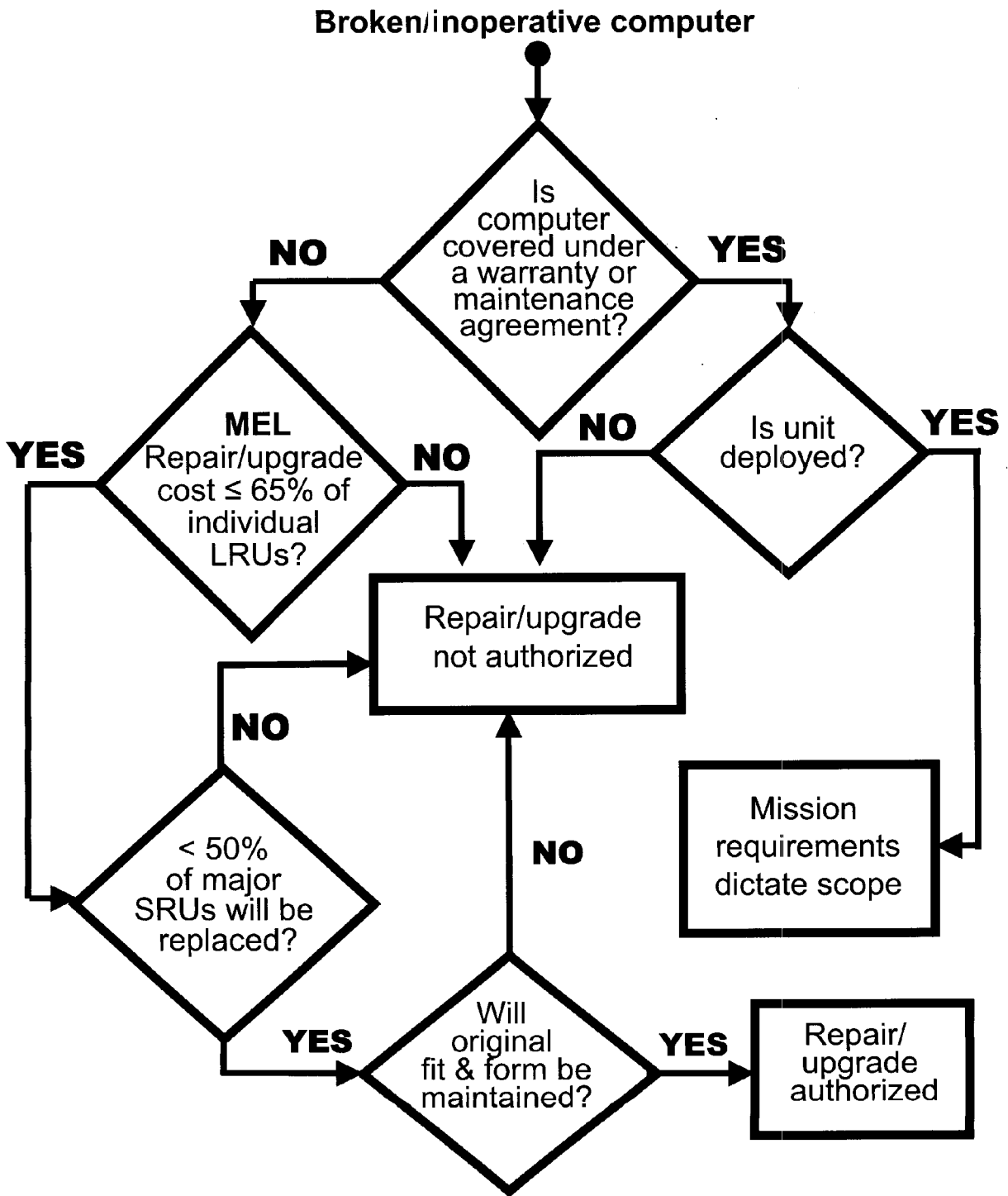


Figure 6-1. COTS computer repair/upgrade flow chart

(5) Upgrade of a COTS 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 COTS 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) Residual modules will not be used to assemble additional STAMIS/COTS computers. After repair or upgrade of a STAMIS/COTS computer, removed SRUs will not be retained. Cascading is authorized; residual assemblies may be used for an upgrade to another COTS computer. However, this additional upgrade must be accomplished within 72 hours. After the 72-hour time period, all residual parts must be sanitized and turned in to the local (SSA). During deployments, mission requirements will dictate the scope of this requirement but all modules must be accounted for.

(7) The procurement of limited additional equipment/software (special tools and/or diagnostic software to support COTS systems) is authorized. Owning organizations will fund this requirement. TMDE will not be acquired to support a COTS computer repair effort.

d. The USACECOM Logistics Readiness Center is the Army lead organization for STAMIS logistics sustainability.

e. Any computers procured by a ACOM, ASCC, and DRU to support a tactical STAMIS may be repaired using these procedures, provided the ACOM, ASCC, and DRU has coordinated and funded that support.

f. The TCX is composed of COTS computer systems and their associated peripheral equipment used to operate or support tactical STAMIS applications. TCX will be located at the CSSAMO and must be 100 percent deployable (see para 8-7).

g. The ESSC at the Tobyhanna Army Depot FRA is an integrated maintenance activity that provides the field with a dedicated support structure for STAMIS hardware. The FRA also supports tier III office automation equipment at selected installations and when deployed as part of the AMC LSE.

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 DRMO 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.

d. COTS computer parts required for nonwarranty repairs should be purchased as needed using the Government purchase credit card. 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 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. IT warranties to the greatest extent possible will be structured to allow onsite or mail-in processes to maintain their warranties. FRAs are authorized at the AMC MSC commander's discretion to facilitate IT repairs by the warranty vendors. FRAs should take action to become OEM 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 initial operating capability (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 MSC.

Section IX

Test, Measurement, and Diagnostic Equipment

This section provides policy for support of Army TMDE. AMC will furnish calibration and repair support for general and selected special purpose TMDE under AR 750-43, TB 750-25, and TB 43-180.

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 N MCP and executed based on requirements determined by unit of employment x (UE_x) or UE_y from the theater inventory control point/N MCP. The maintenance to be performed by an activity will be based on the activity's assigned mission or as directed by the UE_x or UE_y from the N MCP.

d. The condition code of ammunition will be determined by surveillance inspection or as directed by UE_x, UE_y, or N MCP.

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 condition code for immediate issue and use at all levels without special tools and equipment. Functions performed as field maintenance includes—

- (1) Cleaning, drying, and protection of individual items and/or packing material.
- (2) Spot painting and restenciling.
- (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/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) Preinspection inspection.
- (16) Safety in storage inspection.
- (17) Special inspection.
- (18) Verification inspection.
- (19) Basic load inspection.
- (20) Determining and assigning condition codes.
- (21) Maintaining depot surveillance record cards on locally stored/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 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—

- (*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 SB 742–1
- (*e*) Surveillance function test inspection in accordance with SB 742–1.

6–49. Maintenance planning

a. Munitions maintenance and surveillance procedures will be complied with in accordance with SB 742–1.

b. The munitions maintenance program will be managed by the NICP and executed based on requirements determined by UEx or UEy from the theater inventory control point/NICP. The maintenance to be performed by an activity will be based on the activity's assigned mission or as directed by the UEx or UEy 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, preparing data cards, and so forth.
- (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 (OCIE) 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 OCIE 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 (USPFO) 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 USPFO 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 NGB 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*) USPFO 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

Maintenance expenditure limits 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 directorates of logistics 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 (IMMMA), local commercial shops, or other Government maintenance activities as jointly determined by the motor pool manager and the installation management officer (IMO). In all cases, warranties are to be used to the maximum extent possible. Detailed policies on management of nontactical vehicles (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 IMO. 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 repairable 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 350-38, AR 700-127, and AR 25-1. Training aids and devices used by the U.S. 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—

(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 support centers (T/VISC) 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/crew training equipment will be maintained to the Army maintenance standard outlined in paragraph 3-2 and the turn-in/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 condition code "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 maintenance support plan or justification for contract maintenance or interservice 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 T/VISC. Maintenance above the capability of the T/VISC 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 visual information (VI) equipment and systems. It supplements policies in AR 700–127 and AR 25–1.

a. VI materiel includes photographic, television, audio and graphic art items that furnish an audiovisual product or service.

b. The Office of the Chief Information Officer, G–6 will validate authorization of type-classified VI materiel prior to documentation in a CTA, TDA, or TOE/MTOE to ensure compliance with DODD 5040.2.

c. 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 VI architecture. (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 maintenance support plan or justification for contract maintenance or interservice 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 DOIM.

(3) The training community may, at the option of the ACOM, ASCC, and DRU, manage maintenance of VI equipment and activities integrated with training device support activities. Otherwise, contract requirements will be submitted to the supporting DOIM, who will coordinate the support.

(4) User commands are responsible for contract maintenance support for all VI materiel under their control and are responsible for budgeting funds for it. Funds will be made available by the user to the supporting DOIM or VI activity to support its contract efforts.

Chapter 7 Life Cycle Maintenance Support

7–1. General

a. Total ownership cost (TOC) 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 TOC includes costs associated with acquiring, operating, modifying, maintaining, supplying, and disposing of weapon/materiel systems. Reducing TOC is key 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) Army Cost and Economics (C) Economic Analysis Manual, chapter 7.

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 level of repair analysis (LORA), the maintenance support plan, 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 sample data collection program.

- (5) Providing logistics assistance representatives (LARs) 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. Interservice 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, reliability/availability maintainability (RAM), manpower and personnel integration (MANPRINT), 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/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/information systems and, where possible, existing systems. These technologies will be fully implemented in the following areas:
 - (a) Technical literature, including ETMs and IETMs, for the execution of Field maintenance operations.
 - (b) Army doctrine and training for improved methods, procedures, and combat service support.
 - (c) Fleet life-cycle management and inventory management programs at AMC integrated materiel management centers and associated program management organizations.
 - (2) Materiel developers 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/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/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 4151.18 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 U.S. 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 ACAT 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. Reliability Centered Maintenance (RCM) is the process that the Combat and Materiel Developers 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- or cycle-) based actions, failure finding, or run-to-failure approach.

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 JA 1011 and SAE JA 1012.

e. LOGSA, AMC will maintain the single Army database repository for RCM data (to include CBM data). Logistics Innovation Agency (LIA) 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. At best, maintenance can sustain the design level of reliability within the operating context over the life of an item.

(7) RCM is a continuous process. RCM analyses should be sustained throughout the life cycle.

7-4. Condition-Based Maintenance

a. Uses primarily non-intrusive testing techniques, visual inspection, embedded sensors, and performance data to assess equipment condition.

b. Condition-Based maintenance (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) Army Cost and Economics (CE) Economics Manual, chapter 7.

(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) Army Cost and Economics (CE) Economic Analysis Manual, chapter 7.

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 (RFP), 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 CBTDEV including the SMSP, for finalizing the maintenance/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 (SSP).

(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/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/operations test (OT) and for evaluating the SSP.

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/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

Based upon maintenance capability, TMDE and availability of technical documentation and repair parts, Field and Sustainment maintenance activities are authorized to repair COTS equipment (including COTS computers), modules and printed circuit boards not covered by a manufacturer’s warranty and/or support agreement. During deployment, readiness and mission requirements will dictate scope of this requirement.

7–8. Contract and civilian maintenance support

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) 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, local nationals, and so on) may be acceptable as a prudent risk on the probability of maintenance services being continued in wartime and in support of military operations other than war (MOOTW).

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) The necessity for establishing an alternate foreign source has been formally determined 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.

(5) 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.

7-9. Planning for contractor support, fielding/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—

- (1) To address MARC shortfalls during peacetime operations.
- (2) To address HQDA approved maintenance programs such as Resetting the Force.
- (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 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. NSA must approve this assessment. The proposal—including PWSs with additional information identifying the COMSEC/SIGINT and EW equipment, density supported, and levels of maintenance to be performed—will be submitted through the appropriate AMC commodity manager and DCS, G-3/5/7, ATTN: DAMO-FDI, 400 Army Pentagon, Washington, DC 20310-0400, to the Director, National Security Agency, ATTN: 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.

7-10. Depot maintenance source of repair selection

Depot maintenance SOR will be made in accordance with paragraph 5-5 of this regulation.

7-11. 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 per DA Pam 700-55. It is updated and expanded periodically as the system matures during the life cycle.

b. The MSP is based on the maintenance/logistics concept contained in the requirement document. In developing alternatives and selecting a final maintenance concept, the MATDEV, in coordination with the CBTDEV including the SMSP, 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 RTF, 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 logistics management information (LMI). LMI will include a LORA or other analyses, 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 FUED, 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/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 CBTDEV, to include the SMSP, (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 HQ AMC with concurrence from TRADOC.

7-12. 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 DMSP encompasses all phases of the life cycle of an item of new materiel. Planning actions and a sample plan are contained in DA Pam 700-55. The DMSP is updated as changes become necessary.

d. Consideration will be given to the use of interservice support to provide maintenance support services per chapter 4, section V 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.

7-13. Logistic management information

a. Maintenance support activities personnel will ensure a balanced logistics support program is planned and executed at the least cost to the Government.

b. AR 700-127 provides policy guidance on the use of this analysis technique during materiel acquisition. Maintenance activities will develop logistics management information requirements considering the ILS elements. Maintenance activities will review and approve all logistics information developed by the MATDEV.

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. 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.

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

7-14. 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 Federal Acquisition Regulation.

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 750-8 and DA Pam 738-751 contain instructions for submitting warranty claim actions.

7-15. Maintenance equipment publications

a. Maintenance requirements are to be developed, coordinated, published, and updated for each materiel system and supporting TMDE in equipment technical 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 postrepair operational performance standards.
- (8) Nuclear hardness maintenance and surveillance requirements.
- (9) Preservation of chemical, biological, and radiological CBR warfare resistance.
- (10) Storage requirements.
- (11) Fault isolation.

d. Procedures will be written in enough detail to establish technical competence required in each level of maintenance operation.

e. Requirements to repair to the national maintenance standard for field reparable will be developed in accordance with the best commercial practices and published as a NMWR or other applicable technical manual and coordinated with the quality assurance and safety activities.

f. 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.

g. 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.

h. 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.

i. PMCS tables provide operator/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.

j. Equipment for which standard TMs have not been developed will conform to established maintenance quality requirements. AR 385–55 lists safety checks that must be included in establishing maintenance requirements.

k. Scheduled/preventive maintenance of any kind is RAM-related support concept. The purpose of scheduled/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.

l. 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. Unique item tracking 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 technical bulletins.
- (h) Identify the impact on the equipment's maintenance burden data.

m. Equipment publications are essential segments of the support systems for all materiel systems. These publications are also a part of the SSP and are tested during DTs and OTs. Publication adequacy will be addressed in test reports.

n. Over the materiel life cycle, logistics management information 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/NMWRs.

o. 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.

p. The RPSTL and narrative portion of the equipment publications will support and be consistent with the MAC. The RPSTL will list all materiel that may be stocked as authorized stockage list/prescribed load list materiel by NIIN.

g. 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, RPSTLs (including NSNs), work measurement standards, and similar specialized data will supplement them as necessary. The MATDEV or other proponent, in coordination with CBTDEV, to include the SMSP, will determine when COTS manuals are acceptable for maintenance purposes. Procurement of COTS manuals and supplemented COTS manuals is prescribed in AR 25–30. COTS 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–HDBK–1221. COTS manuals will be 100 percent hands-on verified by TRADOC target audience soldiers to ensure their usability in the military environment.

r. All equipment publications will be coordinated with the appropriate materiel safety director to assure that proper warnings, cautions, and limitations have been included.

s. Materiel procured and managed by DLA or the GSA will be included in TBs by the appropriate Army supply class manager.

t. 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.

u. TMs will be provided in electronic formats known as ETMs and IETMs. These media increase efficiency, reduce operations and sustainment costs, leverage condition-based maintenance plus 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 critical requirement and the DCS, G–3/5/7 in conjunction with the DCS, G–8 will assign and properly resource a materiel developer to acquire this equipment. These devices will have several capabilities, to include the ability to—

(a) Run/play an ETM or IETM.

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

(c) Run a portion of TAMMS (SAMS–E, GCSS–A) at the mechanic/technician level.

(d) Leverage all condition based maintenance plus technologies and concepts.

(3) Paper TMs are intended for all operator manuals, wiring diagrams or schematics, firing tables, safety of use/flight technical bulletins, and pre-combat/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 by demand only by the Army Publishing Directorate (APD).

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

(1) All overhaul, rebuild, and remanufacturing of equipment regardless of commodity will be defined as depot-level maintenance to the extent that this does not include TM XX–10 and XX–20 series 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. Depot maintenance work requirements, when required, must contain data required by DA Pam 25–30.

(2) Depot maintenance work requirements will be verified by the system proponent as indicated in section II of the SS (DA Pam 700–55).

(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.

w. 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. NMWRs must contain data required by DA Pam 25–30.

(2) NMWRs will be verified by the system-applicable AMC MSC.

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

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

x. It is the responsibility of the MATDEV to fund the verification effort for all equipment publications, including funding for user representative involvement.

7-16. Maintenance/service kits

Maintenance/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/maintainer efficiency, reduce TAT, ease handling of items, and assist the warfighter in achieving readiness objectives in AR 700-138.
- b.* MATDEVs and the CDR, AMC will conduct annual reviews of readiness data available at 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 MIL-PRF-49506.

- 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 (SMR) codes; essentiality codes; and demilitarization codes will be assigned to each spare and repair part, TMDE, and other support items.
- d.* Maintenance replacement rates (MRR) and task times will be assigned for peace, wartime and MOOTW usage, and geographical considerations for all spares and repair parts. Technical guidance for developing MRR can be found in MIL-PRF-49506.
- e.* Maintenance task distribution will be developed by using the MAC, maintenance level workload capability, and latest repair turnaround times (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/logistical support concept. Tests and evaluation will also serve to verify adequacy of the maintenance portion of the SSP, 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) New equipment training (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 TMD to support the new item are available.

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 program manager of the weapon system. STS will be funded with procurement dollars.

b. Commencing with the first full fiscal year 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/PEO to AMC. The Program Manager, 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 ODCS, G-4, Maintenance Policy Division for inclusion in the sustainment PEG as part of the POM submission.

c. For those weapon systems currently managed by PEOs/PMs that are forecasted to go out of production during the POM years, the PEOs/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 sustainment systems technical support, postproduction 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 on-site 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 HQ AMC. HQ 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 ODCS, G-3 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. HQ AMC will provide justification for any deviation. A copy of the latest prioritization guidance may be obtained from ODCS, G-3/5/7, ATTN: 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/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, and DRU, HQDA, and DOD levels.

