

**NOT MEASUREMENT
SENSITIVE**

MIL-STD-3031B

W/CHANGE 1

31 July 2025

SUPERSEDING

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30 September 2024

DEPARTMENT OF DEFENSE STANDARD PRACTICE

**ARMY BUSINESS RULES FOR S1000D:
INTERNATIONAL SPECIFICATION FOR
TECHNICAL PUBLICATIONS UTILIZING A
COMMON SOURCE DATA BASE**



AMSC 10586

AREA TMSS

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FOREWORD

1. This standard is approved for use by the Department of the Army and Headquarters Marine Corps and is available for use by all Departments and Agencies of the Department of Defense (DoD).

2. This standard establishes the business rules to be used with S1000D Issue 4.2 for the preparation of technical publications required to support the various types of equipment and weapon systems within the Department of the Army and Headquarters Marine Corps. The requirements contained in this standard cover operation and maintenance at all levels through overhaul (depot), including Depot Maintenance Work Requirements (DMWRs) and National Maintenance Work Requirements (NMWRs). This standard does not contain requirements for training material.

3. Comments, suggestions, or questions should be addressed to USAMC, Logistics Data Analysis Center, ATTN: AMLD-LST, 4400 Martin Road, Redstone Arsenal, AL 35898 or e-mailed to usarmy.redstone.ldac.mbx.tmss@army.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST online database at <https://assist.dla.mil>.

CHANGE SUMMARY

This is a summary of the changes made in this change notice. All technical changes are marked with vertical bars. Editorial changes (e.g., spelling corrections, grammar corrections, punctuation corrections, corrections to paragraph references, etc.) are not marked with vertical bars. Also, changes to the table of contents will not be marked with a vertical bar. When the content of the figure changes or when title/number changes, the vertical bar will appear to the right or left of the figure number/title. For tables, changed material in the titles, rows, and blocks are marked with vertical bars next to the table title. When the only change is to the title it is marked with a vertical bar and noted in the change summary tabular listing. Below is a tabular listing with all the specific technical changes made which are marked with a vertical bar.

Current Para/Fig/Table Number	Previous Para/Fig/Table Number	Action
1.9	*	Added
5.12.2.7	5.12.2.7	Changed Title
5.12.2.11	5.12.2.11	Changed Title
5.12.3.1	5.12.3.1	Changed Title
5.15.2.2	5.15.2.2	Changed
5.17.1.1	5.17.1.1	Changed Title
5.17.1.2	5.17.1.2	Changed Title
5.17.1.3	5.17.1.3	Changed Title
5.17.1.4	5.17.1.4	Changed Title
5.17.1.10	5.17.1.10	Changed Title
5.17.1.13	5.17.1.13	Changed Title
5.20.1.2	5.20.1.2	Changed
*	5.20.2.1	Deleted
5.28.2.2	5.28.2.2	Changed Title
5.35.1.1	5.35.1.1	Changed
5.36.1.1	*	Added
5.36.1.10	5.36.1.10	Changed Title
5.36.1.24	*	Added
5.36.1.25	5.36.1.25	Changed Title
5.36.1.36	5.36.1.36	Changed, Added Table, Added Note
5.36.1.36	*	Added
5.36.2.0	*	Added
TABLE XVIII.	TABLE XVIII.	Changed
TABLE XLII.	TABLE XLII.	Changed
TABLE LXII.	TABLE LXII.	Changed

