

## GENERAL REQUIREMENTS FOR TECHNICAL PUBLICATION PREPARATION

### 1. SCOPE

1.1 Intent. This specification establishes requirements for the uniform preparation and delivery of technical manuals/publications. The terms “manuals” and “publications” are interchangeable.

1.2 Appendices.

CHECKLIST	APPENDIX
COTS Manual Evaluation Checklist	A
Contractor Developed Manual Checklist	B

### 2. REFERENCES

#### COAST GUARD DRAWINGS

None

#### COAST GUARD PUBLICATIONS

Coast Guard Commandant Instruction (COMDTINST) M5260.6 (series), Management of Scientific and Technical Information (STINFO)

#### OTHER REFERENCES

Federal Acquisition Regulation (FAR) 17 U.S. Code § 401, Notice of copyright: Visually perceptible copies

Federal Acquisition Regulation (FAR) 17 U.S. Code § 402, Notice of copyright: Phonorecords of sound recordings

MIL-PRF-32216A, 2011, Performance Specification, Evaluation of Commercial Off-The-Shelf (COTS) Manuals and Preparation of Supplemental Data

#### NOTE

**In the event of a conflict between the information and options presented in any other specification or standard, the information provided within this Standard Specification shall take precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.**

### 3. REQUIREMENTS

3.1 Data rights. Special emphasis shall be placed on obtaining and documenting Government rights to the technical data, and appropriately marking the data so the nature of the rights are clearly identified, particularly when Government rights differ from the rights available to the general public. The manual shall include the appropriate rights in data statement.

3.2 Copyrights and Proprietary Information (PI). Technical publications (TP) shall not contain copyrighted material except as specified in the Federal Acquisition Regulations, 17 U.S.Code 401 or 402. When copyrighted material is to be included in a TP, the developer shall obtain prior written permission from the copyright owner or authorized agent for its use. The signed, written permission shall be delivered together with the final TP in accordance with the contract. The written permission shall contain a statement declaring whether or not a copyright credit line is required. When it is necessary to include copyright and proprietary material, it shall be clearly identified and the following warning statement shall be included on the title page:

**“WARNING:**

**This document contains copyright or proprietary materials. Infringement of copyright or proprietary material may violate existing Federal laws and statutes and result in criminal penalties, imprisonment, or removal from office.”**

3.2.1 The manual shall include the appropriate copyright release statement. The copyright release shall apply to both the manual and any supplemental data and shall be as specified in the copyright release letter. The copyright release letter shall be placed in the technical publication. When acquiring technical publications not developed specifically for the USCG under a major acquisition contract, and a copyright is claimed in accordance with Federal Acquisition Regulations, 17 U.S.C. 401 or 402, the contractor/vendor is required to acquire on the USCG’s behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data for the use of the USCG to reproduce and prepare derivative works by or on behalf of the USCG.

**NOTE**

**Technical publications will be developed as standalone documents. The grouping of different publication types to form one technical publication shall be avoided.**

3.3 Types of technical manuals/ publications.

3.3.1 Commercial off The Shelf (COTS). These technical publications are available off-the-shelf from a commercial source and include operation, maintenance, and other instructions for commercial equipment. Commercial manuals are prepared to support the equipment in the commercial market.

3.3.2 Other government agencies (OGA). These technical publications have been developed by and are currently in use by OGAs and shall be used as Government Furnished Information (GFI) when Government Furnished Equipment (GFE) is being installed onboard USCG assets.

3.3.3 Contractor developed publications. These technical publications will be developed by the contractor when no other documentation exists for a system or equipment that is being installed onboard a USCG asset.

3.4 Technical publication number assignment. Technical publications numbers will be assigned by the Technical Information Management Branch (TIMB) Publication Production Distribution Section (PPDS) once the publication is accepted for use and is ready to be published in the CG-LIMS STIP repository. OGA publications that will be used by the USCG will retain the number that was assigned by the authoring agency.