(3) *Responsibilities.*

(a) Each year the Chief of Staff, Army or a designated representative will present the AAME plaques to the 12 winners and 12 runners-up for their superior maintenance operations.

(b) The ODCS, 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 six nominees to the Secretary of Defense Maintenance Awards Program.

(c) The Commander, U.S. Army Ordnance Center and Schools (USAOC&S) will—

1. Serve as responsible official for administration of the AAME program.

2. Assist ODCS, 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 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 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/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 USAOC&S.
 - (e) The TRADOC, CNGB, and OCAR commanders will provide board members and onsite evaluation team members to support the assessment process as required by the USAOC&S.
 - (f) Unit commanders (or equivalent) will conduct their programs within the guidelines established in this paragraph and in appendix D.
 - (4) *Categories of competition.*
 - (a) Categories of 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. Active Army TOE/MTOE unit.
 2. ARNG TOE/MTOE unit.
 3. AR TOE/MTOE unit.
 4. TDA unit (any component).
 - (c) Within each of the four component competitions, units will compete in their respective categories, based on the number of authorized personnel identified in 8-1a.
 - (5) *Command nomination process.*
 - (a) Nominations will be accepted from the following ACOMs, ASCCs, and DRUs /commands, field operating agencies, and direct reporting units:
 1. Eighth U.S. Army.
 2. U.S. Army, Europe, and Seventh Army.
 3. U.S. Army Forces Command.
 4. U.S. Army Pacific.
 5. National Guard Bureau—an Army Command.
 6. U.S. Army Intelligence and Security Command.
 7. U.S. Army Medical Command.
 8. U.S. Army Materiel Command.
 9. U.S. Army Military District of Washington.
 10. U.S. Army Surface Deployment and Distribution Command.
 11. U.S. Army Special Operations Command.
 12. U.S. Army Training and Doctrine Command.
 13. U.S. Army Criminal Investigations Command.
 14. U.S. Army Corps of Engineers.
 15. U.S. Army Space and Missile Command.
 16. U.S. Army Networks Enterprise Technology Command/9th Army Signal Command.
 17. U.S. Army Installation Management Agency.
 - (b) The number of nominations that may be submitted by a ACOM, ASCC, and DRU is limited, as follows:
 1. Each Active Army ACOM, ASCC, and DRU may submit six nominations for the Active Army TOE/MTOE competition: two small-unit, two medium-unit, and two large-unit nominations. The exception is FORSCOM, which may elect to submit three per category.
 2. FORSCOM may submit 18 nominations for the AR TOE/ MTOE competition: six small-unit, six medium-unit, and six large-unit nominations. All other ACOMs, ASCCs, and DRUs with AR units may submit six nominations for the AR TOE/MTOE competition: two small-unit, two medium-unit, and two large-unit nominations.
 3. The NGB may submit 18 nominations for the ARNG TOE/ MTOE competition: six small-unit, six medium-unit, and six large-unit nominations.
 4. Each ACOM, ASCC, and DRU may submit six nominations for the TDA competition: two small-, two medium-, and two large-unit/activity nominations.
 - (c) The program is designed to assess the unit's maintenance operations at division, brigade, battalion, company, battery, troop, and equivalent MTOE/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. If 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 fiscal year will be assessed on the MTOE/TDA under which they were organized for the greatest part of the year. Commanders should note MTOE/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 appendix D.

(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 appendix D. If selected to represent the ACOM, ASCC, and DRU, ACOMs, ASCCs, and DRUs will then endorse and forward the original packets for each unit/activity nominated to arrive at the USAOC&S not later than 15 December following the fiscal year of competition.

(d) Submission of nomination packages to the USAOC&S constitutes consent for an onsite evaluation of the unit's maintenance program as articulated in the nomination packet.

(7) *HQDA evaluation process.*

(a) *Phase I: Submission of AAME nomination packets.*

1. USAOC&S will convene an evaluation board and appoint an appropriate chairperson.

2. The board members will be drawn from TRADOC service schools, OCAR, 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 USAOC&S. 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. USAOC&S will appoint four onsite evaluation teams: Active TOE/MTOE, ARNG TOE/MTOE, AR TOE/MTOE and TDA.

2. The team members will be selected from TRADOC schools, OCAR, NGB, and other special activities. If possible, members will be selected from the phase I evaluation board or have previous experience in conducting AAME on-site evaluations.

3. Using the phase II evaluation guidelines/scoring criteria, the on-site teams will evaluate each semifinalist unit.

(c) *The phase I and II results.* Results will be combined to determine the winner and runner-up in each of the 12 competition categories. The final score is a weighted score of both phase I (30 percent of the final score) and phase II (70 percent of the final score) results.

(d) *Winner notification.* The ODCS, G-4 (Maintenance Policy Division) will notify the winners/runners up by message immediately after phase II results are compiled.

(e) *Lessons learned.* The USAOC&S will compile and forward lessons learned from the nominations not selected as semifinalists to each ACOM, ASCC, and DRU. Additionally, the USAOC&S 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 Armywide aspects of the AAME program and its positive impact on unit combat readiness.

(b) The USAOC&S 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 Center and Schools, ATTN: ATSL-AAME, Aberdeen Proving Ground, MD 21005-5201.

(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 USAOC&S will—

(a) Request HQDA board members and on-site evaluation team members to meet during the first quarter of the fiscal year.

- (b) Convene the HQDA Phase I Evaluation Board during the second quarter.
 - (c) Convene the HQDA on-site Phase II Evaluation Team visit during the second quarter, following the conclusion of the Phase I Evaluation Board.
 - (d) Publish *PS The Preventive Maintenance Monthly* and public affairs articles, as required.
 - (e) Conduct ACOM, ASCC, and DRU-level AARs during the second quarter.
- b. SECDEF Maintenance Award Programs.*
- (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 USAMC depot competition are used as the gateways to determine the SECDEF maintenance Award submissions for the Army.
 - (2) Army nominees are selected from among units that competed and were selected as AAME winners. The top AAME winners will be the Army's nominees for the SECDEF Maintenance Award. 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. ODCS, 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/prognostic maintenance processes.

a. Program policies.

(1) Enrollment in the AOAP is mandatory for all Army aircraft, unless the DCS, G-4 approves the exception. Selected nonaeronautical equipment may be enrolled in the AOAP for test and analysis on a case-by-case basis, when resources are available. For a list of equipment and components enrolled in the AOAP, refer to TB 43-0211 or the AOAP Web site: <http://weblog.logsa.army.mil/index.shtml>.

(2) AOAP daily operations and capabilities will be executed between the laboratory and the customer unit.

(3) Field maintenance units must promote and utilize 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. 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 Army Service Component Command (ASCC) will establish AOAP service operations in concert with its maintenance plan/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 handoff of prepositioned stocks only when AOAP laboratories are not available.

(5) When required by the task force commander, Army National Guard mobile laboratories will be temporarily deployed in support of Field operations as part of the maintenance plan/strategy.

(6) NGB is responsible for training, alerting, and mobilizing the NG mobile laboratories. Upon receipt of task force commander's request for forces and DCS, G-3/5/7 approval, FORSCOM is responsible for the deployment of AOAP mobile laboratories. 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.

(7) ARNG will ensure mobile AOAP laboratory units coordinate with the PM AOAP, for oil analysis technical support and guidance. NG AOAP mobile laboratories will maintain full AOAP certification to be fully mission capable. Mobile laboratories will conduct technical operations in accordance with this regulation, AR 700-132 and TM 38-301.

c. 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-LA), AMC Logistics Support Activity, Building 3661, Redstone Arsenal, AL 35898-7466.

d. 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) to the owning unit.

(2) Owing 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.

e. Support. When practical and necessary, interservice oil analysis support may be obtained from Navy and Air Force JOAP laboratories (AR 700-132). Questions regarding interservice support and laboratory locations should be referred to the PM AOAP at aoap@logsa.redstone.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 (WARCO) 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 technical bulletin. AOAP procedures supplement the instructions directing oil changes for equipment under warranty.

e. Representatives of the LAP will provide advice and assistance to ACOM, ASCC, and DRU WARCO 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 expenditure will be monitored and reported to the ODCS, G-4 (Maintenance Policy Division) as required. These data will be used as input to the Army's Distribution of Depot Maintenance Workload Report (also known as the 50/50 report). All warranty contracts that specifically contain a scope of work indicating depot-level maintenance services will be reported.

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.

8-4. Sample data collection

a. Objectives and purpose.

(1) The SDC 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 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 proponent and approved by the applicable ACOM, ASCC, and DRU.

(2) Analysis of SDC information provides an assessment of equipment supportability and performance to support initiatives relating to MANPRINT, safety, design improvements, production processes, MWOs, supply, maintenance, manpower requirements criteria, engineering evaluation, and operating support cost reduction. The SDC 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. DA staff elements, user ACOMs, ASCCs, and DRUs, and materiel proponents may nominate other weapon systems for discretionary SDC. Normally, mandatory and discretionary SDC requirements will be identified during the ASARC/Defense Acquisition Board review after the full-scale development contract is awarded.

(2) SDC 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 Deputy Chief of Staff, G-4, ATTN: 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 (AMSAA) is the DA/AMC responsible official for SDC 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 program.

(4) The SDC 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/AMC responsible official. The AMC MSC with equipment proponenty is designated the SDC proponent. The AMSAA is the SDC proponent for all Field exercise data collection (FEDC). All SDC projects are managed and executed by the applicable SDC proponent.

(5) Any difference between ACOMs, ASCCs, and DRUs relative to roles and responsibilities involved in individual SDC projects will be resolved by the DCS, G-4.

(6) The SDC empirical data is a mandatory source of information for materiel proponents to use when providing information required by functional and staff elements.

c. Types and methods of SDC.

(1) There are three types of SDC.

(a) *Conventional SDC.* These encompass specific equipment end items and comprise mandatory and discretionary projects. Mandatory SDC projects are directed by the DCS, G-4 and are funded using applicable phased/preventive maintenance funding. The equipment MSC proponent selects discretionary projects. When properly justified, any activity requiring data may request that the SDC proponent establish a discretionary SDC project. Discretionary projects are normally funded by the activity identifying the need for information. All conventional projects have a duration of 3 years unless extended or terminated by DA.

(b) *Special field information tasks.* These are short term (1 year or less) and are designed to support PEO, PM, and MSC requirements that do not dictate a full-scale SDC project. They 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 a special field information task through the SDC program. They are normally funded by the requesting activity (PM or equipment proponent).

(c) *Field exercise data collection.* FEDCs encompass collection of maintenance and operational data on mission essential end items—normally equipment readiness code P and A, as defined in AR 220-1—during selected major field training exercises (FTXs). The DA-approved FEDC projects have a duration of 3 years, unless extended or terminated by DA.

(2) There are four methods or levels of data collection. They are authorized commensurate with information required, objectives to be achieved, and cost considerations. The data collection method to be selected is outlined in the Field procedures guide and is the one most cost effective but least disruptive of Field operation while still accomplishing the objectives of the SDC effort.

(a) *Level 1.* Owning and support personnel will allow SDC data collectors to review/copy standard DA forms. Additional data elements, as required, will be provided by the owning unit and support personnel but are restricted to an absolute minimum and requires strong justification. The SDC proponent representatives will collect data, perform quality checks, transcribe data as required, reduce data if required, and forward data to a designated site.

(b) *Level 2.* Owning unit and support personnel will allow SDC data collectors to review/copy standard DA forms. SDC proponent agency representatives, however, will collect additional data elements, orally and through direct observation of owning and support units. The SDC proponent representatives will collect standard DA forms, perform quality checks, transcribe data as required, reduce data if required, and forward forms/reduced data to a designated site. No additional reporting burden will be placed on participating Field units.

(c) *Level 3.* This data collection method is highly detailed and is associated with data collection during intensive usage scenarios in which SDC proponent representatives will collect highly complex reliability, availability, and maintainability data, including data reported through various standard Army systems. No additional reporting burden will be placed on field units. Examples of this method include follow-on evaluations, lead the fleet, and fleet leader programs. This method will be used only when properly justified to accomplish complex requirements.

(d) *FEDC.* FEDC also encompasses collection of maintenance and operational data on ERC P and A items during contingency operations such as MOOTW, stabilizing operations, and peacekeeping operations. Contingency operation FEDC programs can occur after the first year of deployment with approval of the contingency operation task

commander. Level 2 is the authorized data collection method during contingency operations to minimize the administrative burden on soldiers and disruption of unit operations.

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 proponent for the MWO is responsible for applying the MWO.

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 ODCS, G-4 (Maintenance Policy Division) per AR 750-10.

d. Routine modifications will be applied within 4 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.

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

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

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

8-6. Army critical safety items program

An item will be identified as CSI when failure of that item could result in loss or substantial damage to the air vehicle or weapon system, or death or serious injury to personnel. 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 FSCAP.

a. CSIs will be purchased or repaired/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/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 (one or a few) on a one-time basis without undergoing the full alternate source qualification process only when AMCOM confirms the following conditions are satisfied. Execution of all phases of one-time manufacture processing will be done on an emergency basis and will be given high priority. 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, and so on) 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/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, tracked, and processed 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 Defense Reutilization and Marketing Office (DRMO) for disposal as required by DOD 4140.1-R and in accordance with DOD 4160.21-M. When it is not economically practical to send consumable CSIs to DRMS, 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. CSIs that contain military offensive or defensive capabilities will be demilitarized in accordance with DOD 4160.21-M-1.

(2) Contracts for the repair, overhaul or modification of aviation systems, subsystems, or equipment will ensure proper disposal of CSIs.

8-7. Army maintenance regeneration enablers

Authorized Army maintenance regeneration enablers are RTF, ORF, RCF, and TCX.

a. RTF.

(1) *Assets.*

(a) RTF is a strategic asset deployed to the operational level in a combat theater consisting of an authorized quantity of assets used to provide rapid weapon system replacement.

(b) These assets are maintained by AMC activities with a Sustainment maintenance mission to replace catastrophic battlefield losses and to exchange with supported units when repairs cannot be accomplished within COCOM established guidelines.

(c) RTF may also be combat-ready Army property, materiel, weapons systems and subsystems, which belong to existing Army units (primarily aviation). At the discretion of the HQDA, ODCS, G-3/5/7, a unit(s) is/are identified as donor units. Donor units will transfer combat ready equipment and associated subsystems, or special tools and test equipment to the AMC designated activity.

(d) RTF assets awaiting issue will be maintained at the Army maintenance standard defined in paragraph 3-2.

(2) *Criteria.* RTF criteria—

(a) Have a standard study number.

(b) Must be a Class VII weapon system.

(c) Must be coded ERC A or ERC P on the base TOE.

(3) *Management.*

(a) RTF supports all operational deployments and selected major training exercises to provide rapid weapon system replacement, in order to maintain the combat power required to execute all missions.

(b) RTF will be issued complete (with all authorized ASIOE/BII) less vehicle crew and Class V.

(c) RTF is authorized and documented on a TDA.

(d) RTF sets will be reported in accordance with AR 220-1 and AR 700-138.

(e) RTF must support all variants in a family of systems.

(f) RTF will be managed as follows:

1. Maintained as a fleet at centralized locations during peacetime.

2. Maintained by the AMC designated support element at a training center/site or theater of operations during contingency missions, combat operations, wartime, and operations other than war.

(g) Compute RTF authorizations using the formula in figure 8-1.

Authorization = ((average monthly equip loss rate)(equip density) + ((average monthly % of NMC equip \geq 1.5 MTTR)(current NMC equip density)).

Legend:

Average month equipment loss rate = Sum of ((monthly losses for an equipment item divided by monthly equipment density)) for previous 12 months.

Equip density = Total population of equipment for the specific LIN at your command level. Normally computed for a UA, UEx, UEy or Army. This may be current or projected.

MTTR = mean time to repair.

Average Monthly % of NMC Equip greater than or equal to 1.5 MTTR = Sum of ((Number of NMC Equipment items greater than or equal to 1.5 MTTR) divided by (Number of NMC Equipment items)) for previous 12 months.

NMC Equipment Density = Total population of NMC equipment for a specific LIN. This may be either current or projected.

Note:

1. Use of historical data from the last 12 months of operations is preferred.
2. Commanders may use the compatible historical data or combat loss planning factors when 12 months of data do not exist or when future operations dictate higher loss rates.
3. When determining RTF Fleet authorization for a new system, MATDEVs will use historical data for a like system.
4. MTTR can be determined using LIDB, ILAP, or SAMS.

Figure 8-1. RTF authorizations computation

b. ORF. ORF is a strategic asset deployed to an installation consisting of an authorized quantity of assets used to maintain established readiness levels or meet training availability requirements during peacetime.

(1) *Assets.*

(a) Assets are maintained by TDA and MTOE maintenance activities with a Field or Sustainment maintenance mission to exchange with supported units when repairs cannot be accomplished within ACOM, ASCC, and DRU established guidelines.

(b) ORF assets awaiting issue will be maintained at the Army maintenance standard defined in paragraph 3-2.

(c) ORF eligible items will be categorized in accordance with table 8-1.

**Table 8-1
ORF Categories**

Category	Description
I	Items on the DA critical items list and items directed by ODCS, G-3/5/7 to have a float. These items will be reviewed at the discretion of HQDA.
II	Items that are readiness reportable per AR 700-138 but are not category I.
III	Items that are not readiness-reportable but are embedded in and directly affect the readiness of category I and II items.
IV	Low-density or obsolete items.

(d) 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 during peacetime.
4. Satisfy temporary loan requirements.
5. Set up a peacetime pool of equipment to be held as assets to reconstitute the force.
6. Fill unit equipment shortages.

7. Replace uneconomically repairable equipment.

(e) ORF assets will not be taken to war by deploying units.

(f) During peacetime, ORF is designed to assist in maintaining the readiness and operational posture of units.

(g) During transition to war—

1. ACOMs, ASCCs, and DRUs will use ORF to enhance equipment readiness and may fill deploying unit shortages when coordinated with ODCS, G-3/5/7. Any remaining ORF will be reported to ODCS, G-3/5/7 for redistribution guidance.

2. Upon the outbreak of war, ACOMs, ASCCs, and DRUs will use ORF to enhance equipment readiness and may fill shortages when coordinated with ODCS, G-3/5/7. Any remaining ORF will be reported to ODCS, G-3/5/7 for redistribution guidance. Deployed ACOMs, ASCCs, and DRUs will transfer all remaining ORF assets to the AMC designated support element at the earliest opportunity.

(h) ACOMs, ASCCs, and DRUs deploying units to support peacekeeping, humanitarian aid, or disaster relief efforts may coordinate with AMC for ORF support. In these cases, ACOMs, ASCCs, and DRUs may transfer ORF assets to AMC who will maintain and issue ORF assets in the area of operations.

