NOT MEASUREMENT SENSITIVE

MIL-STD-130K
15 January 2000

SUPERSEDING
MIL-STD-130J
1 June 1997

DEPARTMENT OF DEFENSE STANDARD PRACTICE

IDENTIFICATION MARKING OF U.S. MILITARY PROPERTY

AMSC N/A AREA GDRQ

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FOREWORD

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: MSG/ILMP, 4375 Chidlaw Rd., Bldg 262 Rm S008, Wright-Patterson AFB OH 45433-5006, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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TABLES

FIGURES

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1. SCOPE

1.1 Scope. This standard provides the item marking requirements and methods for identification of items of military property produced, stocked, stored, and issued by or for the Department of Defense.

1.2 Application exclusions. Military items covered by the following documents are excluded from the provisions of this standard unless otherwise specified in detail specifications, standards, or contracts.

SPECIFICATIONS

FEDERAL

DDD-L-20	Label, For Clothing, Equipage and Tentage (General use)

DEPARTMENT OF DEFENSE

MIL-PRF-1	Electron Tubes, General Specification for.
MIL-B-18	Battery, Non-Rechargeable, Dry
MIL-B-10154	Batteries, Primary, Water-Activated (Dunk-Type) (Inactive for new design)
MIL-M-13231	Marking of Electronic Items
MIL-L-15040	Label, Garment (Woven, Rayon)
MIL-PRF-19500	Semiconductor Devices, General Specifications for
MIL-PRF-38534	Hybrid Microcircuits, General Specification for
MIL-PRF-38535	Integrated Circuits (Microcircuits) Manufacturing, General Specification for
MIL-R-81128	Rocket Motors, Identification of Parts and Assemblies, Requirements for

STANDARDS

FEDERAL

FED-STD-182	Continuous Identification Marking of Nickel and Nickel Base Alloys
FED-STD-184	Identification Marking of Aluminum, Magnesium, and Titanium
FED-STD-185	Identification Marking of Copper and Copper Base Alloy Mill Products

DEPARTMENT OF DEFENSE

MIL-STD-709	Ammunition Color Coding
MIL-STD-792	Identification Marking Requirements For Special Purpose Components
MIL-STD-1168	Ammunition Lot Numbering
MIL-STD-1285	Marking of Electrical and Electronic Parts

INDUSTRY

AMS-STD-183	Continuous Identification Marking of Iron and Steel Products
ASTM B660	Standard Practices for Packaging/Packing of Aluminum and Magnesium Products (DoD adopted)
ASTM B666	Standard Practice for Identification Marking of Aluminum and Magnesium Products. (DoD adopted)

1.3 Application and tailoring. Evaluation by the acquiring activity of the requirements (sections, paragraphs, or sentences) in this standard is essential to determine the extent to which each requirement can be tailored and placed on contract in order to impose only the minimum essential needs of the Government.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, and 5 of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements cited in sections 3, 4, and 5 of this standard, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-208	Ink, Marking, Stencil, Opaque (Porous and Nonporous Surfaces)
A-A-56032	Ink, Marking, Epoxy Base
TT-L-50	Lacquer, Nitrocellulose, Acrylic and Acrylic Butyrate, Aerosol (In Pressurized Dispensers)

DEPARTMENT OF DEFENSE

MIL-DTL-15024	Plates, Tags and Bands for Identification of Equipment
MIL-DTL-31000	Technical Data Packages

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-100	Standard Practice for Engineering Drawings
MIL-STD-129	Standard Practice for Military Marking
MIL-STD-973	Configuration Management
MIL-STD-1686	Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
MIL-STD-2549	Configuration Management Data Interface

HANDBOOKS

DEPARTMENT OF DEFENSE

MIL-HDBK-129	Military Marking
MIL-HDBK-263	Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices) (Metric)
MIL-HDBK-505	Definitions of Item Levels, Item Exchangeability, Models, and Related Items
MIL-HDBK-1812	Type Designation, Assignment and Method of Obtaining.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DOD 5220.22-M	DOD Industrial Security Manual for Safeguarding Classified Information

(Application for copies of DOD 5220.22-M should be addressed to: Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DoDISS are the issues of

the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME Y14.24M - Types and Applications of Engineering Drawings (DoD adopted)

(Application for copies should be addressed to the American Society of Mechanical Engineers, (ASME), 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007-2900)

AUTOMATIC IDENTIFICATION MANUFACTURERS

ANSI/AIM BC1 Uniform Symbology Specification Code 39

(Application for copies should be addressed to the Automatic Identification Manufacturers, 634 Alpha Drive, Pittsburgh, PA 15238

ELECTRONIC INDUSTRIES ALLIANCE

ANSI/EIA 649 National Consensus Standard for Configuration Management

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS

3.1 Acronyms used in this standard. The acronyms used in this standard are as follows:

a. ASME - American Society of Mechanical Engineers

b. CAGE - Commercial and Government Entity

c. CCI - Controlled Cryptographic Items

d. CDA - Current Design Activity

e. CI - Configuration Item

f. COTS - Commercial Off-The-Shelf

g. DoD - Department of Defense

h. DoDCP - Department of Defense Control Point

i. DoDISS - Department of Defense Index of Specifications and Standards

j. ESDS - Electrostatic Discharge Sensitive

k. FSCM - Federal Supply Code for Manufacturers

l. IF - Intermediate Frequency

m. MFR - Manufacturer

n. NATO - North Atlantic Treaty Organization

o. NCAGE - NATO Commercial and Government Entity

p.. NSN - National Stock Number

q. ODA - Original Design Activity

r. OTS - Off-The-Shelf

s. PIN - Part or Identifying Number

t. SOCN - Source Control Notation

u. SE - Support Equipment

v. VICD - Vendor Item Control Drawing

3.2 Acquisition instrument identification number. The Government acquiring activity's contract or purchase order number. When an order shows both a contract number and a purchase order number, the number used is determined by the acquiring activity.