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3.5 STINFO assignment. Scientific and Technical Information (STINFO) markings will be placed on the publication in accordance with COMDINST M5260.6, Management of Scientific and Technical Information (STINFO). TIMB-PPDS will be responsible for ensuring the proper STINFO markings are applied before publishing to the CG-LIMS STIP repository. STINFO that has been assigned to OGA publications by the authoring agency will be used by the USCG.

3.6 Content. The technical publication shall provide the necessary information and instructions to operate and maintain the equipment at the organizational level. This includes a description of system start-up, operation, shutdown, safety and emergency procedures. The publication shall also contain information concerning checkout, inspection, preventive and corrective maintenance, calibration, adjustment, troubleshooting, replacement of parts, repair, and use of tools and test equipment in accordance with the maintenance concept. The following sections, at a minimum, shall be included:

3.6.1 General information and safety precautions. An introduction to identify the equipment, equipment description, location, associated equipment, general safety instructions, and drawings or diagrams showing general arrangements.

3.6.2 Theory of operation. Identify and describe the theory of operation of the equipment/system and all components.

3.6.3 System description. Identify and describe the purpose, interconnection, and functional operation of the equipment/system and all components.

3.6.4 Component description. Include sufficient information to identify and describe all major system components.

3.6.5 Functional description. Discuss the control philosophy used by the system design and provide a detailed description of the controls used.

3.6.6 Installation. Include drawings and information sufficient to install or remove the equipment, including handling procedures, special tools, access clearances and supporting services (crane, welding, etc.) required. The locations of lifting eyes and special rigging shall be discussed.

3.6.7 Operating procedures. Identify all normal system operations and evolutions, which involve personnel. Detailed step-by-step operating procedures for these operations and evolutions shall be provided.

3.6.8 Maintenance procedures. Identify all preventive and corrective maintenance operations and evolutions, which involve personnel. Detailed step-by-step procedures, including disassembly and reassembly procedures, for maintaining the equipment/system and all components shall be provided.

3.6.9 Emergency procedures. Identify conditions requiring emergency operations and provide procedures to be followed in the event of their occurrence. Emergency operation is defined as operation under conditions of system malfunction or failure such as loss of power, component failure, physical damage, or fire. Detailed step-by-step procedures for dealing with emergencies shall be provided.

3.6.10 Troubleshooting guide/aid and procedures. Identify and provide detailed step-by step troubleshooting procedures for determining causes of equipment/system malfunction or failure.

3.6.11 System limitations, precautions, set points. Identify all system operational limitations. State all precautions to be taken during normal operation to preclude potentially unsafe conditions. List system operation and safety set points, which represent the normal operation of the system.

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3.6.12 Illustrated parts list. Identify parts associated with the equipment/system. An exploded illustration shall show the location of the parts. The parts list shall identify the piece part number of the illustration, quantity installed, nomenclature, designation, original manufacturer, and part number.

3.6.13 Spare parts. The recommended spare parts list developed shall be included in the publication.

3.6.14 Appendices/supplemental data (as necessary). Any technical data that augments or completes a publication to address missing information that is required.

3.7 COTS manuals.

3.7.1 Style and Formatting. The existing COTS manual shall meet the following requirements:

3.7.1.1 Comprehensibility and readability. The text and text-graphics combination of the manual shall be at the level of understanding of the intended user. The reading grade level shall be that of the intended user.

3.7.1.2 Readability. Unless otherwise specified, the Reading Grade Level (RGL) shall be nine. Technical publications shall be written to the capability of the target audience for which they are intended.

3.7.1.3 Legibility. The entire publication shall be clear and easily read on paper or on a display device. Text shall be no smaller than 8-point (1 point = 1/72 inch). Parts lists shall be no smaller than 6-point. Lettering on diagrams shall be no smaller than 6-point.