(i) ORF assets will only be issued when the priority designator on the work order is 01 through 06 and the estimated repair time exceeds the ACOM, ASCC, and DRU established time criteria.

1. All ORF exchange decisions will be approved by commanders O-5 or above, after coordination with G-3/S-3 channels of the next higher command level, or the G-3/S-3 staff on behalf of the commander of grade O-6 or above.

2. Supported units will accept the ORF item as long as it is a like item or an authorized substitute per SB 700-20 and it meets the Army maintenance standard in paragraph 3-2.

3. The exchange of an unserviceable repairable end item for an ORF asset will be accomplished as simultaneous (turn-in and issue) property book transactions. BII and COEI common to the end items will not be exchanged.

4. The priority for work requests to repair an unserviceable ORF asset and requisitions to replenish washed-out assets will be the highest priority authorized for use by supported customer units.

5. Each time a decision is made to float (whether assets are available or not), a demand for ORF will be recorded in SAMS with the appropriate code. A cumulative total of demands and downtime will be maintained to support the annual utilization report. The annual utilization report will be sent to the ACOM, ASCC, and DRU ORF coordinator for input into LIDB for review by HQDA. HQDA will review each ORF item on an annual basis for retention of the authorization. Repeated low demand data will be cause for removal from ORF authorization unless retention can be justified by the requesting ACOM, ASCC, and DRU.

6. Field-level units with ORF will submit a separate monthly readiness report using utilization code 4 per AR 700-138, paragraph 2-3.

(j) The accountable officer will—

1. Account for ORF assets per AR 710-2 and DA Pam 710-2-2.

2. Ensure that all BII/COEI for ORF assets are on hand and serviceable. Accountability and control of BII/COEI will remain with the owning organization. (All equipment not included on the aircraft inventory record and maintained by separate accountability will be removed before exchange.)

3. Direct the repair of unserviceable ORF items.

(2) *Criteria.* ORF criteria—

(a) Have a standard study number (SSN).

(b) Must be class VII or Class II.

(c) Must be authorized at the Field-maintenance level, except for the following:

1. ORF may be maintained at TRADOC schools and training centers when approved by CG, TRADOC.

2. ORF may be maintained at TDA and NETCOM ASC off-site maintenance activities. The ACOM, ASCC, and DRU commander's approval is required.

(3) *Responsibilities.*

(a) The HQDA, ODCS, G-4 Director of Maintenance will chair the annual ORF conference and will—

1. Approve/disapprove ACOM, ASCC, and DRU ORF/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 LIDB ORF/RCF online program.

2. Provide coordination for ORF/RCF status reports as required.

(b) AMC ACOM, ASCC, and DRU POCs will—

1. Report previous calendar year ACOM, ASCC, and DRU ORF/RCF demand data at the unit level in the AMC LOGSA LIDB ORF/RCF online program by 15 May. This program will compute updated ORF/RCF authorizations for review by the ODCS, G-4 (Maintenance Policy Division) and will update the ORF/RCF database.

2. Request new ORF/RCF additions, changes, or deletions throughout the year as required through the AMC LOGSA LIDB ORF/RCF online program, which will be submitted to the ODCS, G-4 (Maintenance Policy Division) for approval/disapproval.

3. Provide e-mail notification to LOGSA and HQDA ORF/RCF POCs stating that the yearly ORF/RCF demand data have been updated in the AMC LOGSA LIDB ORF/RCF online program or that there are no changes to the data.

(4) *ORF authorizations*. Compute ORF authorizations using the formulas listed in table 8–2.

Table 8–2
Float ORF and TCX authorization formulas

Time frame	Formula
Before fielding	Authorization = (RG) X (MTTR) / (MTBF + MTTR) X planned (in-use) density
System fielded	Authorization = ((Total NMC days by LIN) / (LIN density x 365 days)) X (RG) X LIN density

Notes:

¹ RCF criteria MTTR = mean time to repair.

² MTBF = mean time between failure.

³ RG = readiness goal from AR 700–138.

⁴ For initial computation during acquisition development, MTTR and MTBF is in days.

⁵ The MTBF and MTTR are those operational requirements specified for that system by the CBTDEV, documented in the initial capabilities document, and included in the logistics support analysis requirements (LSAR).

⁶ 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 LSAR.

c. RCF.

(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) Procedures to account, manage, and issue RCF items are outlined in AR 710–1.

(c) The NICP may issue RCF assets to fill MTOE/MTDA or ORF shortages when other assets are not available and directed to by the Army G–3/5/7.

(d) Compute RCF using the following formula in figure 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.

For the system-fielded time frame,

$$\text{Authorization} = (\text{MOCT} / \text{MTBO}) \times \text{LIN (in use) density}$$

Legend:

MOCT = mean overhaul cycle time

MTBO = mean time between overhauls

Notes:

1. MOCT and MTBO are expressed in months.

2. RCF factor = MOCT / MTBO.

3. In-use = assets excluding Army prepositioned stocks.

Figure 8–2. Repair cycle float authorization formula

(2) *Criteria.* RCF criteria will—

- (a) Have a standard study number (SSN).
- (b) Be Class VII or Class II.
- (c) Be authorized at the Sustainment maintenance level.

d. *TCX.*

(1) *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 information technology capabilities necessary to regenerate combat forces.

(b) TCX items will be managed in SAMS as ORF by the designated maintenance activity.

(c) TCX will be issued to return STAMIS to FMC status in accordance with the Commander's priorities.

(d) TCX authorizations are computed using the formulas listed in figure 8–2.

(2) *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 (CPU) in support of a STAMIS.

(b) TCX does not 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 does not 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) ORF for TCX will be stocked, stored, and issued from a location determined by the ACOM, ASCC, and DRU commander.

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 (METT–TC) and is accomplished by the operator/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/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 (SURVIAC), ATTN: AF–FDL–FES–CDIC, Wright-Patterson AFB, OH 45433.

8–9. Army chemical agent resistant coating, camouflage, and marking program

a. *CARC/CPM 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 CPP/CARC.

(2) The Army Research Laboratory (ARL), AMSRD–ARL–WM–MC (coatings technologies 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, and essential ground support equipment and reparable containers such as engine, transmission, and all ammunition containers, including appropriate kits, except as stated in paragraph 8–9b(3) through (9).

(2) Paint will be applied only when the present paint is unserviceable or if directed by deployment order to conform to certain colors for contingency missions. Vehicles may be repainted when 25 percent of the total vehicle painted area has been determined to be unserviceable by supervisory maintenance personnel.

(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) Complete repainting may be done at Field and Sustainment levels where Occupational Safety and Health Administration approved facilities are available.

(6) Painting at Field level using a brush or roller is limited to touchup painting in accordance with TB 43–0242. Touchup painting includes restoration of painted surfaces after repair.

(7) Touch-up painting of CARC-painted equipment will be with CARC only.

(8) Scratches, chips, or marring of the paint surface observed during PMCS will be repaired at Field level to prevent corrosion damage (TB 43–0242 provides guidance).

(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 °F 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 paints 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 pattern painting.

(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 (CRDC), 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 camouflage pattern painting of equipment having only a base coat. Patterns may be obtained from CRDC, 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/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, ground support equipment 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, backrests, and so on.
- (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) Special markings for NTVs are included in AR 58-1.
- (14) Technical data, where appropriate, will be contained on metal or plastic plates or decals.
- (15) 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.
- (16) 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.
- (17) Overseas commanders may deviate from this regulation when host countries require special markings per international agreements.
- (18) 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.
- (19) Aviation equipment will be marked according to MIL-HDBK-1473A.
- (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.

8-10. Product quality deficiency/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 750-8, and DA Pam 738-751.
- b. EIRs and QDRs submitted on SF 368, on line, by telephone, or by other means are to be evaluated for possible follow-on actions to change the equipment design or equipment operation/maintenance instructions. The surfacing of equipment design deficiencies through the deficiency reporting process (EIRs/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 LAO for guidance on QDR/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, paragraph 6-71.

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 (1) and (2), above, 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 ODCS, G-4 (Maintenance Policy Division) 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/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 (HEMTTs); 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 HEMTT tractor when it is the prime mover of the Patriot Missile trailer. Retread tires will not be used on any axle of the M985E1 HEMTT 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 triservice aircraft tire maintenance data/analysis reports.

(b) Coordinating procurement cost of new and rebuilt tires with the United States 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/equipment.

(b) Provide any technical assistance required for the tire retreading programs, including preaward surveys made per

Federal Acquisition Regulation, TB 9-2610-200-34/1, and commercial American Standard of Test Measurement (ASTM) standards (listed in the equipment TMs), when approved by TACOM.

(6) Major Army commanders, TSG, and the COE 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, chapter 7.

(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/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. *SOR*. Vehicle tire retread service will be obtained in the following order of priority:

- (1) *Within CONUS*.
 - (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 (a), above, is not reasonably available from a cost-effective standpoint because of the distance and transportation costs involved.
 - (c) Government-owned and Government-operated (GOGO).
 - (d) GOCO contracts.
- (2) *Outside CONUS*.
 - (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) GOCO 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/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 GOCO 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-7726J, MIL-PRF-5041J, 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 10-foot 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, ATTN: 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) Society of Automotive Engineers J2014 is the National military performance specification for qualifying potential tire retreaders for military tactical wheeled vehicles (ground vehicles).

8-13. Tool improvement program suggestions

a. The tool improvement program suggestions (TIPS) program 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 ODCS, G-4 (Maintenance Policy Division) 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 the 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/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/technical experts at TRADOC schools or AMC/TRADOC MSCs. The evaluator, when tasked, will conduct a complete evaluation of the initiative, including cost/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 repairables, including selected field repairables. All sustainment level repairables 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 ODCS, G-4 (Maintenance Policy Division).

b. NMP 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 source of supply.
- (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 QNP 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. The 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 Active 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, ATTN: 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, and DRU and CONUS/installation MAIT coordinators to highlight and resolve conflicts in policy and procedures.
- 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/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.
- 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, annual training evaluations, spot checks, roadside inspections, command logistics review teams, or any other command evaluation program.
 - (3) When resources permit, each Active Army and RC unit will be visited annually. Visits to RC units will take place during scheduled drills and assemblies or during annual training 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 Active 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 standard operating procedures.
 - (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) Quality deficiency reports.
 - (x) Scheduled services.
 - (y) CARC/PPP.
 - (z) Hazardous materiel (HAZMAT) 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 work sheet(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 followup.
- (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 Web sites, 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 on-site 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 TDY or leave, number of unit requests not completed and reasons why, and suggestions for improvement of the MAIT program.

8-16. The unique item tracking program

a. UIT by serial number of selected items and installed components is required by DOD 4140.1-R, DOD 4000.25-2-M, 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, controlled cryptographic items, 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 ODCS, G-4 (Maintenance Policy Division).

c. All assets within the supply system subject to UIT tracking will be tagged with a unique item identifier (UII) that specifically identifies individual assets being controlled or managed. A UII can be the item's serial number, the vehicle identification number, and so on, as long as no other UIT asset has the same identifier within the NSN or 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.

8-17. Ground Safety Notification System

a. The Ground Safety Notification System (GSNS) is used to disseminate high-, medium-, and low-safety messages to the field. These messages include the safety of use message (SOU) 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 GSNS message is prepared in accordance with AR 750-6 and a SOU or GPM is approved for release to the field.

c. A SOU is issued when the risk condition assessment is a high or medium safety risk according to AR 385-16. The following procedures apply:

(1) Upon verification of a high safety risk condition, the program sponsor (PS) immediately notifies the USASC and prepares a draft SOU for coordination. Upon completion of coordination within the appropriate AMC commodity command and approval by USASC, the PS notifies the ODCS, G-4 (Maintenance Policy Division) e-mail: smmrtl@hqda.army.mil), 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 PS that a SOU will be issued, the procedures in paragraph 8-17c will be followed.

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

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

d. A GPM is issued when the risk condition assessment is a medium or low safety risk according to AR 385-16. The following procedures apply:

(1) For a medium safety risk condition for which the PS has determined that a SOU 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 PS 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. SOUs and GPMs are addressed to ACOM, ASSC, and DRU commanders using address indicator group (AIG) 12523.

f. ACOMs, ASCCs, and DRUs will immediately acknowledge receipt of a SOUM/GPM to the originating organization/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 25–11.

h. Compliance actions:

(1) ACOMs, ASCCs, and DRUs will submit compliance reports as required by the SOUM/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/GPM, estimate when safety requirements will be accomplished, and confirm safety compliance by equipment serial number and SOUM/GPM date/time group.

8–18. 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 GSNS.

8–19. Corrosion prevention and control program

a. The corrosion prevention and control (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/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 (LTP) 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 LTP 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, M109, and so on) 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, 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, ARL is the approval authority for these products.

8–20. Army battery program

The Army battery program is designed to provide policy guidance on the use and maintenance of military and commercial standard batteries and rechargeable/reusable batteries.

a. *Lead-acid batteries.* Commanders will use batteries prescribed by the equipment technical manual. Materiel developers will ensure that suitable sealed (maintenance free) batteries that support the performance specifications required by equipment technical manuals are available for use. Sealed (maintenance free) batteries will enhance unit and reduce logistics footprints.

(1) Equipment operators/crews are responsible for visually inspecting installed lead-acid batteries for cleanliness and obvious damage in accordance with applicable operator technical manuals. Operators/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, install, remove, test, and conduct recharging of batteries installed in/on authorized equipment.

(3) Field- and Sustainment-level maintenance activities retaining a battery maintenance and recovery mission are authorized to inspect, add distilled water, install, remove, test, and conduct recharging of batteries installed in/on authorized equipment, properly fill/activate, charge/recharge, issue/reissue, diagnose, test, recover, and temporarily store serviceable/unserviceable batteries and related support materiel. However, this is intended to be the exception rather than the rule. Ideally, the DLA consignment program or local contract will initially fill and charge batteries and issue them “wet” to units. Use of the DLA consignment program or other local contract is preferred and encouraged. 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), it may be desirable for a field-level or equivalent or higher level maintenance activity to temporarily operate a regulatory compliant battery shop (fixed or mobile). 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, DLA Battery consignment, and so on) can provide requisite support.

(5) Commanders will ensure that all battery shops are operated in an Occupational Safety and Health Organization/ Environmental Protection Agency compliant manner.

(6) Commanders will use approved battery maintainers (plug-in or solar panels are examples) to sustain battery levels during periods of extended storage or inactivity.

b. Rechargeable communication-electronic batteries. All units will use rechargeable communications-electronics batteries for garrison duty and training (to include training at the combat training centers) and will develop rechargeable battery standard operating procedures.

(1) Unit battery standard operating procedures will address the following:

(a) Which primary C-E batteries the units currently use 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 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 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 utilize rechargeable batteries based upon short supply.

2. Commanders may utilize 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 °F and above 122 °F.

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

Appendix A References

Section I Required Publications

AR 5-9

Area Support Responsibilities. (Cited in paras 2-18 and 8-15.)

AR 70-1

Army Acquisition Policy. (Cited in paras 2-2, 2-15, 2-16, 2-17, 2-18, 2-19, 5-5, 7-2, 7-11, and 8-4.)

AR 71-32

Force Development and Documentation—Consolidated Policies. (Cited in paras 2-6, 2-16, and 8-11.)

AR 73-1

Test and Evaluation Policy. (Cited in para 7-18.)

AR 95-1

Flight Regulations. (Cited in paras 2-17 and 3-2.)

AR 220-1

Unit Status Reporting. (Cited in paras 3-3, 3-7, 8-4, 8-5, 8-7 and 8-11.)

AR 700-138

Army Logistics Readiness and Sustainability. (Cited in paras 2-20, 3-3, 3-7, 3-9, 4-11, 6-13, 7-16, 8-5, 8-7, 8-11 B-1, H-44, and table 3-3.)

AR 700-139

Army Warranty Program. (Cited in paras 2-15, 2-17, 2-18, 2-19, 6-41, 7-11, 7-14, and 8-3.)

AR 710-1

Centralized Inventory Management of the Army Supply System. (Cited in paras 2-15, 5-13, 5-18, and 8-7.)

AR 715-9

Contractors Accompanying the Force. (Cited in paras 3-7 and 7-8.)

DA Pam 738-751

Functional Users Manual for the Army Maintenance Management System—Aviation (TAMMS-A) (RCG DRC 130). (Cited in paras 2-17, 2-18, 2-20, 3-2, 3-4, 3-9, 3-12, 4-8, 4-11, 6-6, 6-13, 7-14, 8-2, 8-3, 8-4, 8-5, 8-10, 8-12, B-1, and B-3.)

DA Pam 750-8

The Army Maintenance Management System (TAMMS) Users Manual. (Cited in paras 2-17, 2-18, 3-2, 3-4, 3-9, 3-12, 4-2, 4-8, 4-11, 4-13, 6-18, 6-21, 6-25, 6-27, 6-47, 6-48, 7-12, 8-2, 8-3, 8-5, 8-10, 8-12, 8-13, B-1, B-3, and table 3-3.)

DOD 4151.18-H

Depot Maintenance Capacity and Utilization Measurement Handbook. (Cited in para 5-12.) (Available at <http://www.dtic.mil/whs/directives>.)

DOD 5220.22-R

Industrial Security Regulation. (Cited in para 6-23.) (Available at <http://www.dtic.mil/whs/directives>.)

DODD 4151.18

Maintenance of Military Materiel. (Cited in paras 5-7, 7-2, and 8-4.) (Available at <http://www.dtic.mil/whs/directives>.)

DODI 4660.2

Communications Security (COMSEC) Equipment Maintenance and Maintenance Training. (Cited in para 6-26.) (Available at <http://www.dtic.mil/whs/directives>.)

DODI 5040.02

Visual Information (VI). (Cited in para 6–58.) (Available at <http://www.dtic.mil/whs/directives>.)

FM 4–30.3

Maintenance Operations and Procedures. (Cited in paras 4–13, 4–18, and 6–36.)

NGB Pam 750–2

ARNG Aviation Maintenance Pamphlet. (Cited in paras 3–9, 6–5, and 6–6.) (Available at <http://www.ngbpdc.ngb.army.mil>.)

TB 1–1500–341–01

Aircraft Components Requiring Maintenance Management and Historical Data Reports. (Cited para 6–13.) (Available at <https://www.logsa.army.mil>.)

TB 43–180

Interactive Electronic Technical Manual (IETM) for Calibration and repair requirements for the maintenance of Army materiel. (Cited in paras 6–4, 6–23, 6–42, 6–44, 7–2, and H–27.) (Available by order on <http://www.apd.army.mil>.)