3.3 Altered, selected, or source control items. Items depicted on altered item, selected item, or source control drawings in accordance with the definitions and requirements contained in ASME Y14.24M.

3.4 Assembly. A number of parts or subassemblies or any combination thereof joined together to perform a specific function and subject to disassembly without degradation of any of the parts. (Examples: power shovel-front, fan assembly, audio-frequency amplifier.) (see MIL-STD-100)

3.5 Bar code. An array of rectangular bars and spaces in a predetermined pattern. (see ANSI/AIM BC1) (see 3.17 and 6.1.1).

3.6 Commercial and Government Entity (CAGE) Code. A five-position alphanumeric code with a numeric in the first and last positions (e.g. 27340, 2A345, 2AA45, or 2AAA5), assigned to

United States and Canadian organizations which manufacture and/or control the design of items supplied to a Government Military or Civil Agency or assigned to United States and foreign organizations, primarily for identifying contractors in the mechanical interchange of data. (Excerpted from: DoD 4100.39-M Volume 7)

3.7 Commercial item. A product, material, component, sub-system, or system sold or traded to the general public in the course of normal business operations at prices based on established catalog or market prices. (see MIL-DTL-31000) The items are also referred to as commercial off-the-shelf (COTS or OTS) products or commercial products.

3.8 Configuration Item (CI). A Configuration Item is an aggregation of hardware, firmware, or software that satisfies an end use function and is designated by the Government for configuration management. (see MIL-STD-973)

3.9 Controlled Cryptographic Items (CCI). Cryptographic items which have been declassified.

3.10 Design Activity. A design activity is an activity that has, or has had responsibility for the design of an item. The activity may be Government, commercial, or nonprofit organization. (see MIL-STD-100, ASME Y14.24M)

3.10.1 Current Design Activity (CDA). An activity (Government or contractor) currently having responsibility for the design of an item, and the preparation or maintenance of drawings and associated documents. Current design activity could be the original design activity or new activity when that responsibility is transferred from another Government or contractor design activity. (see MIL-STD-100)

3.10.2 Design activity identification. The Commercial and Government Entity (CAGE) (see 3.6) or NATO Commercial and Government Entity (NCAGE) (see 3.21) code assigned to the organization responsible for the design of an item.

3.10.3 Original Design Activity (ODA). An activity (Government or contractor) having had the responsibility originally for the design of an item and whose drawing number and CAGE Code is shown in the title block of drawings and associated documents. (see MIL-STD-100)

3.11 Document. Document applies to the specifications, drawings, lists, standards, pamphlets, reports, and printed, typewritten or other information, relating to the design, procurement, manufacture, test, or acceptance inspection of items or services. (see MIL-STD-100)

3.12 Electrostatic Discharge Sensitive (ESDS) items. Electronic parts having sensitive characteristics (e.g., thin-layered internal composition) and delicate, miniaturized construction which are susceptible to damage or degradation, in various degrees, from environmental field forces (electrostatic, electromagnetic, magnetic, or radioactive). This susceptibility also extends to the standard electronic modules, printed circuit boards, printed wiring boards, and circuit card assemblies containing one or more of these sensitive electronic parts.

3.13 Group. A collection of units, assemblies or subassemblies which is a sub-division of a set or system, but which is not capable of performing a complete operational function. (Examples: antenna group, indicator group.) (see MIL-STD-100)

3.14 Item. A non-specific term used to denote any unit or product including materials, parts, assemblies, equipment, accessories, and computer software. (see MIL-STD-100)

3.15 Item identification. The combination of the part or identifying number and the original design activity CAGE code. (NOTE: Not applicable to specification controlled items.) (see MIL-STD-100)

3.16 Lot Number. An identifying number consisting of alpha and numeric characters which, in conjunction with a manufacturer's identity, uniquely identifies a group of units of the same item which are manufactured or assembled by one producer under uniform conditions and which are expected to function in a uniform manner. (see MIL-STD-2549, ANSI/EIA 649) The label "LOTNO" may be used with other identifiers and when marking space allows.

3.17 Machine readable marking. A pattern of bars, squares, dots, or other specific shapes containing information interpretable through the use of equipment specifically designed for that purpose. The patterns may be visible or applied for infra-red, ultra-violet, or other non-human visible reading capabilities. A machine readable marking may be supplemented with human-readable characters as currently used with a bar code marking per ANSI/AIM BC1.

3.18 Manufacturer (MFR). An individual, company, corporation, firm, or Government activity who:

a. Controls the production of an item, or

b. produces an item from crude or fabricated materials, or

c. assembles materials or components, with or without modification, into more complex items. (see MIL-STD-100)

3.19 Manufacturer's identification. The actual manufacturer's name and CAGE (see 3.6) or NCAGE (see 3.21) that identifies the place of manufacture.

