

NOTICE OF CHANGE**NOT MEASUREMENT
SENSITIVE**

MIL-HDBK-1221

NOTICE 2

12 February 2002

**DEPARTMENT OF DEFENSE
HANDBOOK
FOR EVALUATION OF
COMMERCIAL OFF-THE-SHELF (COTS) MANUALS**

TO ALL HOLDERS OF MIL-HDBK-1221:

1. THE FOLLOWING PAGES OF MIL-HDBK-1221 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
1	12 Feb 02	1	28 Aug 95
2	28 Aug 95	2	Reprinted without change
3	12 Feb 02	3	28 Aug 95
4	28 Aug 95	4	Reprinted without change
9	30 Sep 99	9	Reprinted without change
10	12 Feb 92	10	28 Aug 95
11	12 Feb 02	11	28 Aug 95
12	12 Feb 02	12	28 Aug 95
DD Form 1426	12 Feb 02	DD Form 1426	28 Aug 95

2. CHANGES ARE INDICATED WITH VERTICAL BARS.

3. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

4. Holders of MIL-HDBK-1221 will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the standard is completely revised or canceled.

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Custodian:

Preparing activity:

Army - TM
Navy - OS
Air Force - 16
DLA - CC

Army TM

Review activities:

Project TMSS-O330

Army - AR, AT, AV, CR, MI, MD
Navy - AS, CG, EC, MC, OM, SA, SH, TD
Air Force - 01, 10, 11, 13, 19, 70, 71, 80, 82, 84
DLA - GS, CT

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1. SCOPE

1.1 **Scope.** This handbook provides criteria for evaluating manuals for acceptance. It provides guidance for preparing supplemental data to manuals. In this handbook, the term "manual" means the same as COTS or COTS manual. This handbook is for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply

1.2 **Application.** This handbook applies to manuals that support:
1) equipment designed and manufactured for commercial use, and 2) commercial equipment used in a commercial or military environment.

2. APPLICABLE DOCUMENTS.

2.1 **General.** The documents listed below are not necessarily all the documents referenced herein, but are the ones that are needed in order to fully understand the information provided by this handbook.

2.2 **Government documents.**

2.2.1 **Specifications, standards, and handbooks.** The following specifications form a part of this document to the extent specified herein and is referenced for guidance only. Unless otherwise specified, the issues of the documents below will be those listed in, and supplement to, the Department of Defense Index of Specifications and Standards (DODISS).

MILITARY SPECIFICATION

MIL-STD-38784	Standard Practice for Manuals, Technical: General Style and Format Requirements
MIL-PRF-87268	Manuals, Interactive Electronic Technical: General Content, Style, Format, and User-Interaction Requirements

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

2.3 **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.

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3. ACRONYMS AND DEFINITIONS

3.1 **Acronyms used in this handbook.** The acronyms used in this handbook are defined as follows:

- a. COTS -- Commercial off-the-shelf manuals
- b. DODISS -- Department of Defense Index of Specifications and Standards
- c. FAR -- Federal Acquisition Regulation
- d. IPR -- In-Process Review
- e. NSN -- National stock number
- f. OSHA -- Occupational Safety and Health Act
- g. PN -- Part number
- h. TMDE -- Test, measurement, and diagnostic equipment
- i. TMQA -- Technical manual quality assurance

3.2 **Definitions.** The definitions of terms below apply as they are used in this handbook.

3.3 **CAUTION:** Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., that, if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.

3.4 **Commercial off-the-shelf (COTS) manuals.** Manuals available off-the-shelf from a commercial source which include operation, maintenance, and other instructions for commercial equipment. Commercial manuals are prepared to support the equipment in the commercial market.

3.5 **Comprehensibility.** A measurement of the completeness with which a user representative understands the text or text-graphics combination.

3.6 **Contracting activity** An element of an agency designated by the agency head and delegated broad authority regarding acquisition functions.

3.7 **NOTE:** Highlights an essential operating or maintenance procedure, condition, or statement.

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3.8 **Supplemental data**. Any data that augments or complements a commercial off-the-shelf manual whether by change, correction, or addition to make the manual acceptable for use by the Department of Defense.

3.9 **WARNING**: Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., that, if not strictly observed, could result in long-term injury or death to personnel.

3.10 **Weapon systems**. Items that can be used directly by the Armed Forces to carry out combat missions.

4. EVALUATION CRITERIA

4.1 **Style and format**.