TB 43–0211

Army Oil Analysis Program (AOAP) Guide for Leaders and Users. (Cited in paras 2–15, 2–17, 2–18, and 8–2.) (Available at <https://www.logsa.army.mil>.)

TB 380–41

Security: Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Materiel. (Cited in para 6–23.) (Available at <https://www.logsa.army.mil>.)

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. The United States Code is available at <http://www.gpoaccess.gov/uscode/index.html>.

AR 5–1

Total Army Quality Management

AR 5–20

Competitive Sourcing Program

AR 5–23

Army Major Items Systems Management

AR 10–87

Major Army Commands in the Continental United States

AR 12–1

Security Assistance, International Logistics, Training, and Technical Assistance Support Policy and Responsibilities

AR 25–1

Army Knowledge Management and Information Technology Management

AR 25–11

Record Communications and the Privacy Communications System

AR 25–12

Communications Security Equipment Maintenance and Maintenance Training. (Available at <https://www.us.army.mil/>.)

AR 25–30

The Army Publishing Program

AR 25–400–2

The Army Records Information Management System (ARIMS)

AR 37–49

Budgeting, Funding, and Reimbursement for Base Operations Support of Army Activities

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 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 200–2

Environmental Effects of Army Actions

AR 210–14

The Army Installation Status Report Program

AR 215–1

Military Morale, Welfare, and Recreation Activities and Nonappropriated Fund Instrumentalities

AR 220–20

Army Status of Resources and Training System (ASORTS)—Basic Identity Data Elements (BIDE)

AR 335–15

Management Information Control System

AR 350–1

Army Training and Leader Development

AR 350–38

Training Device Policies and Management

AR 380–40

Policy for Safeguarding and Controlling Communications Security (COMSEC) Materiel. (Available at [https://www.us.army/.](https://www.us.army/))

AR 380–67

The Department of the Army Personnel Security Program

AR 385–10

The Army Safety Program

AR 385–16

System Safety Engineering and Management

AR 385–55

Prevention of Motor Vehicle Accidents

AR 385-95

Army Aviation Accident Prevention

AR 415-15

Army Military Construction and Nonappropriated-Funded Construction Program Development and Execution

AR 420-18

Facilities Engineering Materials, Equipment, and Relocatable Building Management

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, Internal Control System

AR 700-19

U.S. Army Munitions Reporting System

AR 700-68/DLAI 4145.25/NAVSUPINST 4440.128D/AFJMAN 23-227 (I)/MCO 10330.2D

Storage and Handling of Liquefied and Gaseous Compressed Gasses and Their Full and Empty Cylinders. (Available at <http://www.dla.mil/dlaps/dlai/I4145.25.htm>.)

AR 700-82/OPNAVINST 4410.2A/MCO 4400.120

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 Logistics Support

AR 700-132/AFI 21-131 (I)/OPNAVINST 4731.1B

Joint Oil Analysis Program

AR 700-142

Materiel Release, Fielding, and Transfer

AR 702-7/DLAR 4155.24/SECNAVINST 4855.5A/AFR 74-6

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

Asset and Transaction Reporting System

AR 725-50

Requisition, Receipt, and Issue System

AR 735-5

Policies and Procedures for Property Accountability

AR 750-6

Army Equipment and Maintenance Notification System

AR 750-10

Army Modification Program

AR 750-43

Army Test, Measurement, and Diagnostic Equipment

AR 750-59

Army Corrosion Prevention and Control Program

CTA 50-900

Clothing and Individual Equipment. (Available at <https://webtaads.belvoir.army.mil/usafmsa>.)

CTA 50-909

Field and Garrison Furnishings and Equipment. (Available at <https://webtaads.belvoir.army.mil/usafmsa>.)

DA Pam 25-30

Consolidated Index of Army Publications and Blank Forms

DA Pam 25-91

Visual Information Procedures

DA Pam 25-380-2

Security Procedures for Controlled Cryptographic Items. (Available at <https://www.us.army.mil>.)

DA Pam 351-4

U.S. Army Formal Schools Catalog

DA Pam 700-56

Logistics Supportability Planning and Procedures in Army Acquisition

DA Pam 700-60

Department of the Army Sets, Kits, Outfits, and Tools (SKOT)

DA Pam 700-142

Instructions for 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 750-1

Commander's Unit Maintenance Handbook

DA Pam 750-3

Soldiers' Guide for Field Maintenance Operations

DA Pam 750-35

Guide for Motor Pool Operations

NG Pam 415-12

Army National Guard Facilities Allowances. (Available at <http://www.ngbpd.c.ngb.army.mil>.)

NGB Pam 350-1

Administrative Instructions. (Available at <http://www.ngbpd.c.ngb.army.mil>.)

NGB PAM 570-1

Fulltime Support Manning for the Army National Guard. (Available at <http://www.ngbpd.c.ngb.army.mil>.)

NGR 415-10

Army National Guard Facilities Construction. (Available at <http://www.ngbpd.c.ngb.army.mil>.)

SB 700-20

Army Adopted/Other Items Selected for Authorization/List of Reportable Items (Available by order on <http://www.apd.army.mil>.)

SB 742-1

Inspection of Supplies and Equipment Ammunition Surveillance Procedures. (Available at <https://www.logsa.army.mil>.)

TB 9-1300-385

Munitions Restricted or Suspended. (Available at <http://jmc.army.mil/ib/ibq/surv/gen/survinfo.htm>.)

TB 9-2610-200-34/1

Pre-Award Inspector's Guide for Retreading and Repairing of Pneumatic Tires. (Available by order on <http://www.apd.army.mil>.)

TB 43-0002 series

Maintenance Expenditure Limits (Available at <https://www.logsa.army.mil>.)

TB 43-0144

Painting of Watercraft. (Available at <https://www.logsa.army.mil>.)

TB 43-0242

CARC Spot Painting. (Available at <https://www.logsa.army.mil>.)

TB 55-1900-201-45/1

Guide to Army Watercraft Survey Inspections, Repair Procedures and Repair Specifications Preparation. (Available at <https://www.logsa.army.mil>.)

TB 55-1900-205-24

Watercraft Information and Reporting System (WIRS) Data Collection for Configuration Control. (Available at <https://www.logsa.army.mil>.)

TB 750-25

Maintenance of Supplies And Equipment: Army Test, Measurement and Diagnostic Equipment (TMDE) Calibration And Repair Support (C&RS) Program. (Available at <https://www.logsa.army.mil>.)

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. (Available at <https://www.logsa.army.mil>.)

TM 1-1500-328-23

Aeronautical Equipment Maintenance Management Policies and Procedures. (Available at <https://www.logsa.army.mil>.)

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. (Available at <https://www.logsa.army.mil>.)

TM 10-8400-203-23

Unit and Direct Support Maintenance Manual for General Repair Procedures for Individual Equipment. (Available at <https://www.logsa.army.mil>.)

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. (Available at <https://www.logsa.army.mil>.)

DFAS-IN Regulation 37-1

Finance and Accounting Policy Implementation. (Available at <https://dfas4dod.dfas.mil>.)

DFAS-IN Regulation 37-100

Financial Management. (Available at <http://www.asafm.army.mil>.)

DOD 4000.25-2-M

Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP) (Available at <http://www.dtic.mil/whs/directives>.)

DOD 4140.1-R

DOD Supply Chain Materiel Management Regulation. (Available at <http://www.dtic.mil/whs/directives>.)

DOD 4160.21-M

Defense Materiel Disposition Manual. (Available at <http://www.dtic.mil/whs/directives>.)

DOD 4160.21-M-1

Defense Demilitarization Manual. (Available at <http://www.dtic.mil/whs/directives>.)

DOD 4500.9-R, Part II

Defense Transportation Regulation—Cargo Movement. (Available at <http://www.dtic.mil/whs/directives>.)

MIL-HDBK-1473A

Color and Marking of Army Materiel. (Available at <http://assist.daps.dla.mil/quicksearch>.)

MIL-PRF-5041K

Tires, Ribbed Tread, Pneumatic, Aircraft. (Available at <http://assist.daps.dla.mil/quicksearch>.)

MIL-PRF-7726K

Retread Tires, Ribbed Tread, Pneumatic, Aircraft. (Available at <http://assist.daps.dla.mil/quicksearch>.)

MIL-PRF-49506

Logistics Management Information. (Available at <http://assist.daps.dla.mil/quicksearch>.)

MIL-STD-882D

System Safety. (Available at <http://assist.daps.dla.mil/quicksearch>.)

NGR 95-1

ARNG Aviation: Flight Regulations. (Cited in para 3-14.) (Available at <http://www.ngbpdc.ngb.army.mil>.)

46 CFR 41-69

Shipping (Load Lines). (Available at <http://www.gpoaccess.gov/ecfr>.)

Federal Acquisition Regulation

Part 48—Federal Acquisition Regulations System. (Available at <http://www.arnet.gov/far>.)

NAS 410

NAS Certification and Qualification of Nondestructive Test Personnel. (Available to buy at <http://global.ihs.com/RID-AIA>.)

SAE JA1011

Evaluation Criteria for Reliability-Centered Maintenance (RCM) Processes. (Available at <http://www.sae.org/standardsdev/>.)

SAE JA1012

Guide to Reliability-Centered Maintenance (RCM) Standard. (Available at <http://www.sae.org/standardsdev/>.)

SAE-J2014

Pneumatic Tires for Military Tactical Wheeled Vehicles. (Available at <http://www.sae.org/standardsdev/>.)

SOLAS

International Convention for the Safety of Life at Sea, 1974. (Available at <http://www.imo.org/home.asp>.)

Economic Analysis Manual

(Available at <http://www.asafm.army.mil/ceac/ce/ce.asp>.)

10 USC 2466

Limitations on the performance of depot-level maintenance of materiel

10 USC 2460

Definition of depot-level maintenance and repair

10 USC 2464

Core logistics capabilities

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**

Except where otherwise indicated, the following forms are available as follows: DA forms are available on the APD Web site, www.apd.army.mil, and DD forms are available from the OSD Web site, <http://www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm>.

DA Form 5480

Maintenance Request and Assignment Register. (Prescribed in para 8–15.)

DA Form 7567

Special Repair Authority (SRA) Approval/Disapproval Sheet. (Prescribed in para G–2.)

Section IV**Referenced Forms****DA Form 11–2–R**

Management Control Evaluation Certification Statement

DA Form 1352

Army Aircraft Inventory, Status, and Flying Time

DA Form 2402

Maintenance Tag

DA Form 2404

Equipment Inspection and Maintenance Worksheet. (Available from normal forms supply channels.)

DA Form 2406

Materiel Condition Status Report

DA Form 2407

Maintenance Request. (Available from normal forms supply channels.)

DA Form 2407-1

Maintenance Request—Continuation Sheet. (Available from normal forms supply channels.)

DA Form 2408-13

Aircraft Status Information Record

DA Form 2408-13-3

Aircraft Technical Inspection Worksheet

DA Form 2408-14

Uncorrected Fault record

DA Form 2408-17

Aircraft Inventory Record

DA Form 2408-18

Equipment Inspection List

DA Form 2410

Component Removal and Repair/Overhaul Record

DA Form 2415

Ammunition Condition Report

DA Form 3254-R

Oil Analysis Recommendation and Feedback

DA Form 3266-1

Army Missile Materiel Readiness Report

DA Form 5988-E

Equipment Inspection and Maintenance Worksheet (generated electronically)

DA Form 5990-E

Maintenance Request (generated electronically)

DD Form 314

Preventive Maintenance Schedule and Record

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 (Repairable) Tag—Materiel. (Available through normal forms supply channels.)

DD Form 2625

Controlled Cryptographic Item (CCI) Briefing

SF 368

Product Quality Deficiency Report. (Available at <http://www.gsa.gov>.)

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 paragraph 3-3.

a. TLRT–M.

(1) 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—

(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. TAT.

(1) 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 / 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 war fighter/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. Major Army commands, major Army subcommands (down to division and separate brigade), U.S. Army Installation Management Agency and regions, and Reserve Component maintenance management metrics

In addition to TLRT–M and TAT, commanders will utilize 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. 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/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 LOGSA, of historical data records from Army maintenance STAMIS and/or other AISs. The key data record that must be captured is the closed work order (CWO), defined in DA Pam 750–8 and DA Pam 738–751.

(2) LOGSA will maintain mission performance scorecards on TAT for each maintenance provider, by UIC, using the CWO, as noted in paragraph 3–3*a*.

(3) UICs for contract maintenance providers will be assigned by installation commanders in accordance with AR 220–20, enabling LOGSA to maintain historical records (see DA Pam 750–8 and DA Pam 738–751), as required in paragraph 3–5 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, repair parts supply, and so on, 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. Manpower utilization rates. There are two utilization rates that are used to measure the effective use of maintenance personnel:

(1) The assigned manpower utilization 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 and/or DA Form 5990-E in a given period of time.

(2) The available manpower utilization rate measures the percent of all of the direct labor man-hours actually made available to the shop office for work, which is recorded as total man-hours on DA Forms 2407 and 5990-E for a given period of time.

(a) Direct labor is defined as time expended in performance of maintenance tasks required by the technical publication. Some maintenance personnel are required, by MOS or job title, to spend more than 50 percent of their productive time in direct labor duties. Other personnel, because of leadership, supervisory, or other requirements, are required to spend less than 50 percent of available time in direct labor duties. The total of all assigned and available direct labor must be considered.

(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.

(3) The assigned manpower utilization rate will encompass assigned maintenance personnel, to include all civilians, soldiers, and contractors whose duties require that they accomplish productive labor. The total of the possible direct labor man-hour contribution from all assigned personnel in a selected period of time will be utilized. The percent of this possible contribution from assigned personnel that are actually recorded as total man-hours on DA Forms 2407/5990-E during a time period (for example, month, quarter, year) is the assigned manpower utilization rate. Assigned direct labor man-hours are routinely reduced by other organizational requirements. Some of these are—

(a) Military training (non-maintenance skill training).

(b) Alert duty.

(c) Organizational duties.

(d) Flight status.

(e) Personnel processing.

(f) TDY.

(g) Compensatory time off.

(h) Excused from duty.

(i) Ordinary leave.

(j) Sick leave (civilian).

(k) Medical absence (military).

(l) Personal affairs.

(m) Absent without official leave/confined.

(n) Leave without pay.

(o) Job related injury.

(p) Administrative leave.

(4) When computing the available man-hour utilization rate for ARNG TDA maintenance facilities such as an FMS, CSMS, and so on, subtract the time spent in military status (such as AT), preparation for IDT performed during the normal work week, attendance at military schools and other time lost to military training such as physical training) from the available man-hours.

(5) Overtime is that time worked beyond the normal 8-hour day. Overtime will be added to the assigned and available labor man-hours to ensure the total productive man-hours are accounted for in the utilization rate.

(6) Computations are as follows:

(a) An assigned man-hour utilization rate formula is: Assigned man-hour utilization rate = number of assigned personnel/number of authorized personnel x 100.

(b) An available man-hour utilization rate formula is: Available man-hours utilization rate = number of available personnel/number of authorized personnel x 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, communications-electronic, and so on) and is not normally in 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 B-3).

(2) Backlog is the overall measure of the direct labor resources required to complete the workload noted in B-3. The backlog will be expressed in 8-hour workdays and will be computed as follows: Backlog (in work days) = workload / 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, 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 turnaround time that is intended to be representative of normal operations.

(2) Although there may be variations among work orders, TAT can be comprised of three major components—maintenance delay time, supply delay time, and repair cycle time. 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 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 turnaround time. 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 turnaround time. 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 turnaround time 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. Repair cycle time 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. Repair cycle time 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 repair cycle time 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 repair cycle time, by priority of the work order. When an increasing trend is observed, the factors affecting repair cycle time 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 work orders closed out using ORF by the total number of work orders for repair that have been completed for the end item.

B-10. ORF transaction time

a. ORF transaction time measures a factor that impacts upon repair cycle time 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 operations/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 (see para 3-7) to ensure that the decision to float is made as early as possible.
- (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/repair procedures and validation inspections include—

- (1) Training and competence of maintenance/repair/quality control personnel.
- (2) Thoroughness and rigor of in-process and final operations quality control checks and inspections.
- (3) 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 MARC Maintenance Data Base (AMMDB), which is the only authorized source for maintenance burden data. It can be found at the U.S. Army Force Management Support Agency (USAFMSA) (<https://webtaads.bevoir.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 Web site, 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 Web site. 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/organization. These items are identified by LIN category. Examples of the documents include Army Total Asset Visibility reports, REQVAL. reports, and SPBS-R 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/organization.

b. The USAFMSA Web site 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 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/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/FORSCOM. Therefore, the PMAF 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 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-1d. 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

D-1. Introduction

This appendix provides instructions and guidance for the preparation of the AAME (field-level) and Army depot-level competitions nomination packets. Units and depots will use the following formats 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.

D-2. Competition

a. Competition for Field-level awards includes components from Active Army, National Guard MTOE, and RC MTOE and TDA activities. Within each component, there are three categories of competition based on the number of authorized personnel in the competing unit. These size categories are small (1 to 100 personnel), medium (101 to 300 personnel) and large (301 or more personnel). ACOMs, ASCCs, and DRUs may nominate the number of units authorized in this regulation.

b. Competition for depot-level awards include facilities having more than 400 employees engaged in depot-level maintenance operations for at least six months of each competition period in this regulation.

D-3. Nomination packet format

The nomination packets will be prepared in the narrative format prescribed in this appendix and submitted in a 1-inch, three-ring binder. Units/Activities should also include an electronic version (CD-ROM) of the nomination packet, preferably in Microsoft Word. The outside of the front cover of the binder is to be labeled with the following information: category of competition, unit designation/name of facility, location, ACOM, ASCC, and DRU, MTOE/TDA number, force activity designator as applicable, complete mailing address (including building number), zip code or Army post office, DMS message address, DSN and/or commercial telephone number, and e-mail address of the POC. Units/activities are authorized to include a unit picture on the front cover with the information required above.

D-4. Classified materiel for field level nomination packet

Field level nomination packet submissions will be unclassified. Essential classified information (up to secret) may be submitted; however, it must be marked and submitted separately by forwarding in accordance with information security guidelines. If a classified packet is submitted, the ACOM, ASCC, and DRU nominating the unit must notify the USAOC&S (ATSL-AAME) by telephone or fax not fewer than 3 days before mailing the packet. Any portion of the unit's name, mission, location, or packet that is not releasable for publicity should be specified to USAOC&S (ATSL-AAME).

D-5. Mailing address

a. Field-level nomination packets are to be forwarded by registered mail to the Commander, U.S. Army Ordnance Center and Schools, ATTN: ATSL-AAME, 3071 Aberdeen Blvd, Aberdeen Proving Ground, MD 21005-5201.

b. Depot-level nomination packets are to be forwarded by registered mail to the Commander, US Army Materiel Command, ATTN: AMCOPS-SM, 9301 Chapek Road, Fort Belvoir, VA 22060.