3.20 National Stock Number (NSN). A number assigned to each item of supply, that is purchased, stocked, or distributed within the Federal Government. (see MIL-STD-100)

3.21 NATO Commercial and Government Entity (NCAGE) Code. A five position alphanumeric code requiring an alpha in either the first or last position (e.g., AA123, 3AAAA, AAAA3, K2345 or 2345K), assigned to organizations located in North Atlantic Treaty Organization (NATO) member nations (excluding U.S. and Canada) and other foreign countries which manufacture and/or control the design of items supplied to a Government Military Activity

or Civil Agency. (Excerpted from: DoD 4100.39-M Volume 7)

3.22 Nomenclature. The combination of approved item name and military type designation as assigned by the DoDCP (see MIL-HDBK-1812).

3.23 Part. One piece, or two or more pieces joined together, which are not normally subject to disassembly without destruction or impairment of designed use. (Examples: transistor, composition resistor, screw, gear, transformer, milling cutter.) (see MIL-STD-100)

3.24 Part or Identifying Number (PIN). The identifier assigned by the design activity or by the controlling nationally recognized standard which uniquely identifies (relative to that design activity) a specific item. The PIN generally includes the controlling drawing or document number and optional suffix. The PIN does not include the drawing revision identifier, drawing size, or CAGE code. The term “part or identifying number” replaces the terms “part number” and “bulk material identification number”. (see ASME Y14.24M, MIL-STD-100).

3.25 Registration number. The number assigned by the Government to an individual unit of a group of items. The number indicates Government ownership, responsibility, and accountability (e.g., vehicle registration numbers).

3.26 Repairable. Having the capability of being repaired. (see MIL-STD-100)

3.27 Serial number. An identifying number consisting of alpha and numeric characters which is assigned sequentially in the order of manufacture or final test and which, in conjunction with a manufacturer’s identifying CAGE code, uniquely identifies a single item within a group of similar items identified by a Product-tracking base-identifier. (see MIL-STD-2549) The identifier "SERNO" may be used to avoid confusion with other identifiers and when marking space allows.

3.28 Set. A unit or units and necessary assemblies, subassemblies and parts connected or associated together to perform an operational function. (Examples: radio receiving set; sound measuring set, which includes parts, assemblies and units such as cable, microphone and measuring instruments; radar homing set). Set is also used to denote a collection of like parts such as a tool set or a set of tires. (see MIL-STD-100)

3.29 Special characteristics. The pertinent rating, operating characteristics, and other information necessary for identification of the item.

3.30 Specification data. Information such as specification number, type, grade, class, or other identifying data.

3.31 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 sash, recoil mechanism, floating piston, telephone dial, Intermediate Frequency (IF) strip, terminal board with mounted parts, power shovel dipper stick.) (See MIL-HDBK-505)

3.32 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.) (MIL-HDBK-505)

NOTE: The size of an item is a consideration in some cases. An electric motor for a clock may be considered a part because it is not normally subject to disassembly. (MIL-HDBK-505)

3.33 U.S. The abbreviation used on items (e.g., vehicles and industrial production equipment) to denote Government ownership and to comply with public law or other Government regulations.

3.34 U.S. military property. Government owned property within DoD jurisdiction.

3.35 Warranty. The contractual agreement between the Government and the contractor relative to the nature, usefulness, or condition of the item(s) furnished under the contract. Warranty duration is expressed in terms of hours, days, months, number of operations, etc. Warranty markings give notice to a user whether the item(s) is subject to the warrant provisions.

4. GENERAL REQUIREMENTS

4.1 Methods of applying. The required marking shall be applied to an identification plate (see figure 1) securely fastened to the item or shall be applied directly to the surface of the item and compatible with 4.2, 4.3, and 4.5. The design activity shall specify the actual method(s) to be used in applying markings. Recommended marking methods are shown in Tables I and II.

a. Marking materials creating hazardous conditions shall not be used.

b. When items cannot be physically marked or tagged because of lack of marking space (or because marking or tagging would have a deleterious effect), the detailed marking requirements specified in section 5 shall be applied to the container in addition to, or in combination with, the identification marking information specified in MIL-STD-129. When combining marking requirements with MIL-STD-129, the manner, method, form, and format of MIL-STD-129 shall be followed, implementing the advisory guidance of MIL-HDBK-129 where appropriate, providing the informational requirements of this standard are fulfilled.

c. Any item which is serialized or repairable, CCI, or those which are unique or have a high dollar value as defined by the acquiring activity shall have the following information applied in a machine readable format:

(1) Serial number, if applicable.

(2) NSN. NOTE: If the NSN is not available, the manufacturer’s PIN or item identification shall be applied by bar code or other machine readable system (see figure 1).

(3) Applicable CAGE code(s).

4.2 Location, size, and content. Whenever practicable, the location of the marking on the item shall ensure its visibility during normal operational use of the item. Marking size shall satisfy the legibility requirements of 4.3. The location, size, and content of the marking shall be specified directly or by reference on the document delineating the item to be marked.

4.3 Permanency and legibility. Direct identification marking and identification plates, tags, or labels used shall be as permanent as the normal life expectancy of the item and be capable of withstanding the environmental tests and cleaning procedures specified for the item to which it is affixed. Legibility shall be as required for ready readability. Information contained on identification plates shall be of a color which is in contrast to the color of the surface of the plate. Identification tag marking, when used, shall be permanent to the extent required for utilization of the item.

4.4 Identification tags. Metal and stiff plastic identification tags, along with their provisions for being attached, shall have all burrs and sharp edges removed (see MIL-DTL-15024).

