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MIL-HDBK-505
12 FEBRUARY 1998

DEPARTMENT OF DEFENSE

HANDBOOK FOR DEFINITIONS OF ITEM LEVELS, ITEM EXCHANGEABILITY, MODELS, AND RELATED TERMS

AMSC N/A

AREA MISC

DEPARTMENT OF DEFENSE
Washington, D. C. 20301

**Definitions of Item Levels,
Item Exchangeability, Models, and Related Terms**

MIL-STD-280A

1. This Military Standard is mandatory for use by all Departments and Agencies of the Department of Defense.

2. Recommended corrections, additions, or deletions should be addressed to Commanding General, US Army Electronics Command, ATTN: AMSEL-PP-ED, Fort Monmouth, New Jersey 07703.

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1. SCOPE

1.1 Purpose.- The purpose of this standard is to establish standard terms and definitions to be used in describing the levels of military items and to designate and define item exchangeability, models, and other related terms. These terms apply to electrical, electronic, mechanical, pneumatic and hydraulic Military equipment.

1.2 Application.- These terms and their definitions herein are to be used, as applicable, in the research, development, procurement, production, testing, evaluation, distribution, operation, maintenance, storage, and disposal of equipment, and the documents pertinent thereto. It is not intended that the definitions contained in this standard shall conflict with the definitions for specific items of supply contained in Cataloging Handbook H6-1 Federal Item Identification Guides for Supply Cataloging.

2. REFERENCED DOCUMENTS

(not applicable)

3. DEFINITIONS

3.1 Item levels.- Item levels (as defined below) from the simplest division to the more complex are as follows:

Part
Subassembly
Assembly
Unit
Group
Set
Subsystem
System

3.1.1 Part.- One piece, or two or more pieces joined together which are not normally subject to disassembly without destruction of designed use. (Examples: Outer front wheel bearing of 3/4 ton truck, electron tube, composition resistor, screw, gear, mica capacitor, audio transformer, milling cutter.)

3.1.2 Subassembly.- Two or more parts which form a portion of an assembly or a unit replaceable as a whole, but having a part or parts which are individually replaceable. (Examples: Gun mount stand, window recoil mechanism, floating piston, telephone dial, IF strip, mounting board with mounted parts, power shovel dipper stick.)

3.1.3 Assembly.- A number of parts or subassemblies or any combination thereof joined together to perform a specific function and capable of disassembly. (Examples: Power shovel-front, fan assembly, audio frequency amplifier.)

Note.- The distinction between an assembly and a subassembly is determined by the individual application. An assembly in one instance may be a subassembly in another where it forms a portion of an assembly.

3.1.4 Unit.- An assembly or any combination of parts, subassemblies and assemblies mounted together, normally capable of independent operation in a variety of situations. (Examples: Hydraulic jack, electric motor, electronic power supply, internal combustion engine, electric generator, radio receiver.) This term replaces the term "component." Note.- The size of an item is a consideration in some cases. An electric motor for a clock may be considered as a part inasmuch as it is not normally subject to disassembly.

3.1.5 Group.- A collection of units, assemblies, or subassemblies which is not capable of performing a complete operational function. A group may be a subdivision of a set or may be designed to be added to or used in conjunction with a set to extend the function or the utility of the set. (Example: Antenna group.)

3.1.6 Set.- A unit or units and necessary assemblies, subassemblies and parts connected together or used in association to perform an operational function. (Example: Radio receiving set, sound measuring set, radar homing set, which include parts, assemblies and units such as cables, microphone and measuring instruments.) ("Set" is also used to denote a collection of related items such as a "tool set", "drawing set," or a "set" of tires.)

3.1.7 Subsystem.- A combination of sets, groups, etc., which performs an operational function within a system and is a major subdivision of the system. (Examples: Data processing subsystem, guidance subsystem.)

3.1.8 System.-

3.1.8.1 General.- A composite of equipment, skills, and techniques capable of performing or supporting an operational role, or both. A complete system includes all equipment, related facilities, material, software, services and personnel required for its operation and support to the degree that it can be considered a self-sufficient unit in its intended operational environment. (Example: Dew Line.)