D-6. Sample table of contents

A sample table of contents is provided in figure D-1 and is recommended for use.

Army Maintenance Award Nomination Packet Format

Table of Contents

Section 1 - Administrative Tab A
 Basic Unit Information
 Endorsements

Section 2 - Summary of Actions Tab B

	Field-Level Award	Depot-Level Award
Part A	Mission Accomplishments	Mission Accomplishments
Part B	Effective Use of Maintenance Resources	Effective Support to Warfighters
Part C	Innovative Management Accomplishments	Logistics Process Innovation
Part D	Personnel Quality of Life Programs	

Section 3 - Proposed Citation Tab C

Section 4- Enclosures Tab D

Note: List page numbers under Tabs

Figure D-1. Sample contents page for Army Award for Maintenance Excellence

D-7. Basic unit/activity/facility information (1-2 pages)

Basic activity/facility information to be provided in section 1 of the AAME/depot-level nomination packet and the format to be used is as follows:

- a. Service (Army) and component (Active, AR, ARNG).
- b. Specific unit/activity/facility designation of nominated unit.
- c. Category/size of nominated unit/activity/facility.
- d. Point of contact at nominated unit/activity/facility.
- e. ACOM, ASCC, and DRU point of contact.

- f. Complete mailing address of nominated units/activity/facility.
- g. Complete DMS message address.
- h. Background information for nominated unit.
 - (1) Unit/activity/facility size (authorized personnel: officers/enlisted/employees).
 - (2) Unit/activity/facility location.
- i. Mission statement (five lines or less).
- j. Operational chronology (during fiscal year).
- k. Chain of command endorsements (not included in page count). Endorsements should be provided from each level of the chain of command. The commander of the nominated unit will also provide an endorsement and include a statement indicating that the nomination is an accurate reflection of the nominated unit.

D-8. Summary of actions (Field-level competition)

All parts of section 2 of the AAME nomination packet will be assessed and must be addressed within the narrative in accordance with the prescribed format, below:

a. Mission accomplishments. A four- to six-page narrative description of the competing unit's mission accomplishments for the competition period. Accomplishments should stress maintenance efforts and the impacts of those efforts on the unit's operational capability and mission accomplishment. Items that must be included are—

(1) *Accomplishment of unit mission requirements.* Discuss in detail the mission-essential tasks the unit must perform and indicate the impact of maintenance operations on the accomplishment of the mission. Address how the unit's use of maintenance operations impacted overall mission success at training exercises.

(2) *Weapon system or equipment operational readiness status.* Discuss the level of readiness your unit maintained over the fiscal year and how this relates to your mission readiness. Briefly describe the results of command inspections and evaluations (for example, local maintenance evaluation team, annual training evaluations, rollout exercises, alerts, and similar exercises).

(3) *Operational deployment participation and successes.* Identify all deployment participations during the year of competition. Discuss the unit's successes and accomplishments in each of the deployments. Also address how the level of readiness your unit maintained impacted on deployments and external evaluations. Consider, for example, including the number of services, recovery missions, or other operations.

(4) *Local or higher headquarters exercise participation and successes.* Identify and discuss each exercise, the number of personnel involved, and the intended training purpose for each deployment away from garrison. Discuss maintenance support to various operations throughout the competition period. Examples may include interagency support to other Services and government agencies; support to local academic institutions; and deployed equipment (state quantity) during FTXs, command post exercises (annotate locations), and Combat Training Center (CTC) rotations.

(5) *Special programs.* Discuss projects the unit implemented during the competition period that enhanced maintenance operations. Consider projects that reduce order ship time or repair cycle time. Address participation in the Supply and Maintenance Assessment and Review Team (SMART) program, participation in the Automotive Service Excellence certification program, overseas deployment training, number of emergency, urgent, and routine MWOs completed, number of safety of use messages received and corrective steps taken, and so on.

(6) *Specific challenges unique to the operating environment.* Identify challenges and efforts to address challenges associated with the operating environment.

b. Effective use of maintenance resources. A four- to six-page narrative description of the competing unit's accomplishments that illustrate good stewardship of maintenance resources.

(1) *Maintenance management status.* Focus on key processes and components necessary for an effective maintenance program and how they are monitored, managed, and improved to support maintenance excellence. Address SOPs, management of classes of supply, tool control, TMDE, AOAP, publications, quality assurance, manpower utilization, and HAZMAT management (explain pollution prevention initiatives, hazardous communication program, compliance with HAZMAT transportation regulations, and waste-management procedures).

(2) *Maintenance training programs status.* Focus on how the unit evaluates maintenance skills and training needs and the programs used to provide and improve these skills. Address monthly training schedules, driver training, MOS cross training, professional development training, and how lessons learned from FTX are incorporated into the training program to improve performance.

c. Innovative management accomplishments. A two- to three-page narrative that focuses on how the unit innovations impacted mission accomplishment and enhanced operational capability for the commander.

(1) *Equipment improvement recommendations that result in an improved readiness posture.* Consider impact of command emphasis on maintenance programs, MST training, and low-density equipment readiness programs. If applicable, include steps taken by your unit to correct systemic maintenance problems with particular pieces of materiel (explain the problem and steps taken to alleviate).

(2) *Resource management innovations and improvements.* Consider rebuild programs and cost-avoidance programs as well as outsourcing and other management initiatives to enhance constrained resources.

(3) *Safety programs.* Discuss unit-/command-level safety programs and inspection results. Address efforts to prevent damage to equipment/personnel injuries and to ensure compliance with local, State, and Federal regulations.

(4) *Training programs.* Address innovative strategies (for example, distance learning or training with industry to enhance technical and professional development of personnel).

(5) *Production quality control innovations and improvements.* Address programs to facilitate quality assurance of maintenance operations. Consider special training programs for quality assurance personnel available from LARs, RTSM, and so on.

(6) *Maintenance process innovations.* Address efforts to implement two level maintenance as well as Six-Sigma principles in the unit's maintenance program.

d. Personnel quality of life programs. A two- to three-page narrative that focuses on—

(1) *Self-help programs.* Consider building projects to support the health and welfare of the organization and sponsorship/partnership programs.

(2) *Personnel recognition programs.* Describe the unit's awards and recognition program (for example, mechanic's badges, driver's badges, and so on). Include number of soldiers receiving awards and how the awards related to the effectiveness of the unit's maintenance program.

(3) *Community projects.* Describe involvement with the local community. Consider support to local school systems, community organizations (such as the Boy Scouts), recycling programs, and environmental awareness programs.

(4) *Communications program.* Address use of newsletters and other media to communicate with soldiers, their families and community. Include any articles that focus on the unit's maintenance operations. Describe the use of family support groups and the way you communicate with deployed soldiers.

(5) *Humanitarian projects and programs.* Describe involvement in the following types of projects/programs: disaster relief missions, meals on wheels, adopt-a-school, blood drives, and so on. Include a concise, double-spaced, unclassified proposed citation highlighting specific achievements.

(6) *Family readiness groups.* Identify and address those programs that provide support to families while the organization is deployed from home station.

D-9. Summary of actions (Depot-level competition)

All parts of section 2 of the depot-level nomination packet will be assessed and must be addressed within the narrative in accordance with the prescribed format, below:

a. Mission accomplishments. A four- to six-page narrative description of the competing activity/facility's mission accomplishments for the competition period. Accomplishments should stress maintenance efforts and the impacts of those efforts on the Army's operational capability and mission accomplishment.

b. Effective support to Warfighters. A four- to six-page narrative description of the accomplishments that directly relate to the warfighter success. Accomplishments will stress maintenance efforts and the impacts of those efforts on the operational capability and mission accomplishment of warfighting units supported. These may include—

(1) Extraordinary support to operational forces.

(2) Impact on operational force availability, materiel readiness, and sustainability metrics.

(3) Response to unforeseen demands (that is, surge, flexibility, agility).

(4) Innovative solutions (for example, local manufacture, cross-training, and extraordinary coordination efforts).

c. Logistics process innovation. A three- to four-page narrative that focuses on how the activity/facility innovations impacted mission accomplishment and enhanced operational capability for the warfighter. Examples of areas that may be included are—

(1) Reliability, maintainability, and supportability improvements.

(2) Cost avoidance and resource improvements.

(3) Cycle time improvements.

(4) Effective technology insertion in process and products.

(5) Maintenance concept or process improvement implementation (for example, two-level maintenance, national maintenance program, Lean, theory of constraints and Six- Sigma).

D-10. Milestones

Milestones for units submitting nominations, including—

a. 15 Dec: ACOMs, ASCCs, and DRUs (AAME) and Depot activities/facilities (Depot) forward nominations to USAOC&S (AAME) and USAMC (Depot award).

b. Jan: Phase I Board meets to evaluate nominations.

c. Mid Feb–Mid Mar: Phase II on-site evaluation if required.

d. End of Mar: Announce AAME and Depot-level winner (s) and runner-up (s).

e. Submit winner and runners-up list to PS The Preventive Maintenance Monthly (PS Magazine).

- f. 30 Mar: DA Board meets to select Army nominee packets to DOD Maintenance Awards Program.
- g. After action review with ACOMs, ASCCs, and DRUs representatives.
- h. 15 May: DA submits nominations to DOD Maintenance Awards Program.
- i. June: CLEA awards ceremony, Washington, DC.

Appendix E Command and Depot Codes

E-1. Introduction

The tables 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 ODCS, G-4 (Maintenance Policy Division).

E-3. Other depot codes

A miscellaneous code used is 8L, DSAFE-Korea. (This office manages Far East contracted maintenance.)

Table E-1
Command/MSC codes

Code	Command/MSC
BY	AFSC/U.S. Army Field Support Command
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, AK
BY	Crane Army Ammunition Activity, Crane, IN
IR	Toole Army Depot, Ogden UT

Table E-3
Navy depot codes

Code	Depot
DA	Naval Air Rework, N. Isl., 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/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
EI-RANK ¹	End item rank	Character	4
NOMEN-AMS	AMDF NSN nomenclature	Character	30
SI-RANK ²	Priority item rank	Character	4

Table E-6
Database record structure—Continued

Field	Description	Type	Width
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 manhours	Numeric	10
OY-UMHRS	Out year unit manhours	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

Notes:

¹ This field is left blank.

² The priority is to be assigned based on the approved ODCS, G-3 prioritization matrix (see para 8-10d).

Table E-7
Type of equipment codes

Major group	Type reportable item	Equipment category code
Aircraft = A B: Engines C: Components D: Communications/ electronics E: Weapons armament F: Ground support G: Missiles	A: Basic airframe 2: Bomber 3: Cargo/transport 4: Trainer 5: Utility	1: Fighter
Automotive = B B: Engines C: Components D: Communications/ electronics E: Weapons armament F: Support Combat vehicle = C	A: Basic vehicle 2: Support 3: Administrative A: Basic Vehicle B: Engines C: Components D: Communications/ electronics E: Fire control/armament	1: Tactical 1: Tanks 2: APCs 3: S/P artillery 4: Other
Construction = D	F: Support A: Basic vehicle B: Engines	1: Tractor/earth mover 2: Cranes/shovels
Communications/ electronics = E	C: Components A: Basic equipment B: Components	1: Radio 2: Radar 3: Wire
Missiles = F	A: Basic missile	4: Other 1: Ballistic

Table E-7
Type of equipment codes—Continued

Major group	Type reportable item	Equipment category code
	B: Propulsion system C: Components D: Launcher E: Guidance system F: Ground communication continuance system	2: Other
Watercraft = G	G: Payload system A: Basic vessel B: Propulsion system C: Electric plant D: Communications/continuance E: Auxiliary systems F: Outfit furnishings	1: Patrol 2: Auxilliary/amphibian 3: Service/MAC
Munitions = H	G: Other components A: Basic munitions B: Components	1: Nuclear 2: CER
Weapons = I	A: Basic weapon B: Components	3: Conventional 1: Small arms 2: Artillery/guns
Rail = J	A: Basic equipment	3: Other ordinance 1: Locomotives
General equipment = K	B: Components A: Basic equipment B: Engines C: Components	2: Rolling stock 1: Generators 2: Material handling equipment 3: Bridging equipment 4: Printing/reproduction 5: Survey/distance/measuring 6: Pump/tank/treatment 7: Shop sets
Commodity group = L	A: Basic equipment	8: Other 1: Test/measurement
All groups	B: Components J: Test/measurement/ diagnostic equipment K: BII/BILI (identify major group)	2: Other
	L: Plant equipment (identify major group and equipment category)	

Table E-8
Maintenance management decision package codes

Code	Description
ADAA	AWCF ordnance activities
ADMD	AWCF depot maintenance activities
ADSM	AWCF supply management activities
AMAE	Aircraft systems, to include all avionics, assemblies, and subassemblies.
AMME	Missile systems, to include all assemblies and subassemblies.
AMLC	Postproduction software support for the embedded operational software of all weapon systems after management responsibility has transitioned from the materiel developer to AMC.
AMWE	Combat vehicle 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, ground communications-electronics equipment, small arms, munitions, and engineering equipment.
AMTV	Army tactical wheel vehicles.
ASLS	Logistics assistance/oil analysis programs

Table E-8
Maintenance management decision package codes—Continued

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 Ground Support Equipment (GSE) Rebuild Recapitalization
RR13	Small Emplacement Excavator (SEE) Rebuild Recapitalization
RR15	FIREFINDER (Radar Set) Rebuild Recapitalization
RR16	Electronic Shop/Vans Rebuild Recapitalization
RR17	Field Artillery Ammo Supply Vehicle (FAASV) Rebuild Recapitalization

Notes:

¹ Provides a cross reference of systems to MDEP.

Table E-9
Work accomplishment codes

Code	Description
A1	Cyclic/normal overhaul/rebuild
A2	Battle/crash damage overhaul/rebuild
A3	Recapitalization maintenance work
BO	Progressive maintenance
CI	Conversion not in conjunction with overhaul/repair
C2	Conversion in conjunction with overhaul/repair
DO	Activation
EO	Inactivation
FO	Renovation
GO	Analytical rework
HI	Modification not in conjunction with overhaul/repair
H2	Modification in conjunction with overhaul/repair
IO	Repair
J1	Inspect & test (excluding calibration)
J2	Inspect & test (including calibration)
J3	Inspect & test calibration preshop for reliability centered maintenance at depot level
KO	Fabricate/manufacture
LO	Reclamation/disassembly
MO	Maintenance assistance
NO	BII replacement (must identify major group)
TO	Plant equipment (must identify major group equipment category)
X1	Cancellation/reduction cost
Z1	Software maintenance

Table E-10
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 the Department of Defense (DOD) core capability requirements determination process.

F-2. Department of Defense core methodology

Figures F-1 and F-2 depict the DOD core methodology.

a. The starting point for the diagram (fig F-1) is the defense guidance, which defines the overall DOD force structure required to execute the JCS contingency scenarios.

b. Next, applicable weapon systems are identified, and any systems that are being excluded are documented citing the authority for that exclusion from the core process.

c. For the remaining systems, annual peacetime depot maintenance capability requirements are computed in direct labor hours (DLHs).

d. Next, requirement and resource adjustments are made to account for applicable “surge” factors during the different phases of a contingency (that is, preparation/readiness, sustainment and reconstitution). The objective is to determine the most appropriate composite “surge” adjustment for a particular set of circumstances.

e. Overall depot maintenance capability requirements are then assessed to determine whether they include unnecessary 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.

f. After unnecessary redundancies have been eliminated, all the remaining requirements are identified as core depot maintenance capability requirements, expressed in DLHs.

g. Figure F-2 considers all depot maintenance workloads and identifies the workloads necessary to sustain the depot maintenance core capability requirements identified in figure F-1. In figure F-2, the depot maintenance workloads that are needed to maintain core capabilities are subtracted from total depot maintenance workload requirements, leaving workloads that are not necessary to sustain core capability requirements. It also establishes a minimum level of depot maintenance workloads and associated funding 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 10 USC 2464 requirements for establishment of core depot maintenance capabilities within 4 years of IOC. Throughout figure F-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.

