



Department of Defense DIRECTIVE

NUMBER 4151.18

August 12, 1992

ASD(P&L)

SUBJECT: Maintenance of Military Materiel

- References:
- (a) DoD Directive 4151.1, "Use of Contractor and DoD Resources for Maintenance of Material," July 15, 1982 (hereby canceled)
 - (b) DoD Instruction 4151.15, "Depot Maintenance Support Programming Policies," November 22, 1976 (hereby canceled)
 - (c) DoD Directive 4151.16, "DoD Equipment Maintenance Program," August 23, 1984 (hereby canceled)
 - (d) DoD Instruction 4151.17, "Overseas Depot Maintenance," July 16, 1985 (hereby canceled)
 - (e) through (g), see enclosure 1

1. PURPOSE

This Directive:

- 1.1. Replaces references (a) through (d).
- 1.2. Establishes policy and assigns responsibilities for the performance of DoD materiel maintenance, including maintenance of hardware, equipment, software, or any combination thereof, at all levels (organizational, intermediate, and depot), and for both organic and contract.
- 1.3. Authorizes the publication of DoD 4151.18-H, "Depot Maintenance Capacity and Utilization Measurement Handbook," in accordance with DoD 5025.1-M (reference (e)).

2. APPLICABILITY

This Directive applies to the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Unified and Specified Commands, the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as "the DoD Components").

3. DEFINITIONS

Terms used in this Directive are defined in enclosure 2.

4. POLICY

It is DoD policy that:

4.1. The DoD Components shall provide an adequate program for maintenance of assigned materiel (at all maintenance levels) to:

4.1.1. Meet peacetime readiness and combat sustainability objectives.

4.1.2. Provide for applicable mobilization and surge requirements.

4.2. Maintenance of equipment and materiel shall be performed at the lowest level of maintenance that ensures optimum readiness and economic use of resources.

4.3. Depot maintenance source-of-repair assignments shall be made by the acquiring DoD Component logistics head using the depot source-of-repair assignment decision logic process. This decision shall be made within 90 days of the engineering and manufacturing development contract award. Such assignments shall be consistent with the depot maintenance policy in DoD Instruction 5000.2 (reference (f)).

4.4. Maintenance tooling, equipment, test measurement and diagnostic equipment, including automatic test systems and their associated software programs, and skills for similar-type workloads shall be standardized among the DoD Components.

4.5. Competition between and among depot level maintenance activities of the Department of Defense and private entities shall be used as a means to achieve economies and efficiencies in maintenance of military materiel.

4.6. Inter-Service, intra-Service, and joint contracting maintenance support

arrangements shall be established and executed to achieve the most cost-effective depot maintenance possible, consistent with readiness requirements of the Services.

4.7. An integral part of a depot maintenance skill and resource base shall be maintained within depot activities to meet military contingency requirements. A core maintenance capability shall comprise only a minimum level of mission-essential capability and may be under the control of the Military Department assigned as the weapon system manager. Such core maintenance capability may be assigned by the Assistant Secretary of Defense for Production and Logistics to another DoD Component or a consolidated capability under the control of a DoD Component when economic and strategic conditions warrant. That core capability shall also be used to satisfy a portion of peacetime requirements.

4.8. Depot maintenance in support of deployed weapon systems and equipment may be performed within the theater of deployment when necessary to meet peacetime readiness and combat sustainability objectives. Depot maintenance performed overseas shall be cost-effective, and shall not adversely impact the U.S. industrial base including organic depot maintenance capability. Performance of workload overseas shall be in compliance with existing statutes.

4.9. The use, generation, and storage of hazardous materiel at maintenance locations shall be minimized or eliminated.

4.10. Contractor maintenance support to equipment and weapon systems for deployed forces shall be coordinated with other DoD Components operating the same or similar equipment and weapon systems in the same operational area, when practical.

5. RESPONSIBILITIES

5.1. The Under Secretary of Defense (Acquisition) shall monitor compliance with this Directive and shall:

5.1.1. Review the adequacy of DoD Component maintenance funding and maintenance support programs.

5.1.2. Review and approve the methodologies used by the DoD Components to determine and quantify core capabilities necessary to perform mission-essential depot maintenance to meet the full range of military contingencies and statutory requirements.

5.1.3. Review and approve the DoD Components annual organic depot maintenance workloads for Service core maintenance capabilities to maintain the core capability necessary to perform mission-essential depot maintenance to meet the full range of military contingencies.

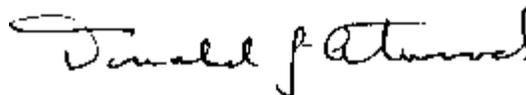
5.2. The Heads of the DoD Components shall:

5.2.1. Annually determine and quantify (using a USD(A)-approved methodology) the core capability necessary to perform mission-essential depot maintenance to meet the full range of military contingencies and statutory requirements.

5.2.2. Improve efficiency and effectiveness of DoD depot maintenance operations through depot maintenance interservicing of similar equipment and competition between depot maintenance activities and private entities.

6. EFFECTIVE DATE

This Directive is effective immediately.



Donald J. Atwood
Deputy Secretary of Defense

Enclosures - 2

- E1. References, continued
- E2. Definitions

E1. ENCLOSURE 1

REFERENCES, continued

- (e) [DoD 5025.1-M](#), "DoD Directives System Procedures," December 1990, authorized by [DoD Directive 5025.1](#), December 23, 1988
- (f) DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991
- (g) [DoD Directive 5128.32](#), "Defense Depot Maintenance Council," November 7, 1990

E2. ENCLOSURE 2

DEFINITIONS

E2.1.1. Capacity. The amount of workload, expressed in actual direct-labor hours, that a facility can effectively produce annually in a single shift, 40-hour week, while producing the product mix that the facility is designed to accommodate.