3.1.8.2 Electrical-electronic.- A combination of two or more sets, which may be physically separated when in operation, and such other assemblies, sub-assemblies and parts necessary to perform an operational function or functions. (Examples: AEW electronic system, antiaircraft defense system, telephone carrier system, GCA electronic system, fire control system including the tracking radar, computer, and gun mount.)

3.2 Exchangeability of items.-

3.2.1 Interchangeable item.- One, which (1) possesses such functional and physical characteristics as to be equivalent in performance, reliability, and maintainability, to another item of similar or identical purposes; and (2) is capable of being exchanged for the other item (a) without selection for fit or performance, and (b) without alteration of the items themselves or of adjoining items, except for adjustment.

3.2.2 Replacement item.- One which is interchangeable with another item, but which differs physically from the orignal item in that the installation of the replacement item requires operations such as drilling, reaming, cutting, filing, shimming, etc., in addition to the normal application and methods of attachment.

3.2.3 Substitute item.- One which possesses such functional and physical characteristics as to be capable of being exchanged for another only under specified conditions or in particular applications and without alteration of the items themselves or of adjoining items.

3.3 Models (development and production).-

3.3.1 Exploratory development.- An item (preliminary parts or circuits) used for experimentation or tests to investigate or evaluate the feasibility and practicality of a concept, device, circuits, or system in breadboard or rough experimental form, without regard to the eventual overall fit or final form.

3.3.2 Advanced development.- An item used for experimentation or tests to (a) demonstrate the technical feasibility of a design, (b) determine its ability to meet existing performance requirements, (c) secure engineering data for use in further development and, where appropriate, (d) establish the technical requirements for contract definition. Dependent upon the complexity of the equipment and the technological factors involved, it may be necessary to produce several successive models, to achieve additional objectives. The final advanced development model approaches the required form factor and employs standard parts (or nonstandard parts approved by the agency concerned). Serious consideration is given to military requirements such as reliability, maintainability, human factors and environmental conditions.

3.3.3 Engineering development (service test).- An item used in tests to determine tactical suitability for military use in real or simulated environments for which the item was designed. It closely approximates an initial production design, has the required form, employs standard parts (or nonstandard parts approved by the agency concerned) and meets the standard military requirements such as reliability, maintainability, human factors, environmental conditions, etc.

3.3.4 Preproduction (prototype).- An item suitable for complete evaluation of form, fit, and performance. It is in final form in all respects, employs standard parts (or nonstandard parts approved by the agency concerned), and is completely representative of final equipment.

3.3.5 Production.- An item in its final form of final production design made by production tools, jigs, fixtures and methods. It employs standard parts (or non-standard parts approved by the agency concerned).

3.4 Other related terms.-

3.4.1 Accessory.- An item used in conjunction with or to supplement an assembly, unit or set, contributing to the effectiveness thereof without extending or varying the basic function of the assembly, unit, or set. An accessory may be used for testing, adjusting or calibrating purposes. (Examples: Recording camera for radar set, emergency power supply.)

3.4.2 Attachment.- An item used for physical connection to an assembly, unit, or set, contributing to the effectiveness thereof by extending or varying the basic function of the assembly, unit, or set. (Examples: Hoisting attachment on a truck, milling attachment for a lathe.)

3.4.3 Item.- A non-specific term used to denote any product, including systems, materials, parts, subassemblies, sets, accessories, etc.

4. GENERAL STATEMENTS
(not applicable)

5. DETAIL STATEMENTS
(not applicable)

6. NOTES

6.1 Supersession data.- This standard also supersedes MIL-STD-100 for the definitions of accessory, attachment, group, item, part, set, subassembly, system (general), system (electrical-electronic), and unit; and MIL-STD-721 for the definitions of interchangeable, replaceable, and substitute items.

Custodians:
Army - EL
Navy - AS
Air Force - 26

Preparing Activity:
Army - EL

(Project MISC-0361)

Review Activities:
Army - GL, MI, ME, MU, WC
Navy - OS, SH, EC
Air Force - 22 , 17
Defense Supply Agency - DH, IP
FAA

User Activities:
Army - AT

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR ☐ USER ☐ MANUFACTURER ☐ OTHER *(Specify)*: _____
b. ADDRESS *(Street, City, State, ZIP Code)*	

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
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