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5.54.2.2	5.54.2.2	Changed Title
5.66.1.4	5.66.1.4	Changed Title
5.67.2.5	5.67.2.5	Changed Title
5.67.2.6	5.67.2.6	Changed Title
5.67.2.7	5.67.2.7	Changed Title
5.71.1.3	5.71.1.3	Changed Title
5.71.1.6	5.71.1.6	Changed Title
5.71.1.7	5.71.1.7	Changed Title
5.71.1.9	5.71.1.9	Changed Title
5.71.1.11	5.71.1.11	Changed Title
5.71.1.13	5.71.1.13	Changed Title
5.78.1.1	5.78.1.1	Changed Title
TABLE LXIV.	TABLE LXIV.	Changed
5.80.1	5.80.1	Changed Title
5.88.3	5.88.3.1	Changed Title
5.88.3.1	5.88.3.1	Changed Title
5.89.1.5.5.3	5.89.1.5.5.3	Changed
5.90.1.25.6	5.90.1.25.6	Changed Title
5.91.1.30.4	5.91.1.30.4	Changed Title
5.91.3.3	5.91.3.3	Changed Title
5.91.3.4	5.91.3.4	Changed Title
5.91.3.5	5.91.3.5	Changed Title
5.91.3.6	5.91.3.6	Changed Title
5.93.1.11	5.93.1.11	Changed Title
5.93.1.15.2	5.93.1.15.2	Changed Title
5.93.1.22.2	5.93.1.22.2	Changed Title
5.93.1.22.3	5.93.1.22.3	Changed Title
5.98.1.2.4	5.98.1.2.4	Changed
5.98.1.2.6	5.98.1.2.6	Changed
5.98.1.2.6.1	5.98.1.2.6.1	Changed
5.98.1.2.6.2	5.98.1.2.6.2	Changed

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5.98.1.2.7	5.98.1.2.7	Changed
5.98.1.2.7.0	*	Added
5.98.1.2.7.0	*	Added
5.98.1.2.8	5.98.1.2.8	Changed
5.98.1.2.8.0	*	Added
5.98.1.2.9	5.98.1.2.9	Changed
5.98.1.2.9.0	*	Added
5.98.1.2.9.0	*	Added
5.98.1.2.9.0	*	Added
5.98.1.2.9.0	*	Added
5.98.3.1	5.98.3.1	Changed
5.98.3.2	5.98.3.2	Deleted
5.98.3.3	5.98.3.3	Deleted
5.98.3.4	5.98.3.4	Changed Title
5.98.3.5	5.98.3.5	Deleted
5.100.1.1.3	5.100.1.1.3	Changed
5.106.2.1	5.106.2.1	Added
5.106.2.2	5.106.2.2	Added
5.109.3	5.109.3	Changed
5.109.3.1	5.109.3.1	Deleted
5.116.1.9	5.116.1.9	Changed
5.116.1.31	5.116.1.31	Changed Title
5.116.1.32	5.116.1.32	Changed Title
5.117.1.25	5.117.1.25	Deleted
5.117.1.29	5.117.1.29	Changed
5.117.1.30	5.117.1.30	Changed Title
5.117.1.36	5.117.1.36	Changed Title
5.117.1.44	5.117.1.44	Changed Title
5.117.2.17	5.117.2.17	Changed Title
5.120.1.6	5.120.1.6	Changed Title
5.120.1.10	5.120.1.10	Changed Title
5.120.1.11	5.120.1.11	Changed Title

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5.120.1.19	5.120.1.19	Changed Title
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5.120.1.46	5.120.1.46	Changed Title
5.120.1.48	5.120.1.48	Changed
5.120.1.53	5.120.1.53	Changed Title
5.120.1.54	5.120.1.54	Changed Title
5.120.1.55	5.120.1.55	Changed Title
5.120.1.56	5.120.1.56	Changed Title
5.120.1.57	5.120.1.57	Changed Title
5.120.1.60	5.120.1.60	Changed Title
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5.120.1.68	5.120.1.68	Changed Title
5.120.1.69	5.120.1.69	Changed Title
5.120.1.70	5.120.1.70	Changed Title
5.120.1.71	5.120.1.71	Changed Title
5.120.1.73	5.120.1.73	Changed Title
5.120.1.75	5.120.1.75	Changed Title
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5.120.2.9	5.120.2.9	Changed Title
5.120.2.10	5.120.2.10	Changed Title
5.120.2.11	5.120.2.11	Changed Title
5.120.2.12	5.120.2.12	Changed Title
5.120.2.15	5.120.2.15	Changed Title
5.120.2.16	5.120.2.16	Changed Title