4.5 Deleterious effect. Marking of items shall be accomplished in a manner which will not adversely affect the life and utility of the item.

4.6 Altered or selected items (see 3.3). When an item is altered or selected, the identification number assigned by the activity specifying the alteration or selection shall be used to identify the item. The original number being replaced shall be removed or obliterated if this can be done without damage to the item.

4.7 Abbreviated information. When machine readable marking requirements are specified in the contract or order, they shall be in accordance with 4.1c. When size limitations, cost, or other considerations preclude marking all applicable information on an item (i.e., some marking space does exist and the conditions of 4.1.b are not met), only the most essential information as specified or approved by the acquiring activity shall be included.

4.8 Unknown identification information. Where identification information is unavailable to a manufacturer at the time of fabrication, space shall be left for subsequent placement of this information.

4.9 Information not required. Special characteristics may be omitted from the identification plate, if the pertinent information is on a manufacturer's data plate on the item, provided the manufacturer's plate meets the permanency and legibility requirements of this standard.

4.10 Type of lettering. Letters shall be capitals without serifs (sans-serifs) such as Arial, Futura, Gothic, or other sans-serifs font. Numerals shall be Arabic except when Roman numerals are used for type designation per applicable Government or industry specifications and standards. Characters generated by automation processes (e.g., interactive graphics systems or stencils) shall

be permitted.

4.11 Variable marking information. When applicable (i.e., required by detail specification or in the acquisition document), the following information shall be marked on the item in addition to the detail requirements in section 5 herein:

a. Specification data (see 3.30)

b. Date of acceptance.

c. Date of manufacture.

d. Registration number (see 3.25).

e. Weight and volume.

f. Lot number (see 3.16).

g. Technical manual number.

h. Matched set identification.

i. Additional data identified by contract.

4.12 Source control items. When marking source control items, they shall be marked with the design activity CAGE or NCAGE, the source control notation (SOCN), and the source control PIN; (example: 12345 SOCN 80678932). When specified by the acquiring activity, the item manufacturer shall be identified as described in 5.1.1.2. The vendor's identification and identifying number need not be removed.

4.13 U.S. marking to indicate Government ownership. The designation "U.S." shall be marked only when specified in the detail (commodity) specification, or in the acquisition document (see 5.3.1.f, 5.3.2.2.f, 5.3.3.h).

4.14 Vendor item control items. Items depicted on Vendor Item Control Drawings (VICD) shall be marked with the manufacturer's (vendor's) PIN preceded by the manufacturer's CAGE or NCAGE Code. The VICD number shall not be used to physically re-identify the item from the original design activity part number. In the event that a vendor item control item is a commercial off-the-shelf (COTS) item (see 3.7), refer to 5.1.1.a

NOTE: When the acquiring document cites a VICD number for the item being acquired, the manufacturer's (vendor's) PIN, prefixed with the manufacturer's CAGE or NCAGE, shall be used as the identifying number in lieu of the VICD number when marking of items to this standard is required by the acquiring document.

5. DETAILED REQUIREMENTS

5.1 Parts.

5.1.1 Marking information. Machine readable marking is not applicable unless specified in the contract or order. When machine readable marking is applied, the acquiring activity must specify the type to be used. Parts shall be individually marked with the applicable design activity CAGE or NCAGE, a dash (or slant), and PIN. The exceptions are as follows:

a. COTS (see 3.7) items marked with commercial identification (firm name, logo, part number, etc.), and which present no identification difficulty may be exempt from additional marking requirements unless otherwise specified by contract or order. This exemption extends to commercial OTS items identified on a VICD.

b. Parts within an assembly or a subassembly which are not subject to removal, replacement, or repair.

c. When parts are deemed too small for application of complete marking in accordance with 5.1.1, a logo shall be substituted for the CAGE.

5.1.1.1 Marking when the manufacturer is the design activity. When the manufacturer is also the design activity for the part, the marking shall be arranged as follows:

a. When the manufacturer is the original design activity.

69806 - 1234567-101 --Original Design Activity PIN
|_____ Original Design Activity CAGE or NCAGE

b. When the manufacturer is the current design activity but is not the original design activity.

69806 - 1234567-101 -- Original Design Activity Item Identification
CDA - 07873 -- Current Design Activity CAGE or NCAGE

5.1.1.2 Marking items acquired from manufacturers other than the design activity. The notation (MFR), followed by the manufacturer's CAGE or NCAGE, shall be marked below the design activity's item identification (or near it if space does not permit). The markings shall be arranged as follows:

a. When the design activity is the original design activity.

69806 - 1234567-101 -- Original Design Activity Item Identification
MFR - 20001 -- Manufacturer's CAGE or NCAGE

b. When the design activity is not the original design activity.

69806 - 1234567-101 -- Original Design Activity Item Identification.
CDA - 07873 -- Current Design Activity CAGE or NCAGE
MFR - 20001 -- Manufacturer's CAGE or NCAGE

ALTERNATE METHOD

69806 - 1234567-101 - Original Design Activity Item Identification.
CDA - 07873 MFR - 20001 -- Manufacturer's CAGE or NCAGE
|____Current Design Activity CAGE or NCAGE

5.1.1.3 Marking in licensee-licensor agreement. In licensee-licensor agreement, the requirements of 5.1.1.2 shall apply to the licensee when manufacturing parts in accordance with the licensor's design.