4.1.1 **Comprehensibility/readability/legibility**. The manual should be written for the target audience in a language free of vague and ambiguous terms, using the simplest words and phrases that will convey the intended meaning. The type should be an easy-to-read size (i.e., no smaller than 6 points for pocket-size manuals and no smaller than 8 points for all other size manuals).

4.1.2 **Arrangement**. The overall arrangement of content, even though vendor unique, should be organized in a fashion that is easy for the user to follow.

4.1.3 **Size**. Manual size should range from no smaller than 4 by 5 1/2 inches to no larger than 17 by 11 inches as directed by the contracting activity.

4.1.4 **Safety**. The manual should include safety information that is consistent with the Occupational Safety and Health Act (OSHA) standards.

4.1.5 **Warnings, cautions, and notes**. The manual should contain appropriate warnings, cautions, and notes. Refer to MIL-STD-38784 for additional guidance.

4.1.6 **Federal environmental protection standards**. Information on using, transporting, handling, storing or disposing of fuel, toxic or hazardous substances, chemicals, ordnance, and munitions should be consistent with Federal Environmental Standards and be clearly stated.

4.1.7 **Illustrations**. The manual should contain illustrations to support the text. The illustrations should be integrated with the text or placed in a specific location and referenced in the text.

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4.1.8 **Maintenance**. The manual should accurately reflect the maintenance philosophy of the hardware. The manual should contain information concerning the level at which maintenance will be performed.

4.1.9 **Copyright release/rights in data**. The manual should include the appropriate copyright release or rights in data statements) in accordance with the FAR (and its applicable supplements) and as established by the contract.

4.2 **Content requirements**. Unless otherwise specified by the contracting activity, acceptable manuals should contain, but not be limited to, the following data:

- a. Front matter: Cover or title page, table of contents, and safety precautions.
- b. Introduction.
- c. Preparation for use and installation.
- d. Principles of operation.
- e. Operating instructions.
- f. Maintenance and servicing instructions (preventive and corrective).
- g. Reprogramming.
- h. Preparation for shipment.
- i. Storage.
- j. Parts list.
- k. Operational and maintenance illustrations.
- l. Overhaul instructions (as applicable).

4.2.1 **Front matter**.

4.2.1.1 **Cover**. The manual should have a cover, title page, or first page showing the date the manual was issued, revision designator (if applicable), the manufacturer's identification name and address, the equipment name, the manufacturer's model designation, and serial or identification numbers for the equipment covered.

4.2.1.2 **Table of contents**. A manual should contain a table of contents.

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Example:

Figure and Index No.	Part Name (Nomenclature Part No. or Description)
2-4	Commercial NUT, Hex head, plain steel, 1/4-20 UNC-3B
2-5	Commercial WIRE, Electrical, copper, tin plated, No. 14 AWG, 19 strand of No. 27 AWG, 0.250 in. dia.

4.2.11 **Operational and maintenance illustrations.** Manuals should contain illustrations (line drawings, photographs or halftones) for locating and identifying all components significant to operation and maintenance and to show configuration and parts relationship for removal and disassembly procedures. Photographs (prescreened) should be detailed and sharp, free of heavy shadows, distorted objects, and cluttered foregrounds or backgrounds, and should give good contrast from white, middle tones, and black. Freehand sketches should not be acceptable.

4.2.11.1 **Diagrams.** As applicable, the following diagrams should be included in the manual:

- a. Simplified functional block.
- b. Locator.
- c. Piping.
- d. Plumbing.
- e. Hydraulic.
- f. Schematic.
- g. Electrical.
- h. Logic.
- I. Other, as necessary.

4.2.11.2 **Symbols.** Symbols used on illustrations and diagrams should be standard or common to the trade or commodity. Where nonstandard symbols are used, explanations should be provided.

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4.2.12 Overhaul instructions. When applicable, the manual should include overhaul instructions to return the equipment to mission-capable condition. As a minimum, the instructions should include the following:

- a. List of support equipment, special tools, and facilities required.
- b. List of mandatory parts.
- c. Preshop analysis, as applicable.
- d. Step-by-step procedures for performing all functions including disassembly, removing, replacing, diagnosing, installing, repairing, assembly, in-process testing, adjusting, and inspecting.
- e. Final tests to assure satisfactory performance of the equipment or system overhauled.

4.2.13 Interactive Electronic Technical Manuals (IETM). The common requirements for digital form IETM'S, designed for interactive display, can be found in MIL-PRF-87268, Manuals, Interactive Electronic Technical: General Content, Style, Format, and User-Interaction Requirements.

5. SUPPLEMENTAL DATA

5.1 General. If after evaluation, it is determined the manual requires supplemental data, the supplemental data should be prepared using the following guidance.