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5.121.1.3	5.121.1.3	Changed Title
5.121.1.9	5.121.1.9	Changed Title
5.121.1.10	5.121.1.10	Changed Title
5.121.1.13	5.121.1.13	Changed Title
5.121.1.14	5.121.1.14	Deleted
5.125.2.3	5.125.2.3	Changed Title
5.128.1.1	5.128.1.1	Changed Title
5.128.2.1	5.128.2.1	Changed Title
5.129.2.1	5.129.2.1	Changed Title
5.130.2.1	5.130.2.1	Changed Title
5.131.2.1	5.131.2.1	Changed Title
5.132.2.1	5.132.2.1	Changed Title
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5.134.2.1	5.134.2.1	Changed Title
5.135.2.1	5.135.2.1	Changed Title
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TABLE C-VI	TABLE C-VI	Changed
TABLE C-IX	TABLE C-IX	Changed
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TABLE C-XIII	TABLE C-XIII	Changed
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1 SCOPE

1.1 Scope.

This standard establishes the business rules for technical content, style, format and functionality requirements for technical publications prepared using S1000D Issues 4.2 for major weapon systems, and their related systems, sub-systems, equipment, assemblies, components, Shop Replacement Units (SRUs), and Line Replacement Units (LRUs). The requirements are applicable for all maintenance levels through overhaul (depot) including Depot Maintenance Work Requirements (DMWRs) and National Maintenance Work Requirements (NMWRs). The requirements can be used to develop all new acquisition technical publications (page-oriented and Interactive Electronic Technical Publications (IETPs) for interactive screen presentations).

1.2 Paragraphs with limited applicability.

This standard contains paragraphs and specific requirements which are not applicable to all Services. Such paragraphs or requirements are prefixed to indicate the Services to which they pertain: (A) Army; (N) Navy; (MC) Marine Corps; and (F) Air Force. Portions not prefixed are applicable to all services.

1.3 Legacy data.

This standard is applicable to the development of technical data as part of new acquisition. Programs converting legacy data, or incorporating legacy data with new acquisition S1000D data may find this standard useful but may be unable to fully comply with all requirements. Business rule activities for programs involved in legacy data development are coordinated with LDAC.

1.4 Use of the technical content.

In addition to using the technical content requirements provided herein for the development of technical publications, the technical information developed in accordance with this standard and S1000D can be used to provide the necessary input to other external systems that are designed to collect and report operations, maintenance, historical, and parts requisition data required for efficient management and support of aviation and non-aviation weapon systems and their related systems, equipment, and components/modules.

1.5 Organization of the technical content.

S1000D is organized into nine primary chapters:

- a. Chapter 1 Introduction to the specification.
- b. Chapter 2 Documentation process.
- c. Chapter 3 Information generation.
- d. Chapter 4 Information management.
- e. Chapter 5 Information sets and publications.
- f. Chapter 6 Information presentation/use.
- g. Chapter 7 Information processing.
- h. Chapter 8 Standard Numbering System and information codes.
- i. Chapter 9 Terms and data dictionary.

Section [5](#) of this standard is organized in parallel to the S1000D chapter structure.

1.6 Shall and must.

"Must," the emphatic form of the verb, is used throughout S1000D whenever a requirement is intended to express a provision that is binding. "Shall," the emphatic form of the verb, is used throughout this standard whenever a requirement is intended to express a provision that is binding.

1.7 Joint service business rules.

There are requirements in this document which have been coordinated with and received consensus from the Joint Services IETM (Interactive Electronic Technical Manual) Technology Working Group (JSITWG). The JSITWG requirements are identified by a "(JS-*nnn*)" designation immediately following the Joint Service Business Rule.