5.1.1.4 Marking items acquired from, but not manufactured by, the design activity. When the design activity uses subcontractors for the manufacture of an item, but retains full design control, quality assurance control, and full responsibility to the acquiring activity for the delivered product, the requirements of 5.1.1.1 apply. If any portion of design control, quality control, or delivered product warranty responsibility is delegated to such subcontractor, the requirements of 5.1.1.2 apply.

5.2 Subassemblies and assemblies which do not require identification plates.

5.2.1 Marking information. Machine readable marking is not applicable unless otherwise required in the contract or order (see 5.1.1). Subassemblies and assemblies shall be individually marked with the information specified in 5.1.1.1 and 5.1.1.2 except that the notation "ASSY," shall be used in place of a dash (or slant) as follows:

69807ASSY7654321-101 - Design activity (CAGE or NCAGE, ASSY, and identifying PIN)

When subassemblies and assemblies cannot be physically marked as specified, the information shall be marked on an identification tag and attached securely to the uninstalled subassemblies or assemblies furnished as spares.

5.3 Unit, group, sets, and other items. An item of military property consisting of one piece, or two or more pieces joined together which are not normally subject to disassembly without destruction of the designed use or which are not normally disassembled (e.g., electric clock motor), shall be marked as a part (see 5.1.1.b). Manufacturer's identification (CAGE), serial number, and NSN shall be applied with machine readable marking only when specified in the contract or order (reference figure 1).

5.3.1 Marking information on units. The following information shall be marked on units:

a. Nomenclature (see 3.22).
b. Design activity CAGE or NCAGE and PIN (see 3.6, 3.21 and 3.24).
c. Manufacturer's identification (see 3.19). Note: Use only if different from the design activity CAGE or NCAGE.
d. Acquisition instrument identification number (see 3.2).
e. Serial number (see 3.27), lot number (see 3.16), or both.
f. * U.S. (see 3.33 and 4.13).
g. * Special characteristics (see 3.29).
h. * NSN (see 3.20).

NOTE: Asterisk denotes when specified in the contract or purchase order.

5.3.2 Marking information on groups and sets.

5.3.2.1 Airborne groups or sets and support equipment (SE) groups or sets. Airborne groups or sets and support equipment (SE) groups or sets consisting of one or more units shall be marked with the information required in 5.3.1. Application of an identification plate is required only when specified by the acquiring activity

5.3.2.2 Marking information on groups or sets other than airborne. The following information shall be marked on groups and sets other than airborne:

a. Nomenclature (see 3.22).
b. Design activity CAGE or NCAGE and PIN (see 3.6, 3.21 and 3.24).
c. Manufacturer's identification (see 3.19) NOTE: Use only if different from the design activity CAGE or NCAGE.
d. Acquisition instrument identification number (see 3.2).
e. Serial number (see 3.27), lot number (see 3.16), or both (when the set is assigned a serial number, lot number or both separate from that of the units).
f. * U.S. (see 3.33 and 4.13).
g. * Special characteristics (see 3.29).
h. * NSN (see 3.20).

NOTE: Asterisk denotes when specified in the contract or purchase order.

5.3.3 Marking information on other items of military property. The following information shall be marked on other items of military property. This covers items not previously defined:

a. Design activity CAGE or NCAGE and identifying number (see 3.6, 3.21 and 3.24)
b. Manufacturer's identification (see 3.19)
c. Acquisition instrument identifier (see 3.2)
d. * Nomenclature (see 3.22)
e. * Special characteristics (see 3.29)
f. * NSN (see 3.20)

g. * Serial number (see 3.27)
h. * U.S. (see 3.33 and 4.13)

NOTE: Asterisk denotes when specified in the contract or purchase order.

5.4 Items identified by military or industry association specifications and standards. Items identified by numbers derived from military specifications, military standards, or industry association standards (e.g., MS, NAS) shall be marked with the military or industry association identifying number (without the design activity CAGE or NCAGE), and the actual manufacturer's identification prefixed by "MFR" separate from the PIN (e.g., separate line). Otherwise, these items shall be marked as specified in 5.1, 5.2, or 5.3.

5.5 Warranted items. When specifically required by a contract statement of work or other contract clause, warranted items shall be marked in a conspicuous location to give notice that the item(s) are subject to warranty. The marking shall contain, as a minimum, the statement "WARRANTED ITEM" and the period or conditions of warranty (i.e., hours of operation, cycles of operation, time since manufactured, etc.) (see figure 3).

5.6 Security classification. When required by acquisition document, classified items shall be marked in a conspicuous manner to provide notice that the item(s) are subject to security restrictions. Classified marking shall be in accordance with DOD 5220.22-M.

5.7 Electrostatic Discharge Sensitive (ESDS) items.

a. Electrical and electronic parts classified as sensitive to damage from electrostatic discharge in accordance with MIL-STD-1686 and MIL-HDBK-263 shall be marked with the ESDS symbol (see figure 4.a). When specified by the acquiring activity, previous ESDS symbology may be used for compatibility with existing systems or equipment (see figure 4.b).

b. Assemblies containing ESDS parts shall be marked with the ESDS symbol. This symbol shall be so located as to be readily visible when the assembly is installed in its next higher assembly, if applicable. When the physical size of the assembly precludes direct marking of the ESDS symbol, the symbol shall be marked on an identification tag which shall be securely attached to the assembly. The ESDS unit pack shall be marked as specified in MIL-STD-129.

c. Equipment enclosures containing ESDS parts or assemblies shall be marked with the ESDS symbol and an ESDS label (see figure 4.a and 4.b). The symbol and caution note shall be located in such a position as to be readily visible to personnel prior to gaining access to the ESDS parts or assemblies. Where space permits, these markings shall be on the access door or cover of the equipment enclosure.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This standard provides the criteria for development of item identification marking requirements and methods for identification of items of military property produced, stocked, stored, and issued by or for the Department of Defense. This document is to be tailored by the acquiring activity.