E2.1.2. Competition. The process of soliciting, evaluating, and selecting among proposals from maintenance, repair, and manufacturing activities, acting independently, to secure the business of the procuring Agency. In appropriate circumstances, competition may occur between depot maintenance activities, between private entities, or between depot maintenance activities and private entities.

E2.1.3. Core Maintenance. An integral part of a depot maintenance skill and resource base that shall be maintained within depot activities to meet contingency requirements. Core will comprise only a minimum level of mission-essential capability and must be under the control of an assigned individual DoD Component or may be a consolidated capability under the control of an assigned or jointly determined DoD Component where economic and strategic considerations warrant.

E2.1.4. Decision Logic Process. A mobilization and combat support-based decision methodology that is applied and used by the DoD Components as the basis for determining the following:

E2.1.4.1. The minimum resources (facilities, plant equipment, and skilled labor) required in support of the mobilization scenario.

E2.1.4.2. The organic capabilities and physical capacities to be established and retained as a core organic peacetime base for a DoD Component.

E2.1.5. Depot Maintenance. That 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.

E2.1.6. Depot Maintenance Activity. An industrial-type facility designated by the Department of Defense to perform depot-level maintenance on weapon systems, equipment, and components.

E2.1.7. Depot Maintenance Requirements. For budgeting and programming purposes, depot maintenance requirements include the following subcategories:

E2.1.7.1. Executable Requirements. The total requirement that could be executed if funds were available. That does not include work that cannot be performed due to operational commitments, capacity constraints, or any other constraints except funding.

E2.1.7.2. Funded Retirements. Requirements for which funding is programmed to be available.

E2.1.7.3. Unfunded Deferred Requirements. Requirements that are deferred only because of a lack of funding. That should equal the difference between executable requirement and funded requirements.

E2.1.7.4. Unexecutable Deferred Requirements. Requirements that are deferred because of operational commitments of assets; lack of organic or contractor facilities, equipment, manpower, or parts; or other constraints.

E2.1.8. Intermediate-Level Maintenance. That materiel maintenance that is the responsibility of, and performed by, designated maintenance activities in support of using organizations. The intermediate-level maintenance mission is to enhance and sustain the combat readiness and mission capability of supported activities by providing quality and timely materiel support at the nearest location with the lowest practical resource expenditure. Intermediate-level maintenance includes limited repair of commodity-oriented components and end items; job shop, bay, and production line operations for special mission requirements; repair of printed circuit boards, software maintenance, and fabrication or manufacture of repair parts, assemblies, components, jigs and fixtures, when approved by higher levels.

E2.1.9. Interoperability. The ability of systems, units, or forces to provide services to, or accept services from, other systems, units, or forces and to use the services so exchanged to operate effectively together.

E2.1.10. Inter-Service Maintenance Support. Maintenance either recurring or nonrecurring, performed by the organic capability of one Military Service, or element of it, in support of another Military Service or element.

E2.1.11. Joint Contracting. Maintenance performed by a contractor for more than one DoD Component under one contract that is administered by one Component.

E2.1.12. 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.

E2.1.13. Materiel. Hardware, equipment, software, or any combination thereof, associated with DoD weapon systems (aircraft, spacecraft, automotive equipment, combat vehicles; construction equipment, electronics, communications systems, missiles, ships, ordnance, weapons, munitions, and general purpose equipment) and their related spares, repair parts, and support necessary to equip, operate, maintain, and support military activities for administrative, support, or combat purposes.

E2.1.14. Mission-Essential Maintenance. Maintenance of items designated by the military branches for combat, combat support, combat service support, and combat readiness training forces and activities, including Reserve and National Guard activities. This involves items that are required to support approved emergency or war plans, and that are used 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; provide combat transportation and support of men and materiel; and support training functions.

E2.1.15. Mobilization. The act of assembling and organizing national resources to support national objectives during war or other emergencies. The process by which the Armed Forces, or part of them, are brought to a state of readiness for war or other national emergency. That includes activating all or part of the Reserve components as well as assembling and organizing personnel, supplies, and materiel.

E2.1.16. Organizational-Level Maintenance. Maintenance normally performed by an operating unit on a day-to-day basis in support of its own operations. The organizational-level maintenance mission is to maintain assigned equipment in a full mission-capable status while continually improving the process. Organizational-level maintenance can be grouped under the categories of "inspections," "servicing," "handling," and "preventive maintenance."

E2.1.17. Reliability-Centered Maintenance. A logical discipline for developing a scheduled-maintenance program that will realize the inherent reliability levels of complex equipment at minimum cost.

E2.1.18. Software. A set of computer instructions and data, structured into programs and into associated documentation on the design, implementation, test, support, and operation of those programs.

E2.1.19. Software Maintenance. Those activities necessary to correct errors in the software; add system capabilities through software changes; delete features; and modify software to be compatible with hardware changes.

E2.1.20. 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.

E2.1.21. Test, Measurement, and Diagnostic Equipment (TMDE). Any system or device used to evaluate the operating condition of a system or equipment to identify or isolate any actual or potential malfunction. The TMDE also includes the following:

E2.1.21.1. Automatic Test Equipment (ATE). Equipment designed to automatically evaluate the degree of unit under test (UUT) performance degradation, and may be used to perform fault isolation of UUT malfunctions.

E2.1.21.2. Test Program Set (TPS). The combination of interface devices, software test programs, operational test program instructions, and documentation that allows the ATE and/or TMDE operator to perform the testing and/or diagnosis action on the UUT.