1.8 Project decisions.

Paragraphs in this standard that are titled "Project decisions" and include the content "None" indicate that no project decisions are required by S1000D or this standard. Projects are encouraged to limit business rules to the decision points specified in this standard. This does not, however, preclude a project from making additional business rules if required by program or equipment peculiarities.

1.9 Content requirements versus Army business rules.

Section [5.12](#) and [5.87](#) through Section [5.114](#) contain technical publication content requirements associated with the matrices in [APPENDIX A](#). This is the portion of this document that addresses S1000D Chapter 5. These requirements define content depth and scope requirements. This section does not typically include requirements specific to the use of S1000D XML structures.

The content requirements paragraphs differ from most other parts of Section [5](#) in this document because they are not primarily concerned with business rule decision points (BRDPs) and corresponding business rules (BRs). S1000D includes default business rule decision points (identified as "BRDP-S1-XXXXX" - where X represents digits). These BRDPs must be addressed during the business rules development for a project. Many of the default BRDPs have been addressed by the U.S. Army and are considered Army business rules (identified as "BR-ARMY-XXXXX"). The Army business rules also include Joint Service business rules (identified as "JS-XXX"). Additional Army business rules are also included, based on specific requirements necessary to author compliant army publications.

1.9.A Business rules.

Business rules are not permitted to change the S1000D schema or its basic philosophies, but should be restricted to tailoring within (and in addition to) the specification. Business rules must not contradict or change a mandatory rule in S1000D that is indicated by the word "must." Business rules cover all aspects of S1000D and are not limited only to authoring or illustrating. They can also address issues that are not defined in the specification, but are related to its implementation.

Business rules are layered, with each layer inheriting the higher-level layer and further restricting the available options. The uppermost layer of the model represents S1000D and all requirements defined within the specification. Progressing to the "lower" layers, the number of business rules grows and the number of remaining decision points decreases. The reason for this is that an organization and/or project inherits all business rules from the upper layer and decides which of the remaining decision points should be decided at their level. The goal is to have all decisions made before reaching the author's level.

1.9.1 Army business rules deviations.

The rules contained in this standard are intended for new acquisition programs and conversion projects alike. It is understood, however, that legacy conversion programs may require relief from requirements due the cost of

compliance or other factors. If a conversion program identifies a business rule for which it is unable to comply, the following general deviation process is in place:

- a. All requests for Army business rules deviations should be presented separately to LDAC.
 - (1) The deviation request should include the Business Rule ID, the BR content (text), justification for the deviation, and revised business rule text that the project will use (if applicable).
- b. If approved, the project should create a project-specific deviation version of the Army BREX.
- c. The project-specific deviation version of the Army BREX file should be coded (data module code) as an extended data module (element **<identExtension>**) and use coding similar to this: DME-XXXXX-YYYYYY-USARMY-0B01-00-00-0000-00A-022A-D_001-00_EN-US.XML.
 - (1) XXXXX = CAGE of organization that has been granted the deviation (attribute **extensionProducer**).
 - (2) YYYYYY = the text "DEVIATION" and the project's model identification code (e.g., DEVIATIONYYYYYY) (attribute **extensionCode**).
- d. The project should document the deviated Army business rule using change markup, using the attribute **updateReasonType** and the value **urt53** (Approved deviation).
- e. The element **<commonInfo>**, in the deviation BREX file, should be used to document all deviation-related information including the relevant business rule and business rule decision point ID, the deviation approval date, and any other relevant information.
- f. The project is responsible for updating their deviation BREX in parallel with any updates to the Army BREX.
- g. The project BREX should then refer to the deviation BREX, instead of the Army BREX.

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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 documents 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 cited in the solicitation or contract.