6.1.1 Tailoring for machine readable marking requirements. When machine readable marking is required, it is vital that the acquiring activity specifies the type of marking to be provided. Bar Code marking per ANSI/AIM BC1, widely used within the Department of Defense, is generally considered the standard machine readable code system. When specifying other systems, the acquiring activity must consider the application and user of the items marked, availability of code reading capabilities, and compatibility with potential future data and equipment systems.

6.2 Issue of DoDISS. When this standard is used in acquisition, the applicable issue of the DoDISS must be cited in the solicitation (see 2.2.1 and 2.3).

6.3 Subject term (key word) listing.

Bar code
CAGE code
Control item
Controlled cryptographic item
Design activity
Identification plate
Legibility
Machine readable
National Stock Number (NSN)
NCAGE code
Permanency
Security
Electrostatic Discharge Sensitive (ESDS)
Serial Number

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

TABLE I. Marking methods. 1/
(This table is given only as a guide and these methods are not mandatory.)

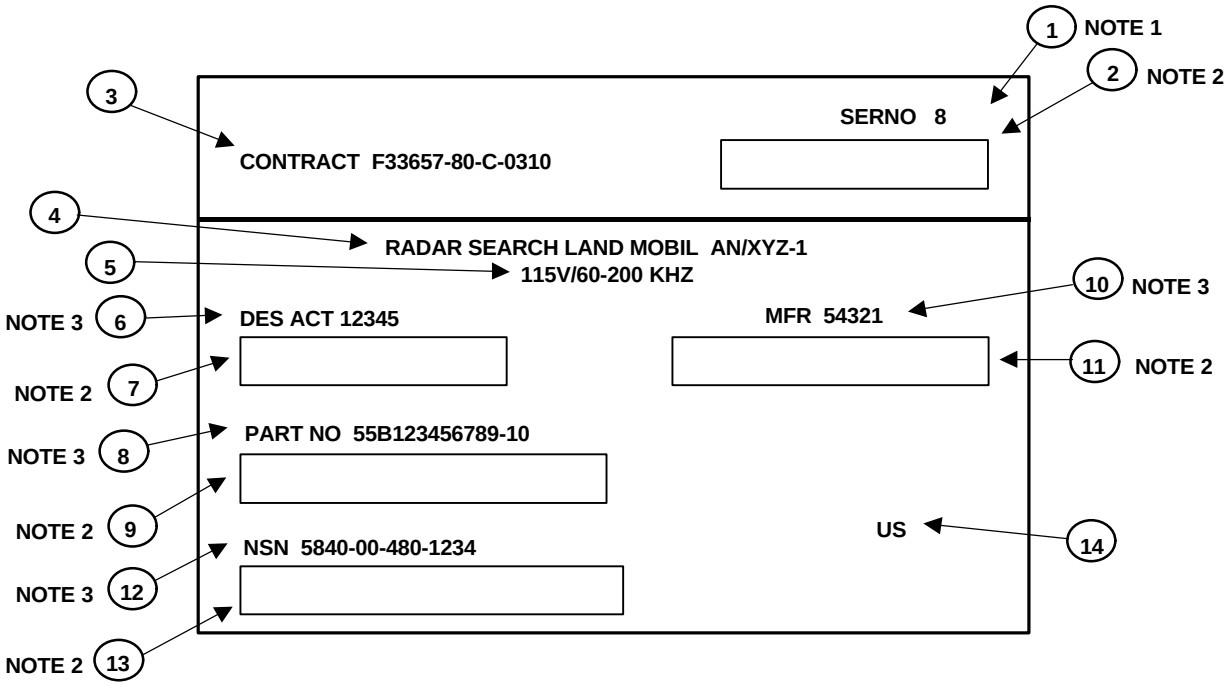
Marking Methods	Depth of Marking	Recommended Use
Metal Stamp	Variable, dependent on material	Metal or nonmetal parts that will not deform under the stamping pressure required. Also, the alteration of the surface roughness finish will not be detrimental to proper functioning
Dot peening		Metal or nonmetallic parts that may deform if metal stamped
Engraving		Sheet metal fabrication that will deform if metal stamped. Functional marking with colored filler
Electrical arc pencil		Sheet metal fabrication that will deform if metal stamped, irregular surface
Embossing		Thin sheet metal, plastics on nonfunctional surfaces.
Cast or forged		Castings or forgings - characters raised or depressed depending on method of manufacture, unless otherwise specified on the drawing. Marking should be used on non-machined surfaces only.
Molded		Usually plastic or rubber parts, may be either raised or depressed, unless otherwise specified.
Electro-chemical etch (electrolytic process)		Characters normally depressed, but may be raised. Used on fine surface finishes without protective coating, also high hardness parts (RC 50 or higher).
Rubber stamp stencil		Fabrics, wood, plastics. On metal parts with protective finish (i.e., phosphate) cover with clear lacquer in accordance with TT-L-50, apply before oiling. Also temporary marking; work in progress.
Decalcomania		Instructional plates, part identification, when other methods are not available, temporary marking, protect with clear lacquer, in accordance with TT-L-50. Apply before oiling.
Metal or plastic tags		When other methods are not available.
Laser engraving	Variable, dependent on material 2/	Very good resolution of alpha numeric and machine readable marking (1/) symbology. Character height and width range from .007 to 4.0 inches.