3.7.1.4 Size. The size of the manual shall be no smaller than 4 by 5½ inches and no larger than 17 by 11 inches.

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

3.7.1.6 Warnings, cautions, and notes. The manual shall contain appropriate warnings, cautions, and notes. Warnings shall be used when there is danger of injury or death to personnel. Cautions shall be used only when there is danger of damage to equipment.

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

3.7.1.8 Illustrations and diagrams. The illustrations and diagrams shall be integrated with the text or their location shall be referenced in the text, and shall be detailed, sharp and of good contrast. Freehand sketches shall not be acceptable. Illustrations are used to locate and identify all components significant to the operation and maintenance, and to show configuration and parts relationship. Diagrams will be used for the following:

- Simplified functional block
- Piping
- Locator
- Plumbing
- Hydraulic
- Schematic
- Electrical
- Logic

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- Other, as necessary.

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

3.7.1.10 Copyrights release/rights in data. The manual shall include the appropriate copyright release or rights in data statements in accordance with the Federal Acquisition Regulation (FAR) (and its applicable supplements) and as established by the contract

3.7.1.11 Content requirements. Unless otherwise specified, acceptable COTS manuals shall contain, but not be limited to, the following:

- Front matter: Cover/title page, table of contents, and applicable safety precautions
- Introduction
- Preparation for use
- Installation instructions
- Principles of operation (at the level required to support maintenance)
- Operating instructions
- Maintenance and servicing instructions (preventive and corrective)
- Cleaning and lubrication
- Troubleshooting
- Reprogramming (as applicable)
- Preparation for shipment
- Storage
- Parts list
- Illustrations and diagrams
- Overhaul instructions (as applicable)
- Supplemental data (as applicable).

3.7.1.12 Manuals shall be delivered to the USCG in an unlocked, Portable Document Format (PDF) format in a version compatible with the current approved version of Adobe Reader.

3.7.1.13 Electronic manuals shall be in a format that allows for searchable text.

3.7.1.14 When available from the vendor, a copy of all source documents used to prepare the publication shall be provided to the USCG in their native editable format (Word, XML, XLS, etc.).

3.7.2 Arrangement. The overall arrangement of content, even though vendor-unique, shall be organized in a manner sufficient to provide continuity of descriptions, processes, and procedures:

3.7.2.1 The complete COTS manual shall be provided in its entirety with no information extracted before delivery to the USCG.

3.7.2.2 COTS manuals that also include information specific to products or models not installed on the Coast Guard asset shall have the non-applicable sections struck out, and a pointing hand symbol used to identify applicable material.

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3.7.2.3 These manuals shall be reviewed against Appendix A, COTS Manuals Evaluation Checklist. Supplemental data shall be developed for any missing elements that must be addressed.

3.7.2.4 COTS publications may contain items required for front matter. Duplication of this information is not required for COTS publications. The information of the publication shall be arranged in the following order:

- a. Front Matter
- b. Cover/Title Page (include model number where applicable)
- c. USCG Validation/Acceptance Letter
- d. Copyrights Release Page (not required if contained within the COTS manual)
- e. Table of Contents (not required if contained within the COTS manual)
- f. List of Illustrations/Figures (not required if contained within the COTS manual)
- g. List of Tables (not required if contained within the COTS manual)
- h. Forward (not required if contained within the COTS manual)
- i. Safety Summary (not required if contained within the COTS manual)
- j. Content of the Technical Publication (COTS manual)
- k. Supplemental Data (when required as defined in MIL-PRF-32216A)

### 3.8 OGA manuals.

3.8.1 Style and formatting. OGA manuals shall meet the following requirements:

3.8.1.1 These manuals will be accepted in their current style and formatting since they have been vetted, approved, and published by the authoring agency.

3.8.1.2 Manuals shall be delivered to the USCG in an unlocked, PDF format in a version compatible with the current approved version of Adobe Reader.

3.8.1.3 Electronic manuals shall be in a format that allows for searchable text.

3.8.1.4 When available from the OGA, a copy of all source documents used to prepare the publication shall be provided to the USCG in their native editable format (Word, XML, XLS, etc.).