STANDARDS

DEPARTMENT OF DEFENSE

- | | |
|--------------|--|
| MIL-STD-129 | - Military Marking for Shipment and Storage |
| MIL-STD-882 | - Systems Safety |
| MIL-STD-3003 | - Vehicles, Wheeled: Preparation for Shipment and Storage of |

SPECIFICATIONS

DEPARTMENT OF DEFENSE

- | | |
|---------------|--|
| MIL-PRF-32216 | - Evaluation of Commercial Off-the-Shelf (COTS) Manuals and Preparation of Supplemental Data |
| MIL-PRF-63049 | - Manuals, Technical: List of Applicable Publications (LOAP) |

HANDBOOKS

DEPARTMENT OF DEFENSE

- | | |
|--------------|--|
| MIL-HDBK-113 | - Guide for the Selection of Lubricants, Functional Fluids, Preservatives and Specialty Products for use in Ground Equipment Systems |
| MIL-HDBK-275 | - Guide for Selection of Lubricants, Fluids, and Compounds for Use in Flight Vehicles and Components |
| MIL-HDBK-310 | - Global Climatic Data for Developing Military Products |

(Copies of these documents are available online at <https://assist.dla.mil>.)

- | | |
|-------|---|
| H4/H8 | - Commercial and Government Entity (CAGE) Codes |
| H6 | - Federal Item Name Directory |

(Copies of Handbook H6 are available on CD-ROM from the Commander, Defense Logistics Services Center, Battle Creek, MI 49017-3084 or H6 search can be done at <https://public.logisticsinformationservice.dla.mil/H6/search.aspx>.)

2.2.2 Other government documents and publications.

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

AR 25-30	- The Army Publishing Program
AR 25-38	- Army Printing and Distribution Program
AR 55-162	- Permits for Oversize, Overweight, or Other Special Military Movements on Public Highways in the United States
AR 95-1	- Flight Regulations
AR 385-10	- The Army Safety and Occupational Health Program
AR 700-82	- Joint Regulation Governing Use and Application of Uniform Source, Maintenance, and Recoverability Codes
AR 750-1	- Army Materiel Maintenance Policy
AR 750-10	- Army Modification Program
AR 750-59	- Corrosion Prevention and Control for Army Materiel
DA PAM 25-38	- Army Printing and Distribution Procedures
DA PAM 25-40	- Army Publishing Program Procedures
DA PAM 385-63	- Range Safety
DA PAM 385-64	- Ammunition and Explosives Safety Standards
DA PAM 738-751	- Functional Users Manual for The Army Maintenance Management System-Aviation (TAMMS-A)
DA PAM 750-8	- The Army Maintenance Management System (TAMMS) Users Manual

(Copies of these documents are available online at <https://www.apd.army.mil/>)

AMC-R 25-76	- The U.S. Army Materiel Command (AMC) Equipment Publications Program
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(Copies of AMC documents are available at https://armyemitaas.sharepoint-mil.us/sites/HQAMC/SitePages/AMC_HQ_AMIO_Pubs.aspx.)

DoDM 5200301 Volume 1	- Information Security Program: Overview, Classification and Declassification
DoDM 5200.01 Volume 2	- Information Security Program: Marking of Classified Information
DoDM 5200.01 Volume 3	- Information Security Program: Protection of Classified Information
DoDM 5200.01 Volume 4	- Information Security Program: Controlled Unclassified Information (CUI)
DoDD 5220.22-M	- National Industrial Security Program Operating Manual (NISPOM)
DoDI 5230.24	- Distribution Statements on Technical Documents.
DoDD 5230.25	- Withholding of Unclassified Technical Data From Public Disclosure

(Copies of DoD documents are available at <https://www.esd.whs.mil/DD/DoD-Issuances/>.)