1/ For bar code application, see ANSI/AIM BC1.
2/ Marking can be controlled by energy input so as to mark a .002 inch (50 microns) plating without penetration to the base metal or to make .003 to .005 inch (76 to 127 microns) deep marks on polymers.

TABLE II. Criteria in selection of marking methods.

(This table is given only as a guide and these methods are not mandatory.)

Protective finish	Surface roughness in inches (metric)	Marking method	Remarks
No protective finish or a coating of light oil applied after marking.	125 microinches (3.2 microns) or coarser	Cast, forged, molded	Specify "raised" or "depressed" only when necessary; used on non-machined surfaces.
		Metal stamp	On machined surfaces
	125 to 63 microinches (3.2 to 1.6 microns)	Molded, engraved metal stamp, electric arc pencil, dot peen	Specify "depressed", when marking a functional surface.
Phosphate, dry film, anodize, or plating	125 microinches (3.2 microns) or coarser	cast, forged, molded, metal stamped	Specify "depressed" when marking a functional surface, plus mark prior to application of finish.
		Laser engraved	As above; may be marked after anodizing or plating.
	125 to 63 microinches (3.2 to 1.6 microns)	Molded, engraved metal, stamp, electric arc pencil, dot peen	As above, plus mark prior to application of finish
		Laser engrave	On ground or sanded surfaces after anodize or plating.
	63 microinches (1.6 microns) or finer	Decalcomania	Apply over protective coating before oiling, cover with clear lacquer in accordance with TT-L-50 or equivalent
		Laser engrave	Specify depth of penetration, especially on plated surfaces.
	All surfaces	Rubber stamp stencil	Apply over protective finish before oiling. Use ink in accordance with A-A-208, type I, or an equivalent type, cover with clear lacquer in accordance with TT-L-50 on nonporous surfaces.
Paint	All surfaces	Rubber stamp, stencil, decalcomania	As above.
	125 microinches (3.2 microns) or coarser		Painted, machined surfaces.
	125 to 63 microinches (3.2 to 1.6 microns)		Painted, ground, or sanded surfaces
	63 microinches (1.6 microns) or finer		Do not penetrate dry film thickness.
Epoxy or urethane coating	All surfaces	Rubber stamp, stencil, marking machine, decalcomania, hand brush	For marking of printed wiring boards and assemblies. Epoxy base fungus resistant, non-conducting ink in accordance with A-A-56032 may be used