### 3.8.2 Arrangement.

3.8.2.1 These manuals will be accepted in the current arrangement that was developed and published by the authoring agency.

### 3.9 Contractor developed manuals.

3.9.1 Style and formatting. Contractor developed manuals shall meet the following requirements:

3.9.1.1 Format. Contractor developed technical publications shall be developed in Microsoft Word format. The version of Microsoft Word used to develop the publication shall be compatible with the current version that is approved for use by the USCG.

3.9.1.2 Delivery. A copy of all source documents used to prepare the publication shall be provided to the USCG in their native editable format, such as Microsoft Office (DOC, XLS, other). In addition, a final, published version shall also be delivered. This version shall be in an unlocked PDF that is clearly legible and with

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searchable text shall be provided to the USCG. PDFs provided must be compatible with the current version of Adobe Reader that is approved for use by the USCG.

3.9.1.3 Language. Technical content shall be presented in language free of vague and ambiguous terms, using the simplest words and phrases which will convey the intended meaning. All publications that are developed for the USCG shall be written in English.

3.9.1.4 Text. Text shall be single-column and single-spaced, with one-inch left-hand margins and unjustified right-hand margins. Text size shall be 12 point in a standard, easily readable font. Titles and headers shall be formatted with heading styles based on a multilevel (hierarchical) list. Footnotes, notes and other side information shall be 8 point or larger.

3.9.1.5 Electronic page size. Page size shall be 8.50 inches by 11.00 inches. For drawings and parts lists, the maximum electronic page size within the technical publication shall be ANSI size B, 11.00 x 17.00 inches. Blank pages inserted within the manual shall be marked as, "THIS PAGE INTENTIONALLY LEFT BLANK".

3.9.1.6 Front matter. The publication shall have a title/cover page showing the publication title; hull applicability; the manufacturer's name; the system or equipment designation and model number. The front matter shall also contain USCG Validation/Acceptance Letter, Copyrights Release Page, Table of Contents, List of Illustrations/Figures, List of Tables, Forward, and Safety Summary.

3.9.1.7 Page numbers. Pages shall be numbered sequentially within a publication. Page numbers shall be shown at the bottom center. The bottom unbound corner shall be reserved for a change identifier. For 11.00 x 17.00, the page number shall be shown at the bottom right hand corner.

3.9.1.8 Drawings. Drawings and parts lists shall be included in the manuals. The maximum drawing size within the technical publication shall be ANSI size B, 11.00 x 17.00. Prints of larger drawing sizes shall be reduced, as necessary, to fit the 17-inch wide format and remain legible. USCG approved drawings shall not be inserted into the technical publication; however those drawings may be referenced.

3.9.1.9 Hyperlinks. Hyperlinks found within the publication shall be embedded and fully functional. All hyperlinks will be blue in color.

3.9.2 Arrangement. Contractor Developed Manuals will be arranged in the following order:

- a. Front Matter
- b. Cover/Title Page
- c. Validation/Acceptance Letter
- d. Copyrights Release Page
- e. Table of Contents
- f. List of Illustrations/Figures
- g. List of Tables
- h. Forward
- i. Safety Summary
- j. Content of the Technical Publication
- k. Appendices

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3.9.2.1 TP divisions. TPs shall be divided into volumes, parts, chapters, sections, paragraphs, and procedures as appropriate. There shall be at least two of each subdivision used, except in paragraphs. That is, where there is a Volume 1, Part 1, Chapter 1, or Section I, there shall be a Volume 2, Part 2, Chapter 2, or Section II. All volumes, parts, chapters, and sections shall be titled. Breakout shall be planned to subordinate that which should be subordinated.

3.9.2.2 Volumes. When the manual exceeds 1,500 printed pages (750 sheets), it shall be divided into separately bound segments (volumes). Each volume is essentially an independent manual and shall include applicable front and rear matter. Volumes shall be separated by complete chapters, where possible. Each volume shall be identified by a unique TPN, title, and subtitle that describe the contents.