MIL-STD-3031B w/CHANGE 1

Joint Pub 1-02	- DoD Dictionary of Military and Associated Terms
TB 43-0213	- Corrosion Prevention and Control (CPC) for Tactical Vehicles
TB 55-9150-200-24	- Engine and Transmission Oils, Fuels, and Additives for Army Aircraft
TB 750-93-1	- Functional Grouping Code, Combat, Tactical and Support Vehicles and Special Purpose Equipment
TC 4-02.1	- First Aid
TM 1-1500-204-23	- Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (General Maintenance and Practices), Volumes 1-11
TM 1-1500-328-23	- Aeronautical Equipment Maintenance Management Policies and Procedures
TM 1-1500-335-23	- Nondestructive Inspection Methods, Basic Theory
TM 1-1500-344-23	- Cleaning and Corrosion Control, Volumes 1-4
TM 4-33.31	- Cold Weather Maintenance Operations
TM 5-632	- Military Entomology Operational Handbook
TM 38-250	- Preparing Hazardous Materials for Military Air Shipments
TM 55-1500-342-23	- Joint Service Technical Manual Organizational, Intermediate, and Depot Maintenance Aircraft Weight and Balance
TM 750-245-4	- Quality Control Inspector's Inspection Criteria

(Copies of these publications are available from the U.S. Army Publications Distribution Center, 1655 Woodson Road, St. Louis, MO 63114-6181. Copies of TMs and TBs may be obtained from ETMs online on the LDAC Web site <https://login.aesip.army.mil/portal/faces/home>. Copies of FMs, TCs, and TM 4-33.31 may be obtained from <https://armypubs.army.mil/>.)

EO 13526	- Classified National Security Information
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(Copies of these documents may be obtained at <https://www.archives.gov/federal-register/codification/numeric.html>.)

2.3 Non-Government publications.

The following documents form a part of this document to the extent specified therein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 8601	- Data Elements and Interchange Formats - Information Interchange - Representation of Dates and Times
ISO 9000 Series	- Quality Management

(Copies of these documents can be obtained at <https://www.iso.org/iso/home.html>. DoD users can obtain copies through the Defense Standardization Program (DSP). The official source for these documents is at <https://assist.dla.mil/>.)

AEROSPACE AND DEFENCE INDUSTRIES ASSOCIATION OF EUROPE (ASD)

S1000D

- International specification for technical publications utilizing a common source data base

(Application for copies should be addressed to the Aerospace and Defence Industries Association of Europe, 270 Avenue de Tervuren, B-1150 Brussels, Belgium, or available at <https://s1000d.org>.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME Y14.38

- Abbreviations for Use on Drawings and in Text

(Application for copies should be addressed to the American Society of Mechanical Engineers, 3 Park Avenue, New York, NY 10016-5990. DoD users can obtain copies through the Defense Standardization Program (DSP). The official source for these documents is at <https://assist.dla.mil/>.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM-F856

- Standard Practice for Mechanical Symbols, Shipboard Heating, Ventilation, and Air Conditioning (HVAC)

(Applications for copies should be addressed to the American Society for Testing Material, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or available at <https://www.astm.org/>. DoD users can obtain copies through the Defense Standardization Program (DSP). The official source for these documents is at <https://assist.dla.mil/>.)

WORLD WIDE WEB CONSORTIUM (W3C)

REC-xml-20001006

- Extensible Markup Language (XML) 1.0 (Second Edition)

(Application for copies should be addressed to MIT, 32 Vassar Street, Room 32-G515, Cambridge, MA 02139 USA, or available at <https://www.w3.org/>.)

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 General.

This standard is only applicable when used with S1000D Issues 4.2. Only acronyms and terms unique to this document (and not already defined by S1000D Chapter 9) are defined in [3.3](#) and [3.4](#). Terms that require special attention because they are altered from historically understood definitions are described in [3.4](#).