5.1.1 Identifying Technical Publication Sheet. The contracting activity may require the contractor to prepare an Identifying Technical Publication Sheet. An example is shown in Figure 1. The Identifying Technical Publication Sheet should be tailored to reflect only information applicable to the acquisition. MIL-STD-38784 provides guidelines for the appropriate distribution statement, disclosure notice, destruction notice, and authority notice. Other pertinent data should be inserted by the contractor as provided by the Government.

5.1.2 Style, format, and form. Unless otherwise specified, general style and format of supplemental data should be in accordance with MIL-STD-38784.

5.2 Content/format selection summary. The content of the supplemental data should be as specified on the Content/Format Selection Summary Sheet (Appendix C). The supplemental data should be presented in the following order:

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- a. Cover and title page (see 5.6 and 5.7).
- b. List of effective pages (Navy and Marine Corps only) (see 5.8).
- c. Safety summary/warning page(s) (see MIL-STD-38784).
- d. Approval and procurement record page (Fig. 3).
- e. Table of contents (MIL-STD-38784).
- f. Reporting of errors statement (MIL-STD-38784).
- g. Maintenance forms and records.
- h. Administrative storage.
- I. Destruction of military material to prevent enemy use.
- j. Lubrication order/instructions.
- k. Preventive Maintenance Checks and Services (PMCS).
- l. Maintenance Allocation Chart (MAC).
- m. Components of End Item (COEI) and Basic Issue Items (BII) list.
- n. Additional authorization list (ALL).
- o. Expendable supplies and materials list.
- p. Repair Parts and Special Tools List (RPSTL) (5.10).
- q. Recommended changes, activity comment sheet, or manual deficiency report applicable to the particular service, as provided by the contracting activity.
- r. Other requirements as specified. (When using manuals evaluation checklist as a guide, other required data may be indicated thereon.)

5.3 **Warranty information.** If applicable, the COTS manuals supplemental data shall contain warranty information pertinent to the equipment covered. It shall include data such as duration of warranty and serial numbers of equipment covered. If warranty is covered separately, or in another document, reference shall be made to that document.

5.4 **Advertising.** Except for the identity of the manufacturer or contractor, supplemental data shall not contain advertising.

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5.5 **Equipment/model coverage.** Only equipment/models, accessories, and components specified in the contract shall be covered in the supplemental data.

5.6 **End item identification.** Unless otherwise specified, the federal item name, national stock number (NSN), part number (PN), model number, and applicable contractor number shall be overprinted on the cover or the title page of the manual.

5.7 **Publication number and date.** The publication number, provided by the contracting activity, and date shall be overprinted on the cover and first page of the supplemental data, in accordance with MIL-STD-38784, or as specified by the contracting activity.

5.8 **List of effective pages.** Unless specified, a list of effective pages that will include the basic manual and the supplemental data shall be prepared in accordance with MIL-STD-38784.

5.9 **Lubrication instructions.** If required, lubrication charts or instructions shall be included in the supplemental data or prepared separately, as specified by the contracting activity. All lubricants, fluids, and associated products identified in the manual, supplemental data, or separate lubrication chart must have a Government identifier (military specification number, NSN, etc.) that identifies the product beyond the product name and provides the user with requisitioning information.

5.10 **Spare/repair parts.** Manuals shall be supplemented with applicable spare/repair parts breakdown information in accordance with applicable service parts list, Illustrated Parts Breakdown (IPB), and Repair Parts and Special Tools List (RPSTL) specifications.

5.11 **Copyright release/rights in data.** The supplemental data shall include the appropriate copyright release or rights in data statements) in accordance with the FAR (and its applicable supplements) and as established by the contract.

6. NOTES

6.1 **Intended use.** This handbook serves as a tool to evaluate COTS Manuals for acceptability. It provides evaluation criteria and worksheets to use in the evaluation process. It also provides a selection sheet for use in selecting supplemental data.

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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.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-HDBK-1221

2. DOCUMENT DATE (YYYYMMDD)
19950828

3. DOCUMENT TITLE DEPARTMENT OF DEFENSE HANDBOOK FOR EVALUATION OF COMMERCIAL OFF-THE-SHELF (COTS) MANUALS

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

NAME USAMC Logistics Support Activity

b. TELEPHONE (Include Area Code)
(1) Commercial (256) 955-0852 (2) AUTOVON 645-0852

c. ADDRESS (Include Zip Code)
ATTN: AMXLS-AP (TMSS)
RESTONE ARSENAL, AL 35898-7466

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