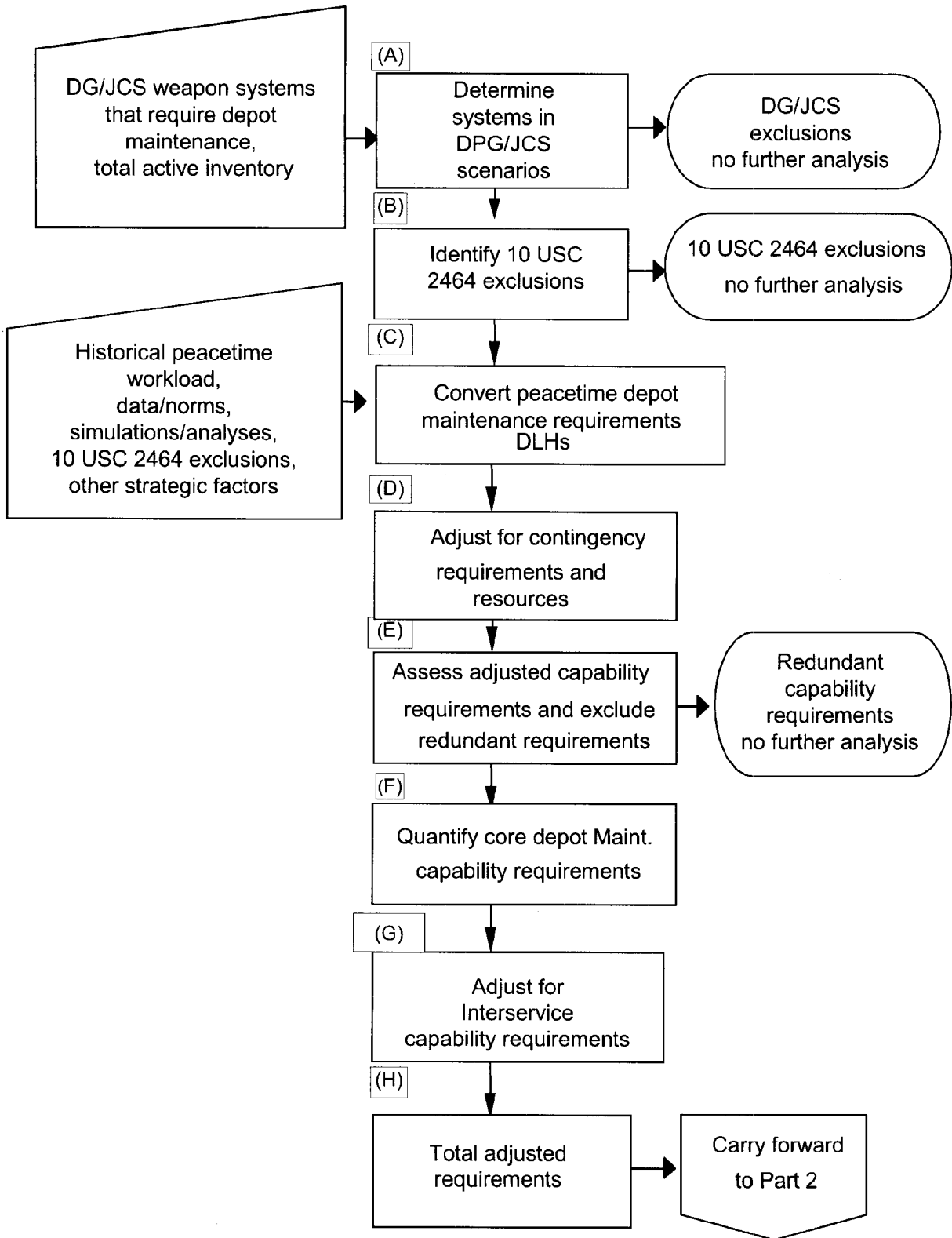


Figure F-1. Core capability flow diagram

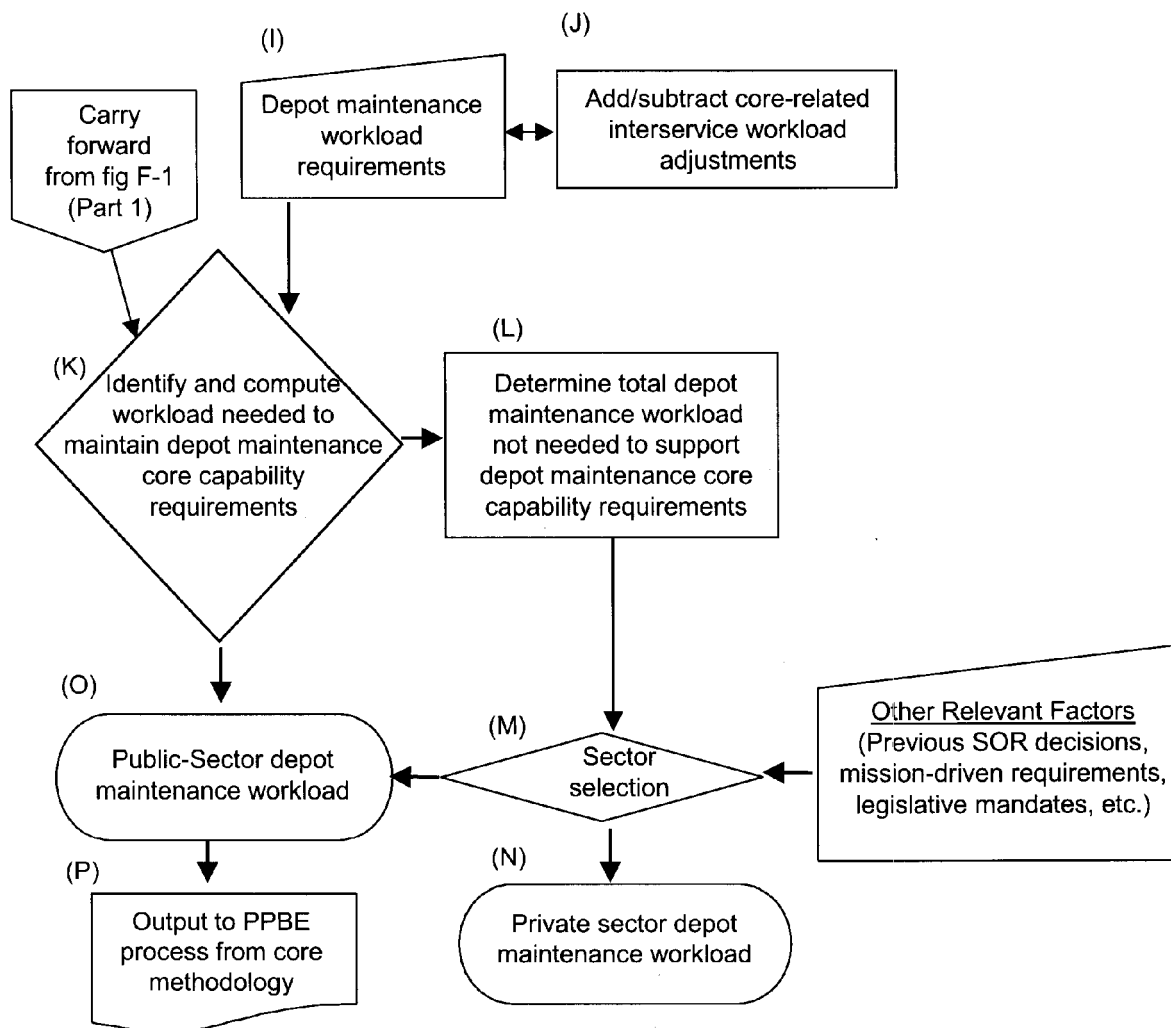


Figure F-2. Depot workload allocation flow diagram

F-3. Detailed instructions for determining core logistics capability

All weapon systems and equipment operated by each DOD component, regardless of where depot maintenance is actually performed, are included in this part of the core capability worksheet. Figure F-3 shows a sample of a completed core capability worksheet.

FY 20xx DOD depot maintenance core capability worksheet for xxxxxxx 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 rqrmts and resources		Adjust for redundant requirements	Quantity depot maint core capability	Adjust for interservice capability requirements		Total adjusted requirements
WBS category	A1	A2	A3	B1	C1	C2	D1	D2			G1	G2		
	Tasked platform system	Total active inventory	Number in scenarios	Net after exclusions	Platform DLHs	DLR DLHs	Result after contingency adjustment	Result after resource adjustment	Redundant rqrmts	DLHs	Inter-service in	Inter-service out	Adjusted requirements	
2. Ground vehicles														
2.1. Combat vehicles														
ANNISTON														
2.1.1 M1 FOV														
2.1.1.1 Vehicle	T13168 T1337	5,033	1,548	1,548	807,766		1,050,095	691,852		691,852	293,469		691,852	
2.1.1.2 SEP	T13305	655	635	635	55,670		72,371	47,681		47,681			47,681	
2.1.1.3. Transmission							86,332	112,231		73,943			73,943	
2.1.1.4. Engine							423,153	550,098		362,430			362,430	
2.1.1.5. Final drive							10,554	13,720		9,039			9,039	
2.1.1.6. Turret/fire control components							83,834	108,984		71,804			71,804	
2.1.1.7. Components							162,196	210,854		138,921			138,921	
2.1.1.8. Other							20,757	26,984		17,778			17,778	
Subtotal						863,436	786,826	2,145,337		1,413,449			1,413,449	
2.1.2. M60 AVLB														
2.1.2.1 Vehicle (MLC50/C20414/MLC70/B143664		350			73,737		95,858	63,155		63,155			63,155	
2.1.2.2 Bridge							46,913	60,987		40,181			40,181	
2.1.2.3 Engine							40,640	52,832		34,808			34,808	
2.1.2.4. Transmission							11,997	15,596		10,276			10,276	
2.1.2.5. Final drive							5,274	6,856		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	
2.1.2.8. Other							43,224	56,191		37,021			37,021	
Subtotal						73,737	160,555	304,580		200,671			200,671	
2.1.3 M88														
2.1.3.1 Vehicle					355,783		462,531	304,737		304,737			304,737	
2.1.3.2 Vehicle IRV Hercules	R50985	108	100	100	6,520		8,475	5,584		5,584			5,584	
2.1.3.3. Engine							143,867	167,027		123,222			123,222	
2.1.3.4. Transmission							49,799	64,738		42,653			42,653	
2.1.3.5. Final drive							10,686	13,891		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	
2.1.3.8. Other														
Subtotal						362,313	231,004	771,310		508,157			508,157	

Notes:

¹ DOD Components may modify the worksheets to support internal computations (for example, by adding additional columns) so long as the version submitted to the Office of the Secretary of Defense contains the original columns.

² As a minimum, work breakdown structure 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.

Legend for Figure F-3;

Column A: Determine systems in DPG/JCS scenarios. A system is required to support the JCS scenario if it is mission essential or is considered to be a strategic system such as a satellite terminal. A weapon system is mission essential when it enables the Armed Forces to fulfill the strategic and contingency plans prepared by the Chairman, JCS. Systems can be excluded as mission essential only upon concurrence from HQ, TRADOC and the ODCS, G-4, ATTN: DALO-SMM.

Column A1: Tasked platform/system. All scenario-tasked platforms/weapon systems that require depot maintenance must be considered, regardless of whether maintenance is currently performed at a public or private depot maintenance facility. Platforms/weapon systems may include multiple end items, principal items, components, subsystems, parts, and materiel, and many of these items may also be separately identified as a DLR.

Column A2: Total active and reserve components inventory. Quantify the total active and reserve component inventory (number of units) for each platform/weapon system within the context of the DOD depot maintenance work breakdown structure at the type/model level (for example, M2/M3 series Bradley Fighting Vehicles, M113 series armored personnel carriers, or FMTV family of vehicles) and record within the appropriate work breakdown structure category.

Column A3: Number in scenarios. It must be determined how many of these platforms/weapon systems are included in the defense guidance force structure for employment in support of JCS contingency scenarios by taking total active and reserve component inventory less depot maintenance float assets, war reserves material requirements, and general support (for example, schools, training, and program support). These quantities should include operational and rotational assets as well as quantities to sustain depot repair cycle and attrition requirements. Quantities not required for the scenarios will be excluded.

Column B: Identify net after exclusions. Any platforms/weapon systems and related DLRs that are excluded from the requirement to maintain core logistics capabilities will be identified. These DLRs are excluded from further analysis and the authority for that exclusion from the core process is documented. Items covered under 10 USC 2464(a)(3) exclusions are special access, nuclear aircraft carriers, and commercial items.

Figure F-3. Sample of a core capability worksheet

a. Per 10 USC 2464(a)(5), commercial items are those that have been sold or leased in substantial quantities to the general public and are purchased without modification in the same form that they are sold in the commercial marketplace, or with minor modifications to meet Federal Government requirements.

b. DLRs identified as commercial through a commercial item assessment are exempt from the core logistics requirement process. In these cases a value of zero is entered in Column B.

Column C: Convert scenario requirements to peacetime DLHs. Appropriate factors (for example, historical workload averages, work standards, occurrence factors, historical peacetime capabilities, or technology-based requirements) are used to convert platform/weapon system requirements passed from Column B into annual depot maintenance DLHs. DLH data are added to applicable WBS categories to account for DLRs that are installed in platforms/weapon systems or otherwise employed in DPG/JCS scenarios, but not already included in Column A platform/weapon system depot maintenance data.

Column C1: Platform DLHs. Summation of all DLHs entered in column C2.

Column C2: DLR DLHs. This method can be used if actual DLHs for the DLR (or an analogous DLR) are unknown. First, multiply the number in Column B1 (Net after exclusions) by the system operational tempo as adjusted by the duty cycle of the DLR. Second, divide this product by the DLR's MTBF. The resulting value is the estimated annual failures for the DLR. Next, multiply the annual failures by the MTTR for the DLR. For DLRs with a quantity per assembly greater than one, the total number of annual failures will equal the quantity per assembly multiplied by the annual failures. See paragraphs F-4 and F-5 for calculation examples converting peacetime requirements to DLHS.

Column D: Adjust for contingency requirements and resources.

Column D1: Result after contingency adjustment. This must be adjusted for contingency requirements. The annual peacetime depot maintenance DLH data is adjusted by applying a surge factor for requirements during the readiness, sustainment, and reconstitution phases of contingency operations. Surge factors are based 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. The ODCS, G-4 has established a surge factor of 30 percent. Therefore, the result in Column C2 is multiplied by 1.3 to allow for a surge increase of 30 percent.

Column D2: Result after resource adjustment. This must be adjusted for resources, and an appropriate resource adjustment factor is applied to the DLHs 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. The ODCS, G-4 has established a resource adjustment factor of 60 percent. Therefore, the DLHs in Column D1 are multiplied by 0.60.

Column E: Adjust for redundant requirements. Redundant capability (common work breakdown structure elements) exists when DLRs share ordinary or complementary base of repair processes, technologies, and capabilities. DLHs in Column D2 are adjusted by a redundant capability factor. For example, a new weapon system diesel engine requires 4 days (32 hours) of testing after a scheduled overhaul. If the total MTTR is 525 hours and the depot can perform all overhaul tasks (other than testing), then the percentage of unique tasks is 6 percent ($32 / 525 = 0.06$). Therefore, the redundant requirements percentage is 94 percent: $(32 / 525) - 1 = 0.939$. Redundant capabilities must be well documented in terms of the types of skills, equipment, and facilities that are common and currently available in the depots and the skills, equipment, and facilities that are not common and currently unavailable in the depots. The percentage of unique tasks that equate to special tools, test equipment, or facilities should be used for capital investment planning.

Column F: Quantify depot maintenance core capability requirements. For DLHs, quantify the depot maintenance core capabilities that must be provided by Government personnel, equipment, and facilities in compliance with 10 USC 2464. Column D2 is multiplied by the redundant capability factor in Column E.

Column G: Adjust for interservice capability requirements. It must be determined whether any of the DLH requirements passed from Column F will be satisfied by other DOD depot maintenance capabilities. Core capability requirements necessary to support other services are included, and capability requirements that will be supported by other services are excluded.

Column G1: Interservice in. DLHs necessary to support other services are added.

Column G2: Interservice out. DLHs that will be consumed by other services are subtracted.

Column H: Total adjusted requirements. Record the total adjusted requirements and carry forward to Column K of figure F-6.

Figure F-3. Sample of a core capability worksheet

F-4. Convert scenario requirements to peacetime direct labor hours

With the formulas in figure F-4, scenario requirements can be converted to peacetime DLHs.

Example:

Net after exclusions = 760

Operational Tempo = 150

Duty cycle = 1

MTBF = 900

MTTR = 525

QPA = 1

Annual Failures = $(760 \times (150 \times 1) / 900) = 126.7$

Total Annual DLHs = $(126.7 \times 525) \times 1 = 66,518$

Legend for Figure F-4;

Operational tempo: Projected peacetime operating hours per year.

Duty cycle: The proportion of DLR operating time to the overall system operating time.

MTBF: The average time a depot level repairable will function before failing.

MTTR: The average time, measured in 1/4-hour increments, for all repair activities, such as disassembly, inspection, cleaning, repair, reassembly, and testing necessary to return a DLR to full functional capability.

QPA: The total number of identical DLRs within the system.

Annual failures: $(\text{Net after exclusions} \times (\text{operational tempo} \times \text{duty cycle}) / \text{MTBF})$.

Total annual DLHs: Annual failures \times MTTR \times duty cycle.

Figure F-4. Example of convert scenario requirements to peacetime DLHs

F-5. Convert scenario requirements to peacetime direct labor hours (measured by mean rounds before stoppage)

a. For weapons where the failure rate is measured by mean rounds before stoppage (MRBS), the MRBS must be converted to an MTBF (see fig F-5). Again, this method is used when actual DLHs for the DLR (or analogous) weapon are unknown. The MRBS refers to the amount of rounds fired, on average, before there is a stoppage that prevents firing. Note also that not all stoppages require depot maintenance. Determining the percentage of stoppages that require depot level maintenance is a function of stoppages requiring depot maintenance divided by all stoppages. For example, if a weapon has a total of 12 stoppages during live-fire training and only one stoppage requires depot maintenance, then the percentage of stoppages that require depot maintenance is 8.3 $(1 / 12 = 0.0833)$.

b. If the predicted MRBS is 25,000, then the mean rounds before depot maintenance (MRBDM) is 301,205 $(25,000 / 0.083)$. Now the MRBDM can be converted to MTBF using the projected annual training rounds and the normalized rounds fired per hour. Although the cyclic rate of fire can be much higher, for modeling purposes, a normalized rounds-fired-per-hour rate is used. Calculate the normalized rounds-fired-per-hour by dividing the projected annual training rounds per weapon by the annual training hours. Next, divide the MRBDM by the normalized rounds-fired-per-hour to arrive at the estimate MTBF for the weapon. Now the annual failures and total DLR DLHs can be calculated.

Example:

Net after exclusions = 760

Operational tempo (annual live fire training) = 20

Duty cycle = 1

MTBF = 25,000

Training rounds per year per weapon = 1,100

Stoppages during live fire training = 12

Stoppages requiring depot maintenance = 1

MTTR = 25

QPA = 1

Notes:

1. Depot stoppage percentage = $1/12 = 0.083$

2. MRBDM = $25,000/0.083 = 301,205$

3. Normalized rounds fired per hour = $1,100/20 = 55$

4. MRBDM converted to MTBF = $301,205/55 = 5,476$

5. Annual failures = $(760 \times (20 \times 1) / 5,476) = 55.7$

6. Total annual DLHs = $(56 \times 25) \times 1 = 1,393$

Figure F-5. Example of convert scenario requirements to peacetime DLHs (for weapons where the failure rate is measured by MRBS)

F-6. DOD depot maintenance core capability worksheet, part 2

Figure F-6 shows a sample of a completed core capability worksheet.

FY 20xx DOD depot maintenance core capability worksheet for xxxxx Army depot								
Description	Column I	Column J		Column K	Column L	Column M	Column N	Column O
	Quantify total depot maintenance (DM) workload	Add/subtract interservice workload adjustments		Identify and compute workload needed to maintain DM core capability rqrmts	Determine total DM workload not needed to support DM core capability rqrmts	Sector Selection	Private-sector DM workload	Public sector DM workload
WBS category	DLHs	J1	J2	DLHs	DLHs	Selection	\$	DLHs
		DLHs In	DLHs Out					
2. Ground vehicles								
2.1 Combat vehicles								
ANNISTON								
2.1.1 M1 FOV		293,469						
3. 2.1.1.1 Vehicle	1,101,235			691,652	115,914			691,852
2.1.1.2 SEP	55,670			47,681	7,589			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	83,634			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
Sub Total	1,943,731			1,413,449	236,813			1,413,449
2.1.2 M60 AVLB	73,737			63,155	10,582			63,155
2.1.2.1 Vehicle (MLC60/C20414/MLC70/B31098)	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					0			
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								
Sub Total	160,556			200,671	33,621			200,671
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					0			
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								
Sub Total	593,317			508,157	85,160			508,157

Legend for Figure F-6;

Column I: Quantify total depot maintenance workload requirements. All depot maintenance workload requirements are quantified in terms of total funding required and DLHs. These workload data are recorded in Columns I1 and I2 of the worksheet. This includes workload for systems excluded from capability requirements in figure F-3. Total funding required for DLHs can be calculated using current year composite labor rate.