3.2 Acronyms used in this standard.

The acronyms used in this standard are defined as follows:

2D	Two Dimensional
3D	Three Dimensional
AAL	Additional Authorization List
ABCA	Abbreviations, Brevity Codes, and Acronyms
ABCA	American, Canadian, British, Australian
AC	Alternating Current
ACT	Applicability Cross-reference Table
ADF	Automatic Direction Finder
AFTO	Air Force Technical Order
AMAC	Aviation Maintenance Allocation Chart
AMC	Aviation Maintenance Company (Maintenance) Army Materiel Command (Publication numbers)
AMCOM	Army Aviation and Missile Live Cycle Management Command
AMDF	Army Master Data File
AMSC	Acquisition Management System Control
Ao	Operational Availability
AOAP	Army Oil Analysis Program
APD	Army Publishing Directorate
APE	Ammunition Peculiar Equipment
APU	Auxiliary Power Unit
AR	Army Regulation
ARC	Accounting Requirements Code
ARDEC	Armament Research, Development, and Engineering Center
ARSOAC	Army Special Operations Aviation Command
ASB	Aviation Support Battalion
ASCC	Air Standardization Coordination Committee
ASD	AeroSpace and Defense Industries Association of Europe

MIL-STD-3031B w/CHANGE 1

ASL	Authorized Stockage List
ASC	Aviation Support Company
ASME	American Society of Mechanical Engineers
ASSIST	Acquisition Streamlining and Standardization Information System
ASTM	American Society for Testing and Materials
ATTN	Attention
BDAR	Battle Damage Assessment and Repair
BII	Basic Issue Items
BIT	Built in Test
BITE	Built in Test Equipment
BOI	Basis Of Issue
BR	Business Rule
BRDP	Business Rule Decision Point
BREX	Business Rules EXchange
BTR	Ballistic Test Requirements
CAC	Common Access Card
CAGE	Commercial and Government Entity
CAGEC	Commercial and Government Entity Code
CALS	Continuous Acquisition and Life-cycle Support
CARC	Chemical Agent Resistant Coating
CATT	Computer Automated Transportation Tool
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CCL	Crew Checklist
CCT	Conditions Cross-reference Table
CD	Compact Disk
CD-ROM	Compact Disk Read Only Memory
CECOM	Communications-Electronics Command
CFR	Code of Federal Regulations
CG	Center-of-gravity
CGM	Computer Graphics Metafile
CIR	Common Information Repository
CL	Component List (Sets, Kits, and Outfits) Checklist (Aviation)
CM	Collateral Material
COEI	Component Of End Item

MIL-STD-3031B w/CHANGE 1

COMSEC	Communications Security
CONUS	Continental United States
COTS	Commercial Off The Shelf
CPC	Corrosion Prevention and Control
CPF	Change Proposal Form
CSDB	Common Source Database
CSI	Critical Safety Items
CSL	CSDB Status List
CSLA	CECOM Communications Security Logistics Activity
CSN	Catalog Sequence Number
CTA	Common Table of Allowance
CUI	Controlled Unclassified Information
DA	Department of the Army
DC	Dublin Core
	Disassembly Code
	Direct Current
DCV	Disassembly Code Variant
DDN	Data Dispatch Note
DFAR	Defense Federal Acquisition Regulation
DID	Data Item Description
DM	Data Module
DMC	Data Module Code
DMRL	Data Module Requirements List (S1000D) Depot Maintenance Reference List (Depot Maintenance)
DMWR	Depot Maintenance Work Requirement
DoD	Department of Defense
DoDAC	Department of Defense Ammunition Code
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DoDIC	Department of Defense Identification Code
DoDM	Department of Defense Manual
DOT	Department of Transportation
dpi	dots per inch
DR	Deficiency Report
DRMO	Defense Reutilization Marketing Office