3.9.2.3 These manuals shall be reviewed against Appendix B, Contractor Developed Manual Evaluation Checklist.

3.9.3 Revisions. Revised Contractor Developed Manuals shall be in accordance with the style, format, content and arrangement of the existing manual.

3.9.3.1 Revised manuals will be delivered to the USCG with all revised information incorporated. All pages, paragraphs, subparagraphs, procedural steps, list items, illustrations (including index numbers used within an illustration), and tables shall be renumbered, as necessary, to eliminate all number suffixes and to establish correct sequence. All previous revision indicators shall be eliminated. The revised TP shall include the following as applicable:

- A revised title page and, when required, a front cover, back cover, and backbone.
- New or revised front matter, including the Record of Revisions.
- New or revised text, illustrations, tables, glossaries, and appendices.

3.9.3.2 Display of new or changed material. After all previous revision indicators have been eliminated, new or changed material shall be identified/displayed as follows:

- Changes to text and tables shall be indicated by a vertical line (change bar) in the margin extending the entire area of the material affected (outer margin for double column material, margin opposite binding edge for single column material).
- The change bar is not required for changed or added front matter material (except for the Table of Contents); the replacement or addition of complete chapters or sections; or for the correction of minor inaccuracies, such as spelling, punctuation, relocation of material, and renumbering, unless such correction changes the meaning of the information.
- Change marks shall be applied to the complete danger, warning, caution, or note and not to the individual words or paragraphs it contains.
- Additions or changes to line drawings, charts, illustrations, graphs, diagrams, and schematics shall be indicated by screens (shading), screened (shaded) boxes, or miniature pointing hands to highlight updated areas. Extensively changed presentations shall be indicated by a screen border around the affected area. For minor changes not suited to shading or screening, a miniature pointing hand shall be used.

3.9.3.3 Record of revisions. A Record of Revisions shall be provided. The record shall include revision number, date, and a title or description of the revision(s).



#### 4. NOTES

4.1 Intended use. This specification is intended for use in the development of USCG TPs that furnish information on the description, installation, operation, test, maintenance, repair, and overhaul of a ship, system, or equipment. This specification sets forth the style, format, and technical content standards for these TPs.

4.2 Technical publications. The requirement for TPs should be considered when this specification is applied on a contract. If TPs are required, specifications and standards that have been authorized must be listed on a separate Contract Data Requirements List, which is included as an exhibit to the contract. The TP must be acquired under separate contract line item in the contract.

**Appendix A**

**COTS MANUAL EVALUATION CHECKLIST**

Publication Title: \_\_\_\_\_

Publication Number: \_\_\_\_\_

Publication Date: \_\_\_\_\_

Vendor: \_\_\_\_\_

Contract Number: \_\_\_\_\_

Equipment Model Number: \_\_\_\_\_

Equipment Name: \_\_\_\_\_

	<b>CRITERIA – (PARAGRAPH)</b>	<b>INCLUDED</b>	<b>PARTIALLY INCLUDED</b>	<b>NOT INCLUDED</b>	<b>N/A</b>
1	Comprehensibility (3.7.1.1)				
2	Readability (3.7.1.2)				
3	Legibility (3.7.1.3)				
4	Arrangement (3.7.2)				
5	Size (3.7.1.4)				
6	Safety (3.7.1.5)				
7	Warnings, Cautions & Notes (3.7.1.6)				
8	Federal Environmental. Protection Standards (3.7.1.7)				
9	Illustrations & Diagrams (3.7.1.8)				