Column J: Add/subtract interservice workload adjustments. Column I workload data are adjusted 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 Column I, depending on whether the affected DOD component is the "principle" or "agent" for a particular depot maintenance workload.

Column J1: Interservice in. DLHs necessary to support other services are added.

Column J2: Interservice out. DLHs that will be consumed by other services are subtracted.

Column K: Identify and compute workload needed to maintain depot maintenance core capability requirements: Normally, the same total of DLHs found in Column H of the worksheet (part 1) is transposed to Column K (part 2). Substitutions of similar workloads may be made as necessary to fulfill core capability requirements for systems with limited inventories or fluctuating workload requirements. Core sustaining workload data are recorded in terms of DLHs 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 figure F-2 (P). Additionally, workloads currently being performed under contract will be considered for support to satisfy that requirement.

Column L: Determine total depot maintenance workload not needed to support depot maintenance core capability requirements. The depot maintenance workloads (DLHs and/or funding) that do not directly support core capability requirements are determined. The noncore sustaining workload data in Column L are recorded on the worksheet. Noncore workloads include workloads relative to systems that do not support JCS contingency scenario requirements such as the NG, AR, and training systems.

Column M: Sector Selection: Identify the most appropriate sources of repair (public or private) for all depot maintenance workloads passed from figure F-2 (L). Identify all other relevant data necessary to make value-driven DSOR evaluations (for example, previous DSOR decisions, mission-driven requirements, and legislative mandates).

(1) Identify and allocate directed workload requirements.

(2) Identify any depot maintenance workloads for which there are no known commercial sources and allocate those workloads to public facilities.

Figure F-6. Sample of a core capability worksheet (part 2)

- (3) Identify any workloads needed to ensure efficient operation of core depot maintenance capabilities in accordance with the provisions of 10 USC 2464 and allocate those workloads to public facilities.
- (4) Identify any workloads needed to ensure that at least 50 percent of depot maintenance funding is expended at government owned/operated facilities in accordance with the provisions of 10 USC 2466 and allocate those workloads to public facilities.
- (5) Allocate all remaining workloads as appropriate based on best value criteria.

Figure F-2 (N): Private-sector depot maintenance workload. All depot maintenance workload performed by private-sector depot maintenance facilities will be quantified in terms of total funding required. These data are recorded in Column N.

Figure F-2 (O): Public-sector depot maintenance workload. 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 depots, is quantified, in terms of DLHs. These data are recorded in Column O.

Figure F-2 (P): Output to the Army PPBE process. Use workload data from figure F-2 (K) and (O) to ensure that the PPBE process adequately supports depot maintenance core capabilities in accordance with 10 USC 2464. Compare planned capital investments to weapon systems IOC milestones to ensure capital investment decisions adequately support IOC plus 4-year depot program decisions.

Note. Normally, the total in Column L represents the Column K total minus the sum of Columns I and J. Note that the column total is a positive number for interservice "IN" workload requirements (Column J1) or a negative number for "Interservice Out" workload requirements (Column J2).

Figure F-6. Sample of a core capability worksheet (part 2)

Appendix G

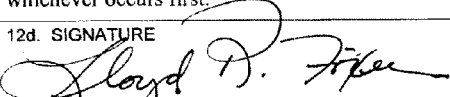
DA Form 7567, Special Repair Authority (SRA) Approval/Disapproval Sheet

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 depot-level repairs on items with an MRC code of D or L.

G-2. Instructions for completing DA Form 7567

This form 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 special repair authority should be approved or disapproved for the requesting organization. The various data elements contained in the form are described in the legend.

SPECIAL REPAIR AUTHORITY (SRA) APPROVAL/DISAPPROVAL SHEET											
For use of this form, see AR 750-1; the proponent agency is DCS, G-4.											
1. SRA NUMBER TA-004-05		2. AS OF DATE (YYYYMMDD) 20050323									
3. SUBMITTING MSC TACOM		4. SUBMITTING UNIT 3RD INFANTRY DIVISION									
5. ITEM MANAGER JOE DORIGHT		6. DSN PHONE NUMBER 741-2988									
7. COMPONENT TRANSFER	8. NIIN 01-444-2918	9. SYSTEM TRUCK, MTV									
10. ITEM											
a. National requirement objective (RO)			Level: 200								
b. Does RO include 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 Capital Fund-Supply Management Activity (AWCF-SMA))?			50								
e. Total number of serviceable assets less War Reserves (AWCF-SMA)			50								
f. Quantity of procurement spares due in within the next 12 months			120								
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
10	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)			130								
j. Is item excess to issuable portion of the RO?			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO								
k. Is there a repair program in support of the AWCF-SMA (depot, contractor, below depot)?			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO								
(1) Established repair program?			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO								
(2) Is program at one of the specific levels cited?			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO								
l. Annual production requirement/Number produced to date			120 / 20								
m. Demand information											
(1) What is the average monthly demand?			8								
(2) What is the annual demand?			110								
n. Does technical data package exist to validate 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. Overrides											
(1) Are there extenuating circumstances to override recommended approval/disapproval?			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO								
(2) If so, what?											
11. REMARKS											
a. Unit requested to repair 12 transfers to meet immediate readiness requirements.											
b. Unit will notify HQ, AMC 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 23 Mar 2006 whichever occurs first.									
12c. TYPED NAME LLOYD R. FIXER		12d. SIGNATURE 									

DA FORM 7567, MAY 2005

APD V1.00

Legend for Figure G-1;
completion instructions:

Figure G-1. DA Form 7567, Special Repair Authority (SRA) Approval/Disapproval

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. National item identification number 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 depot level repair.
10. ITEM.
 - a. National requirements objective (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.

Figure G–1. DA Form 7567, Special Repair Authority (SRA) Approval/Disapproval

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 HQ 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 HQ AMC to the ODCS, G-4 (Maintenance Policy Division) 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.

Figure G-1. DA Form 7567, Special Repair Authority (SRA) Approval/Disapproval

Appendix H Management Control Evaluation Checklists

Section I

Equipment maintenance (Assistant Division Commander for Support/Major Army Command, G-4)

H-1. Function

The function covered by this checklist is equipment maintenance.

H-2. Purpose

The purpose of this checklist is to assist the Assistant Division Commander for Support (ADCS)/ACOM, ASCC, and DRU G-4 in evaluating the key management controls listed below. It is not intended to cover all controls.

H-3. Instructions

Answers must be based on the actual testing of key management controls (such as document analysis, direct observation, interviewing, sampling, and simulation). Answers that indicate control problems must be explained and corrective action indicated in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

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 standard operating procedures 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 checklist replaces the previously published checklist(s) for equipment maintenance.

H-6. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: 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 checklist is maintenance management systems.

H-8. Purpose

The purpose of this checklist is to assist the Division ADCS/ACOM, ASCC, and DRU, G-4 and commanders in evaluating the key management controls listed below. It is not intended to cover all controls.

H-9. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-10. Test questions

See paragraph 4-15.

- a. Are Army maintenance STAMISs the primary means of managing maintenance?
- b. Are maintenance activities using automated procedures, processes and forms where available?
- c. Are maintenance man-hour expenditure data being entered into the appropriate STAMIS and are the data being forwarded to higher level automations systems/databases?

H-11. Supersession

This checklist replaces the previously published checklist(s) for maintenance management systems.

H-12. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section III

Manpower Utilization Standards (Assistant Division Commander for Support/Major Army Command, G-4)

H-13. Function

The function covered by this checklist is manpower utilization.

H-14. Purpose

The purpose of this checklist is to assist the Division ADCS/ACOM, ASCC, and DRU G-4 and commanders in evaluating the key management controls listed below. It is not intended to cover all controls.

H-15. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

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 checklist replaces the previously published checklist(s) for manpower utilization standards.

H-18. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section IV

Army Oil Analysis Program (Assistant Division Commander for Support/Major Army Command, G-4)

H-19. Function

The function covered by this checklist is the AOAP.

H-20. Purpose

To assist the ACOM, ASCC, and DRU, G-4, Division ADCS, and senior leaders in evaluating key management controls. It is not intended to cover all controls.

H-21. Instructions

Findings must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, other). Findings, which indicate control problems, must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

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. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section V

Army Oil Analysis Program (Army Materiel Command)

H-24. Function

The function covered by this checklist is the AOAP.

H-25. Purpose

To assist the AMC DCS, G-3 in evaluating the key management controls. It is not intended to cover all controls.

H-26. Instructions

Findings must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, other). Findings, which indicate control problems, must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-27. 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-28. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: 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-29. Function

The function covered by this checklist is maintenance expenditure limits.

H-30. Purpose

The purpose of this checklist is to assist the Division ADCS/ACOM, ASCC, and DRU, G-4 in evaluating the key management controls listed below. It is not intended to cover all controls.

H-31. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-32. Test questions

See paragraph 4-5.

- a.* Are Field and Sustainment maintenance units and activities using maintenance expenditure limits to determine if excess and accident-damaged equipment is economically repairable?
- b.* Are conditions for waivers of published maintenance expenditure limits being met?
- c.* Is a repair or upgrade decision process established for COTS computers, personal digital assistants, and associated devices to include maintenance expenditure limit of 65 percent of replacement costs?
- d.* Are prescribed MELs being bypassed by using separate job estimates to repair an item?

H-33. Supersession

This checklist replaces the previously published checklist(s) for maintenance expenditure limits.

H-34. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section VII

Army Maintenance Float Program (Assistant Division Commander for Support/Major Army Command, G-4)

H-35. Function

The function covered by this checklist is the Army Maintenance Float Program.

H-36. Purpose

The purpose of this checklist is to assist the Division ADCS/ACOM, ASCC, and DRU, G-4 in evaluating the key management controls listed below. It is not intended to cover all controls.

H-37. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-38. Test questions

See paragraph 7-6.

- a.* Has a float coordinator been appointed in writing?
- b.* Are Float assets being maintained in accordance with appropriate TMs, LOs, and so on?
- 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. Is float demand information promptly recorded in SAMS with the appropriate code?

H-39. Supersession

This checklist replaces the previously published checklist(s) for operational readiness float.

H-40. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section VIII

Army Maintenance Float Program (Headquarters, Department of the Army Materiel Developer, Army Materiel Command)

H-41. Function

The function covered by this checklist is the Army Maintenance Float program.

H-42. Purpose

The purpose of this checklist is to assist the HQDA materiel developer and AMC in evaluating the key management controls listed below. It is not intended to cover all controls.

H-43. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-44. Test questions

See paragraph 8-6.

- 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. Is DA Form 2406 being submitted in accordance with AR 700-138?

H-45. Supersession

This checklist replaces the previously published checklist(s) for operational readiness float.

H-46. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section IX

Specialized Repair Authorities/One-Time Repair Authorities (Deputy Chief of Staff, G-3, Army Materiel Command)

H-47. Function

The functions covered by this checklist are SRAs/OTRAs.

H-48. Purpose

The purpose of this checklist is to assist AMC in evaluating the key management controls listed below. It is not intended to cover all controls.

H-49. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-50. Test questions

- a. Has a primary point of contact for SRAs/OTRAs been assigned?
- b. Is the SRA/OTRA database being maintained with current status?

c. Are quarterly reports being provided?

d. Are SRA/OTRA request acted upon (approvals and disapprovals) within the specified timelines?

H-51. Supersession

This checklist replaces the previously published checklist(s) for specialized repair authorities.

H-52. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section X

Specialized Repair Authorities (Army Materiel Command Major Subordinate commander/maintenance inspector)

H-53. Function

The functions covered by this checklist are SRA/OTRA.

H-54. Purpose

The purpose of this checklist is to assist the AMC MSC commander/maintenance inspector in evaluating the key management controls listed below. It is not intended to cover all controls.

H-55. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-56. Test questions

See paragraph 3-7.

- 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-57. Supersession

This checklist replaces the previously published checklist(s) for specialized repair authority.

H-58. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section XI

Specialized Repair Authorities/One Time Repair Authorities (Division Assistant Division Commander for Support/Overseas Major Command Deputy Chief of Staff, G-4)

H-59. Function

The functions covered by this checklist are SRAs/OTRAs.

H-60. Purpose

The purpose of this checklist is to assist the division ADCS/overseas ACOM, ASCC, and DRU DCS, G-4 in evaluating the key management controls listed below. It is not intended to cover all controls.

H-61. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-62. Test questions

See paragraph 3-17.

- a. Are requests for SRA/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 depot-level repairs, performed being submitted in a timely manner?
- d. Is workload being reported to AMC quarterly?
- e. Has work ceased on expired SRAs?

H-63. Supersession

This checklist replaces the previously published checklist(s) for specialized repair activities.

H-64. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section XII

Life cycle maintenance support (Headquarters, Department of the Army Materiel Developer, Army Materiel Command)

H-65. Function

The function covered by this checklist is lifecycle maintenance support.

H-66. Purpose

The purpose of this checklist is to assist AMC and materiel developers in evaluating the key management controls listed below. It is not intended to cover all controls.

H-67. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation, or other). Answers that indicate control problems must be explained (and corrective action indicated) in supporting documentation. These controls must be evaluated in accordance with the schedule in the management control plan.

H-68. 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 materiel developers providing materiel maintenance inputs to their test and evaluation master plan; program acquisition plan; request for proposal; cost estimates; supportability strategy; reliability, availability, maintainability 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 equipment technical 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 materiel developers and AMC MSCs planning, programming and budgeting for sustainment systems technical support the first full fiscal year after production ends?
- i. Are sustainment systems technical support requirements and cost estimates validated and certified?
- j. Have the sustainment system technical support POM submissions been certified by appropriate authority?
- k. Are postfielding 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 integrated logistics support 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-69. Supersession

This checklist replaces the previously published checklist(s) for lifecycle maintenance support.

H-70. Comments

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section XIII

National Maintenance Program (Deputy Chief of Staff, G-3, Army Materiel Command)

H-71. Function

The function covered by this checklist is the NMP.

H-72. Purpose

The purpose of this checklist is to assist the DCS, G-3, AMC in evaluating the key management controls listed below. It is not intended to cover all controls.

H-73. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation or other). Answers that indicate control problems must be explained and corrective action indicated in supporting documentation. These key management controls must be formally evaluated at least once every five years. Certification that this evaluation has been conducted must be accomplished on DA Form 11-2-R (Management Control Evaluation Certification Statement).

H-74. 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 source of supply 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 AR 750-1, para 7-13 for exceptions)?
- f.* Is the maintenance program precluding repair of items in long supply?

H-75. Supersession

This checklist is the initial management control evaluation checklist for the National Maintenance Program.

H-76. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Section XIV

Army Depot Maintenance

H-77. Function

The function covered by this checklist is Army Depot Maintenance.

H-78. Purpose

The purpose of this checklist is to assist the materiel developer and the DCS, G-3, AMC in evaluating the key management controls listed below. It is not intended to cover all controls.

H-79. Instructions

Answers must be based on the actual testing of controls (for example, document analysis, direct observation, interviewing, sampling, simulation or other). Answers that indicate control problems must be explained and corrective action indicated in supporting documentation. These key management controls must be formally evaluated at least once every five years. Certification that this evaluation has been conducted must be accomplished on DA Form 11-2-R.

H-80. 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 materiel developers for new systems develop a core logistics capacity at government-owned/government operated 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 AR requirements, interservice and interdepartmental orders, and essential contracts?
- d.* Have the MATDEV (for new systems) and AMC ensured that depot maintenance plant equipment is available to support assigned depot maintenance programs including specialized 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-81. Supersession

This checklist is the initial management control evaluation checklist for Army depot maintenance.

H-82. Comment

Help make this a better tool for evaluating management controls. Submit comments to the HQDA functional proponent, DCS, G-4, ATTN: DALO-SMM, 500 Army Pentagon, Washington, DC 20310-0500.