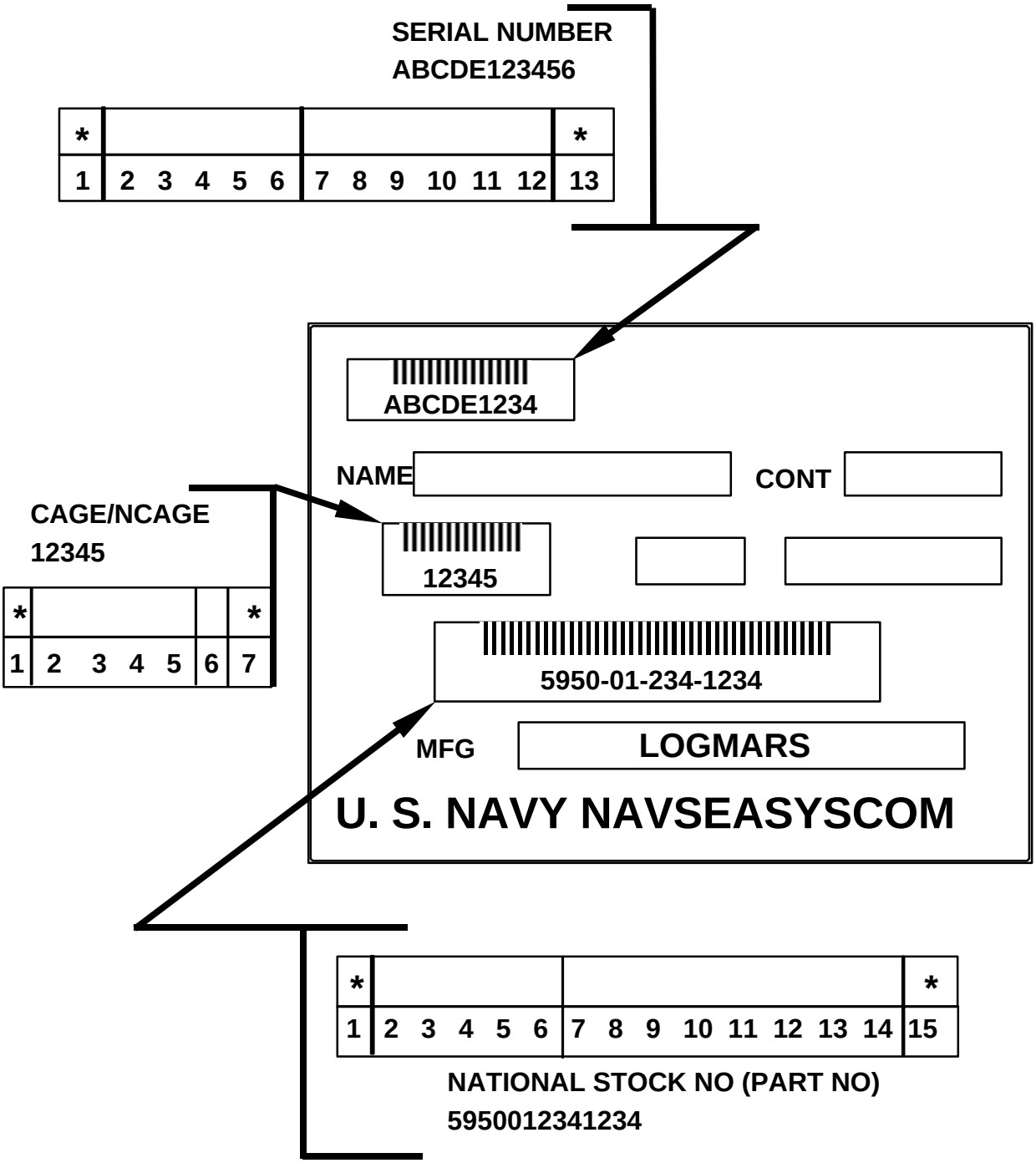


1 Serial Number
2 Bar coded serial number (see figure 2)
3 Acquisition instrument identification no.
4 Nomenclature (item name and type designation)
5 Special characteristics
6 Design activity (CAGE or NCAGE)
7 Bar coded CAGE or NCAGE (see figure 2)
8 Part or Identifying Number
9 Bar coded PIN when NSN not available (see figure 2)
10 Manufacturer identification (CAGE or NCAGE)
11 Bar coded manufacturer CAGE or NCAGE (see figure 2)
12 NSN
13 Bar coded NSN (see figure 2)
14 Government ownership designation

NOTES

1. This example is given only as a guide and should not be considered a mandatory format. For this example, bar coding is used as the machine readable marking example.
2. Bar code density is 6.5 to 9.4 characters per inch, height is .125 inch minimum.
3. Items 1, 6, 8, 10, and 12 are used for Human Readable Interpretation (HRI) purposes for the associated bar code or machine readable marking.
4. Additional information as applicable may be integrated into the identification plate or may be applied.
5. Permanent information including bar coding or other machine readable marking may be included on a plate separate from variable information plate.

Figure 1. Example of identification plate



* START/STOP

NOTE: For purposes of illustration, bar coding is used as the example of machine readable marking

Figure 2. Example of machine readable marking for identification plate.

WARRANTED ITEM

THIS ITEM IS UNDER WARRANTY

UNTIL *(NOTE 1)*

NOTE 3

WARRANTED ITEM

THIS ITEM IS UNDER WARRANTY

UNTIL *(NOTE 2)*

HAS BEEN COMPLETED

NOTE 3

Note 1 - Indicate expiration date

Note 2 - Indicate condition of use (i.e., hours of operation, time since manufacture)

Note 3 - These examples are provided as a guide only and should not be considered mandatory.

FIGURE 3. Examples of warranty markings.

(Symbol)

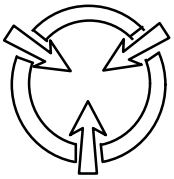
(LABEL)

CAUTION
CONTAINS PARTS AND ASSEMBLIES
SUSCEPTIBLE TO DAMAGE BY
ELECTROSTATIC DISCHARGE (ESD)

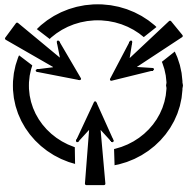
Figure 4.a - Electrostatic Discharge Sensitive identification - Current

(Positive Image) (Negative Image)

(Symbol)



(or)



(LABEL)

CAUTION
CONTAINS PARTS AND ASSEMBLIES
SUSCEPTIBLE TO DAMAGE BY
ELECTROSTATIC DISCHARGE (ESD)

Figure 4.b - Electrostatic Discharge Sensitive identification - Obsolete

CONCLUDING MATERIAL

Custodians:
Army - AR
Navy - AS
Air Force - 16
DLA - DH

Preparing Activity:
Air Force - 16
(Project GDRQ-0184)

Review Activities:
Army - AT, AV, CR, CR4, EA, MI, SM
Navy - MC, OS, SH, TD, YD1
Air Force - 11, 85
DLA - CC, DP, GS, IS

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:	**1. DOCUMENT NUMBER** MIL-STD-130K	**2. DOCUMENT DATE (YYYYMMDD)** 20000115

3. DOCUMENT TITLE **IDENTIFICATION MARKING OF U.S. MILITARY PROPERTY, STANDARD PRACTICE**

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON *(if applicable)*	**7.DATE SUBMITTED** (YYYYMMDD)

8. PREPARING ACTIVITY

a. NAME BRADLEY S. SANDERS	b. TELEPHONE *Include Area Code)* (1) Commercial (937) 257-3085 (2) AUTOVON 787-3085
c. ADDRESS *(Include Zip Code)* MSG/ILMP, 4375 CHIDLAW ROAD, BLDG. 262, ROOM S008, WRIGHT-PATTERSON AFB, OH 45433-5006	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman road, Suite 2533, Ft. Belvoir, VA 22060-2533 Telephone (703) 767-6888 AUTOVON 427-6888