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	<b>CRITERIA – (PARAGRAPH)</b>	<b>INCLUDED</b>	<b>PARTIALLY INCLUDED</b>	<b>NOT INCLUDED</b>	<b>N/A</b>
10	Maintenance (3.7.1.9)				
11	Copyright Release (3.7.1.10)				
12	Content Requirements (3.7.1.11)				
13	Cover Page (3.7.1.11.a)				
14	Table of Contents (3.7.1.11.a)				
15	Introduction (3.7.1.11.b)				
16	Preparation for Use (3.7.1.11.c)				
17	Installation Instructions (3.7.1.11.d)				
18	Principles of Operation (3.7.1.11.e)				
19	Operating Instructions (3.7.1.11.f)				
20	Maintenance & Service Instructions (Preventative & Corrective) (3.7.1.11.g)				
21	Cleaning & Lubrication (3.7.1.11.h)				
22	Troubleshooting (3.7.1.11.i)				
23	Reprogramming (3.7.1.11.j)				
24	Preparation for Shipment (3.7.1.11.k)				
25	Storage (3.7.1.11.l)				
26	Parts List (3.7.1.11.m)				
27	Illustrations and diagrams (3.7.1.11.n)				

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	<b>CRITERIA – (PARAGRAPH)</b>	<b>INCLUDED</b>	<b>PARTIALLY INCLUDED</b>	<b>NOT INCLUDED</b>	<b>N/A</b>
28	Overhaul Instructions (3.7.1.11.o)				
29	Supplemental Data (3.7.1.11.p)				
30	PDF, unlocked, compatible (3.6.1.12)				
31	Source Documentation (3.7.1.13)				

Notes/Comments: \_\_\_\_\_  
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Acceptable: \_\_\_\_\_ Not Acceptable: \_\_\_\_\_

Acceptable With Supplemental Data Required? : \_\_\_\_\_

Publications Review Activity: \_\_\_\_\_

Activity Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

**Appendix B**

**CONTRACTOR DEVELOPED MANUAL EVALUATION CHECKLIST**

Publication Title: \_\_\_\_\_

Publication Number: \_\_\_\_\_

Publication Date: \_\_\_\_\_

Vendor: \_\_\_\_\_

Contract Number: \_\_\_\_\_

Equipment Model Number: \_\_\_\_\_

Equipment Name: \_\_\_\_\_

	<b>CRITERIA – (PARAGRAPH)</b>	<b>ACCEPTABLE</b>	<b>PARTIALLY ACCEPTABLE</b>	<b>NOT ACCEPTABLE</b>	<b>N/A</b>
1	Format (3.9.1.1)				
2	Source Documents/Unlocked PDF (3.9.1.2)				
3	Language (3.9.1.3)				
4	Text (3.9.1.4)				
5	Size (3.9.1.5)				
6	Page Numbers (3.9.1.7)				
7	Drawings (3.9.1.8)				
8	Hyperlinks (3.9.1.9)				
9	Front Matter (3.9.2.a)				

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	<b>CRITERIA – (PARAGRAPH)</b>	<b>ACCEPTABLE</b>	<b>PARTIALLY ACCEPTABLE</b>	<b>NOT ACCEPTABLE</b>	<b>N/A</b>
10	Cover/Title Page (3.9.2.b)				
11	Validation/Acceptance Letter (3.9.2.c)				
121	Copyright Release (3.9.21.d)				
12	Table of Contents (3.9.2.e)				
13	List of Illustrations/Figures (3.9.2.f)				
14	List of Tables (3.9.2.g)				
15	Forward (3.9.2.h)				
16	Safety Summary (3.9.2.i)				
17	Content of Technical Publication (3.9.2.j)				
18	Appendices (3.9.2.k)				
19	TP Divisions (3.9.2.1)				
20	Volumes (3.9.2.2)				
21	Revisions (3.9.3)				
22	Record of Revisions (3.9.3.3)				

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Notes/Comments: \_\_\_\_\_  
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Acceptable: \_\_\_\_\_ Not Acceptable: \_\_\_\_\_

Acceptable With Supplemental Data Required? : \_\_\_\_\_

Publications Review Activity: \_\_\_\_\_

Activity Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_