Glossary

Section I Abbreviations

AAE

Army acquisition executive

AAFA

Army Aviation Flight Activity

AAME

Army Award for Maintenance Excellence

AAR

after action review

AASF

Army aviation support facility

ABS

American Bureau of Shipping

ACAT II

acquisition category

ACOM

Army Command

ACSIM

Assistant Chief of Staff for Installation Management

ADCS

Assistant Division Commander for Support

ADM

acquisition decision memorandum

ADMRU

aviation depot maintenance round-out units

AIS

automated information system

AIT

automatic identification technology

AMB

Army Maintenance Board

AMC

Army Materiel Command

AMCOM

U.S. Army Aviation and Missile Command

AMDF

Army master data file

AMMDB

Army MARC maintenance database

AMSA

area maintenance support activities

AMSAA

U.S. Army Materiel System Analysis Activity

AMSF

area maintenance and supply facilities

AOAP

Army Oil Analysis Program

APD

Army Publishing Directorate

APS

Army prepositioned stocks

AR

Army regulation

AR

Army Reserve

ARL

Army Research Laboratory

ARNG

Army National Guard

ARSTAF

Army Staff, HQDA

ASA (ALT)

Assistant Secretary of the Army (Acquisition, Logistics & Technology)

ASA (FM&C)

Assistant Secretary of the Army (Financial Management & Comptroller)

ASARC

Army Systems Acquisition Review Council

ASCC

Army Service Component Command

ASB

aviation support battalion

ASC

Army Signal Command

ASCC

Army Service Component Command

ASU

additional skill identifier

ASIOE

associated support items of equipment

ASTM

American Standards of Test Measurement

AT

annual training

AVCRAD

Aviation Classification and Repair Activity Depot

AWCF

Army Working Capital Fund

BASOPS

base operations

BDAR

battle damage assessment and repair

BII

basic issue items

BOIP

basis of Issue Plan

BOM

bill of materials

C4

command, control, communications, and computers

CARC

chemical agent resistant coating

CASCOM

U.S. Army Combined Arms Support Command

CBA

cost benefit analysis

CBM+

condition based maintenance plus

CBR

chemical, biological, and radiological

CBTDEV

combat developer

CC

condition code

CCI

controlled cryptographic item

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

CLS

communications logistics support

CLSU

COMSEC logistics support unit

CNGB

Chief, National Guard Bureau

COE

Chief of Engineers

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

CPU

central processing unit

CRDC

CECOM Research and Development Center

CRT

customer response time

CSI

critical safety items

CSMS

combined support maintenance shop

CSSAMO

combat service support automation management office

CTA

common table of allowances

CVE

combat vehicle evaluation

CWO

closed work order

DA

Department of the Army

DA Pam

Department of the Army pamphlet

DCS, G-3/5/7

Deputy Chief of Staff, G-3/5/7

DCS, G-4

Deputy Chief of Staff, G-4

DCS, G-8

Deputy Chief of Staff, G-8

DDMC

Defense Depot Maintenance Council

DEH

Director of Engineering and Housing

DLA

Defense Logistics Agency

DLH

direct labor hours

DLR

depot-level repairs

DMCB

Depot Maintenance Corporate Board

DMEC

Depot Maintenance Execution Council

DMMP

Depot maintenance mobilization plan

DMMW

depot maintenance mobilization workload

DMOPS

Depot Maintenance Operations Planning System

DMPE

depot maintenance plant equipment

DMSP

depot maintenance support plan

DMWR

depot maintenance work request

DOD

Department of Defense

DODD

Department of Defense directive

DODI

Department of Defense instruction

DOIM

Director of Information Management

DOL

Director of Logistics

DPW

director of public works

DRMO

Defense Reutilization and Marketing Office

DRU

Direct Reporting Unit

DT

developmental tests

EAC

echelons above corps

ECOD

estimated cost of damage

ECS

equipment concentration site

EFC

effective full charge

EIR

equipment improvement report

ERC

equipment readiness code

ERP

Enterprise Resources Planning

ESSC

electronics sustainment support center

ETM

electronic technical manual

EW

electronic warfare

FAR

Federal Acquisition Regulation

FDP

forward distribution point

FEDC

Field exercise data collection

FED LOG

Federal Logistics Record

FMC

fully mission capable

FMS

Field maintenance shop

FMSS

Field maintenance subshop

FORSCOM

U.S. Forces Command

FRA

Forward Repair Activity

FTX

field training exercise

FUED

first unit-equipped date

FY

fiscal year

GCSS-A

Global Combat Support System-Army

GOCO

Government owned, contractor operated

GOGO

Government owned, Government operated

GPM

ground precautionary message

GS

general support

GSA

General Services Administration

GSNS

Ground Safety Notification System

HAZMAT

hazardous materiel

HEMTT

heavy expanded mobility tactical truck

HQ

Headquarters

HQDA

Headquarters, Department of the Army

IDT

inactive duty training

IETM

interactive electronic technical manual

IEW

intelligence and electronic warfare

IEWS

intelligence, electronic warfare, and sensors

ILAP

Integrated Logistics Analysis Program

ILS

integrated logistics support

IMA

Installation Management Agency (see USAIMA)

IMMA

installation materiel maintenance activity

IMMMA

internal mission materiel maintenance activity

IMMO

installation materiel maintenance officer

IMO

installation management officer

INSCOM

U.S. Army Intelligence and Security Command

IOC

initial operating capacity

IPD

issue priority designator

IPG

issue priority group

ISA

installation support activity

ISR

intelligence, surveillance, and reconnaissance

ISSA

interservice support agreement

IT
information technology

JCS
Joint Chiefs of Staff

JOAP
Joint Oil Analysis Program

LAO
logistics assistance office

LAP
Logistics Assistance Program

LCMC
Life Cycle Management Command

LCSEC
life-cycle software engineer center

LCSS
life-cycle software support

LIA
Logistics Innovation Agency

LIDB
logistics integrated database

LIN
line item number

LIW
logistics integration warehouse

LMI
logistics management information

LMP
Logistics Modernization Program

LO
lubrication order

LOGSA
AMC Logistics Support Activity

LORA
level of repair analysis

LRU
line replaceable unit

LSE
logistics support element

LTP
long-term preservation

MAC

maintenance allocation chart

MACE

mobilization AVCRAD control element

MAIT

maintenance assistance and instruction team

MANPRINT

manpower and personnel integration

MARC

manpower requirements criteria

MATDEV

materiel developers

MATES

maneuver area training equipment sites

MC

mission capable

MDEP

management decision package

MEL

maintenance expenditure limits

METT-TC

mission, enemy, terrain and weather, troops and support available, time available, and civil considerations

MM

maintenance module

MMDF

maintenance master data file

MOA

Memorandum of Agreement

MOOTW

military operations other than war

MOS

military occupational specialty

MOU

Memorandum of Understanding

MPD

maintenance priority indicator

MRBDM

mean rounds before depot maintenance

MRBS

mean rounds before stoppage

MRC

maintenance repair code

MSC

major subordinate command

MSP

maintenance support plan

MST

maintenance support team

MTBF

mean time between failure

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

NET

new equipment training

NETCOM

Network enterprise technology command

NG

National Guard

NGB

National Guard Bureau

NICP

national inventory control point

NIIN

national item identification number

NMC

not mission capable

NMCS

not mission capable supply

NMM

national maintenance manager

NMP

National Maintenance Program

NMWR

national maintenance work requirement

NRTS

not reparable this station

NSA

National Security Agency

NSN

national stock number

NTV

nontactical vehicle

O&M

operations and maintenance

OASIS

Oil Analysis Standard Interservice System

OCAR

Office of the Chief of Army Reserve

OCCM

on condition cyclic maintenance

OCIE

organization clothing and individual equipment

OCOC

on-condition oil change

OCONUS

outside the continental United States

ODCS, G-3/5/7

Office of the Deputy Chief of Staff, G-3/5/7

ODCS, G-4

Office of the Deputy Chief of Staff, G-4

OEM

original equipment manufacturer

OMA

Operations and Maintenance, Army

OMAR

Operations and Maintenance, Army Reserve

OP-29

depot maintenance plan

OP-30

budget exhibit depot maintenance plan

ORF

operational readiness float

OSD

Office of the Secretary of Defense

OT

operational test

OTR

one time repair

OTRA

one time repair authority

Pam

pamphlet

PEG

program evaluation group

PEO

program executive office/officer

PLL

prescribed load list

PM

program manager

PMAF

peacetime mission availability factors

PMC

partially mission capable

PMCS

preventive maintenance checks and services

PMIS

preventive maintenance inspection and service

POC

point of contact

POM

program objective memorandum

PPBE

Planning, Programming, Budgeting, and Execution process

PPSS

post-production software support

PRON

procurement request order number

PS

program sponsor

PWS

performance work statements

QDR

quality deficiency report

QNP

Qualified National Provider

RAM

reliability, availability maintainability

RC

Reserve Component

RCF

Repair cycle float

RCM

Reliability-centered maintenance

RCS

report control symbol

RDD

required delivery date

REQVAL

requisition-validation

RFP

request for proposal

RO

requirements objective

RPCO

recovery program control officer

RPSTL

repair parts and special tools list

RSC

regional support center

RTF

Ready to fight

RTSM

regional training site-maintenance

SAAO

State Army aviation officer

SAE

Society of Automotive Engineers

SAMS

Standard Army Maintenance System

SAMS-E

Standard Army Maintenance System-Enhanced

SAMS-1

Standard Army Maintenance System–Level One

SDC

sample data collection

SECDEF

Secretary of Defense

SES

Senior Executive Service

SIGINT

signals intelligence

SKOT

sets, kits, outfits, and tools

SMM

surface maintenance manager

SMSP

surface maintenance support proponent

SOLAS

safety of life at sea

SOR

source of repair

SOUM

safety of use message

SRA

special repair authority

SRS

Strategic Readiness System

SS

supportability strategy

SSA

supply support activity

SSP

system support package

SSTS

sustainment systems technical support

STAMIS

Standard Army Management Information System

STS

systems technical support

T/VISC

training and visual information support center

TACOM

Tank-Automotive and Armaments Command

TAEDP

Total Army Equipment Distribution Plan

TAMMS

The Army Maintenance Management System

TAMMS-A

TAMMS-Aviation

TAT

turnaround time

TB

technical bulletin

TCX

tactical computer exchange

TDA

table of distribution and allowances

TDY

temporary duty

TI

technical inspection

TIPS

tool improvement program suggestions

TLRT-M

total logistics response time—maintenance

TM

technical manual

TMDE

test, measurement, and diagnostic equipment

TMRC

type maintenance request codes

TOC

total ownership cost

TOE

table of organization and equipment

TRADOC

Training and Doctrine Command

TSG

The Surgeon General

UEx

unit of employment x

UEy

unit of employment y

UIC

unit identification code

UII

unique item identifier

UIT

unique item tracking

ULLS

Unit Level Logistics System

ULLS-A

Unit Level Logistics System-Aviation

ULLS-A(E)

Unit Level Logistics System-Aviation (enhanced)

ULLS-G

Unit Level Logistics System-Ground

UND

urgency of need designator

USACECOM

U.S. Army Corps of Engineers Command

USACSLA

U.S. Army Communications Security Logistics Activity

USAF

United States Air Force

USAFMSA

U.S. Army Force Management Support Agency

USAIMA

U.S. Army Installation Management Agency

USAISC

U.S. Army Information Systems Command

USAOC&S

U.S. Army Ordnance Center and School

USARC

Commander, U.S. Army Reserve Command

USPFO

U.S. property and fiscal officer

UTES

unit training equipment site

VI

visual information

WARCO

warranty coordinator

WO

work order

Section II**Terms****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 385-5, 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, Department of the Army, 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 safety-of-use message.
- e. Pending receipt of oil resample or special sample results.
- f. Pending completion of a required service.

After operation checks

PMCS checks and services performed per the TM/ETM XX-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 XX-10 and XX-20 series PMCS maintenance standard. Faults that render the equipment NMC and are within the authorized level of repair of the operator/crew to correct must be corrected immediately. Faults above the operator/crew-authorized level of repair are immediately reported to Field maintenance for correction prior to start of the next mission. Field maintenance performs unscheduled correction required by reports from operator/crew and performs required services per TM/ETM XX-20 series to maintain the equipment to the TM XX-10 and XX-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 AR ground equipment, other than aircraft, medical, and watercraft.
- b. AMSA(W): Support for AR watercraft.
- c. AMSA(G/W): Support for AR ground and watercraft.

Army aviation flight activity

An ARNG TDA activity that provides aviation unit maintenance level functions in support of ARNG aviation assets.

Army aviation operating facility

An ARNG TDA activity that provides aviation unit maintenance level functions.

Army aviation support facility

An ARNG TDA maintenance activity that provides aviation unit maintenance and AVCRAD-authorized aviation intermediate maintenance 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/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/cabinet).

Associated support items of equipment (ASIOE)

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/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 aviation intermediate maintenance and authorized depot-level functions.

Aviation support facility

TDA activity of a USARC that exercises centralized control and assures proper use and operation of AR aviation assets, providing aviation training and logistics support beyond the capability of the supported units during training assemblies.

Battle damage assessment and repair (BDAR)

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/crew per TM/ETM XX-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/crew authorized level of repair, are reported to Field maintenance before the mission.

Black box

An electronic assembly removed and replaced from the next higher assembly at the user level and generally synonymous with line replaceable unit.

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.

Capability

A measure of operational performance to quantify contribution to the warfight. Measure consists of an evaluation of range, lethality, effectiveness, and so forth.

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.

Compliance

Compliance refers to the first phase of the process to qualify national maintenance providers. A national source of repair is compliant once the NMM determines it has a documented quality management system in place. Continued compliance is determined by annual surveillance audits.

Component/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 printed circuit board). The term "module" is normally associated with electronic equipment.

COMSEC logistics support unit

Field/Sustainment maintenance activity for the maintenance of communication security equipment.

Condition based maintenance plus (CBM+)

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/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 mission capable 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/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-level reparable

A Class IX item with a maintenance repair code of D or L.

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 direct labor hours (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 utilize facilities and equipment. Program offices, inventory control points, and materiel/systems/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 (DMWR)

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.

Discard and replace

Procedure to follow if selected items are designated as nonrepairable and become inoperable.

During operations checks

Checks performed by the operator/crew per the TM/ETM XX-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/crew authorized level of repair to correct) or reported during or after the mission.

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 (ECC)

A two-position alphabetical code. The first letter identifies the primary category of equipment. The two-position ECC is used in ADP systems to produce the complete description of an item of equipment by make, model, noun nomenclature, line number, and national stock number 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 AR 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 FEDLOG) but may require other end items to perform a mission (for example, tank, truck, radio, generators, and machine guns).

Equipment improvement recommendation (EIR)

Written reports on an SF Form 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 codes

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 modification tables of organization and equipment.

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/crew maintenance and repair and return to user maintenance operations.

Field maintenance shop

An ARNG activity that provides Field maintenance for Federal surface equipment issued to supported units.

Field maintenance subshop

An ARNG field-level maintenance subfacility established to supplement limited available workspace authorized a parent FMS or geographic separation of supported units.

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 (FMC)

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 385-55 provisions that apply to the vehicle/system or its sub-system required by AR 700-138. The terms ready/available and FMC refer to the same status: equipment is on hand and able to perform its combat missions.

General purpose TMDE

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 Department of the Army 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.

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.

Installation materiel maintenance activity (IMMA)

TDA maintenance organization set up to provide Field/Sustainment maintenance support for troop and/or installation operating equipment. An IMMA operates at one or more fixed locations.

Integrated logistics support (ILS)

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.

Interservice maintenance support

Maintenance operations performed by the organic maintenance capability of one military Service in support of another military Service.

Limited aviation intermediate maintenance level maintenance

AVIM-level support performed by the ASF within available skills and resources authorized for unit maintenance, without adversely affecting the overall performance of unit support.

Line item number (LIN)

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 FEDLOG.

Line replaceable unit (LRU)

A combination of components/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 printed circuit board, black box, component, major component, alternator, carburetor, avionics, tank engine, road wheel assembly installed weapons, and so forth. This repair by replacement is normally accomplished as far forward as possible by unit (organizational) maintenance personnel.

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, corrective

All actions performed as a result of failure to restore an item to a specified condition. Corrective maintenance can include any or all of the following steps: localization, isolation, disassembly, interchange, reassembly, alignment, and check-out.

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, inhouse, contract, and cross-service maintenance programs world wide. This process also provides data to be used in computing supply central studies and planning depot level maintenance.

Maintenance significant item/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.

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 (MST)

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 AR unit; military technician assigned to AR TDA maintenance activity.

Major assembly

Separately identified by type, model, and series and assigned item ID number (EM 0007 FEDLOG). 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 (MATDEVs)

The principal Army MATDEVs are the Army PEOs/PMs. For non-PEO/PM managed systems, other MATDEVs include the AMC, U.S. Army Information Systems Command, U.S. Army Intelligence and Security Command, COE, 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 (MTBF)

A basic measure of reliability. The average number of failures of a specific item occurring during a specified time interval.

Mean time to repair (MTTR)

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 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

AR Field and Sustainment maintenance personnel and AMSA/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 (MATES)

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, MATESs 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 sub-circuit. It may consist of a single printed circuit board, in which case it is synonymous with a printed circuit board or may comprise two or more printed circuit boards mechanically attached to one another and removable from the next high assembly as a single unit.

National maintenance manager (NMM)

The CG, AMC is designated as the NMM and as such is responsible for implementing the NMP.

National Maintenance Program (NMP)

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/crew maintenance, Field maintenance, and sustainment maintenance (formerly known as national maintenance). The CG, AMC, as the NMM for the U.S. 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 National Maintenance Program 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 (NMWR)

A maintenance serviceability standard for field level reparable 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 (NMC)

A materiel condition indicating that equipment cannot perform any one of its combat missions. NMC is divided into not mission capable maintenance or not mission capable supply (NMCS).

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.

On-site maintenance

Maintenance authorized to be performed where the equipment is operated.

Operator/crew maintenance

Operator/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/crew performing PMCS using the applicable TM XX-10 series. The before- and during-PMCS checks concentrate on ensuring equipment is FMC. Maintenance operations normally assigned to operator/crew include—

- a. Performance of PMCS.

b. Inspections by sight and touch of accessible components per the TM XX-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.

Operational readiness float

A quantity of selected end items or major components of equipment authorized for stockage at CONUS installations and overseas support maintenance activities to extend their capability to respond to the materiel readiness requirements of supported activities. This is accomplished by providing supported activities with serviceable replacements from ORF assets when like items of equipment of supported activities cannot be repaired or modified in time to meet operational requirements.

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).

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 war-fighting 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.

Preliminary source of repair decision

The source of repair decisions for the system and each subsystem scheduled for depot repair/overhaul as developed by the materiel developer as soon as the system and subsystems are developed enough to conduct a source of repair analysis and make analysis-based decisions. This will be the source of repair decision used for planning purposes until milestone C, when the major subordinate command assumes the source of repair 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 (PMCS)

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 national maintenance program 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, a source of repair must demonstrate a documented quality management system. For each component for which the national standard is a DMWR or NMWR, the source of repair must pass a technical certification. The technical certification validates that the source of repair 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 a source of repair 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.

Quality deficiency report (QDR)

The authorized means for users of Army equipment to report, either by message or SF Form 368, equipment faults in design, operations, and manufacture.

Readiness

The capability of a unit/formation, ship, weapon system, or equipment to perform the mission or functions for which it is organized or designed.

Ready to Fight

RTF is an authorized quantity of assets for use by AMC activities with a Sustainment maintenance mission to replace catastrophic battlefield losses and to exchange with supported units when repairs cannot be accomplished within ACOM, ASCC, and DRU established guidelines.

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 National Maintenance Program 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/Sustainment maintenance activity with fixed shops and contact teams that are managed by ASC. The regional maintenance center will support ASC Consolidated Glossary Maintenance Management Update 15. Equipment operated at installations and within a specified support area.

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 (RCM)

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 an MRC of D, F, H, or L.

Restriction

An order placing special working limits on materiel. The limits are set for safety or because of degraded performance.

Retail interservice 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, followup, 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 PMCS services

Checks and services performed by unit maintenance personnel with assistance from the operation/crew per the TM/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/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/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

Postproduction inspection, test, and analysis activity that verifies the actual condition of items after periods of use or storage.

Shop replacement unit

A component/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 maintenance allocation chart.

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.

Specialized 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 maintenance allocation charts 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

Subelements of AMSAs, CSMSs, ECSs, or organizational maintenance subshops 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 FEDLOG 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.

Supportability

A measure of impacts to the logistical system consisting of such things as an evaluation of reliability, sustainment costs, and number of configurations.

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 integrated logistics support 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.

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 operational tests 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 TMDE

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 materiel developer 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, measurement, and diagnostic equipment (TMDE)

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 TPSs (with issued software); and calibration test or measurement equipment. *Note:*When the term TMDE is used, it refers to both TMDE-general purpose and TMDE-special purpose.

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, technical manuals and technical data packages) that together allows the automatic test equipment operator to perform the testing/diagnostic action on the UUT.

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 an AR center; unit training and equipment site; a maintenance facility located in conjunction with an AR center.

Unit training equipment sites (UTES)

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-882. 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.

Section III**Special Abbreviations and Terms**

This section contains no entries.

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