MIL-STD-3031B w/CHANGE 1

DSN	Defense Switching Network
DVD	Digital Video Disk (alt: Digital Versatile Disk)
ECBC	Research, Development, and Engineering Command, Edgewood Chemical Biological Center
ECM	Electronic Countermeasures
ECP	Engineering Change Proposal
ECU	Environmental Control Unit
e.g.	exempli gratia (for example)
EIC	End Item Code
EIR	Equipment Improvement Recommendation
EMP	Electromagnetic Pulse
EP	Electronic Publication
ESD	Electrostatic Discharge
EST	Eastern Standard Time
ETM	Electronic Technical Manual
FAR	Federal Acquisition Regulations
FAT	Free Air Temperature (Aviation) Final Acceptance Test (QA)
FCF	Functional Check Flight
FEDLOG	Federal Logistics
FGC	Functional Group Code
FM	Field Manual
FOUO	For Official Use Only
FP	Foldout Page
FSC	Federal Supply Classification
GCSS-A	Global Combat Support System - Army
GEIA	Government Electronics and Information Technology Association
GIF	Graphics Interchange Format
GUI	Graphical User Interface
HAP	Hazardous Air Pollutants
HAZMAT	Hazardous Material
HCI	Hardness Critical Item
HCP	Hardness Critical Process
HDBK (HB)	Handbook
HR	Hand Receipt
HVAC	Heating, Ventilation, and Air Conditioning

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IAS	Indicated Air Speed
IAW	In accordance with
IC	Information Code
ICN	Information Control Number
ICV	Information Code Variant
ID	Identification
IGE	In Ground Effect
i.e.	id est (that is)
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IETM	Interactive Electronic Technical Manual
IETP	Interactive Electronic Technical Publication
ILSC-SBC	Integrated Logistics Support Center - Soldier, Biological, Chemical
IMC	Instrument Meteorological Conditions
IMN	Indicated Match Number
IPD	Illustrated Parts Data
IPDP	Illustrated Parts Data Publication
IPPN	Initial Provisioning Project Number
INS	Inertial Navigation System
IR	Infrared Radar
IRRD	Issue Receipt Release Document
ISO	International Organization for Standardization
ISPM	International Standard for Phytosanitary Measures
IUID	Item Unique Identification
JDRS	Joint Deficiency Reporting System
JMC	Joint Munitions Command
JPEG	Joint Photographers Experts Group
JP	Joint Publication
JS	Joint Service
JSITWG	Joint Services IETM Technology Working Group
JTA	Joint Table of Allowances
JTCI	Joint Technical Committee for Information Technology
KIAS	Knots Indicator Air Speed
LADS	Locally Approved Disposition Services
LDAC	Logistics Data Analysis Center

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LAN	Local Area Network
LCMC	Life Cycle Management Command
LO	Lubrication Order
LOAP	List of Applicable Publications
LOEDM	List of Effective Data Modules
LOEP	List of Effective Pages
LOGCOM	Logistics Communication
LOLO	Lift On/Lift Off
LOM	Learning Object Metadata
LPD	Logistics Product Data
LRU	Line Replaceable Unit
MAC	Maintenance Allocation Chart
MAP	Minor Alteration Procedure
MC	Marine Corps
M/DCCA	Maintenance/Demilitarization of Conventional and Chemical Ammunition
MDS	Mission Design Series
MEL	Maintenance Expenditure Limit
MFD	Multifunction Display
M/H	Manhour
M&O	Maintenance and Overhaul
MOC	Maintenance Operational Checks
MOS	Military Occupational Specialty
MP	Multipurpose
MRP	Mandatory Replacement Part
MSL	Military Shipment Label
MSR	Materiel Status Record
MTBF	Meantime Between Failures
MTF	Maintenance Test Flight
MTMC	Military Transportation Management Command
MTOE	Modified Table of Organization and Equipment
MTTR	Mean Time to Repair
MWO	Modification Work Order
NATO	North Atlantic Treaty Organization
NAVMC	Navy Marine Corps
NDI	Non-Destructive Inspection

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NEPR	Naval Environmental Production Research
NETR	Nationwide Environmental Title Research
NHA	Next Higher Assembly
NICP	National Inventory Control Point
NIIN	National Item Identification Number
NISPOM	National Industrial Security Program Operating Manual
NMC	Not Mission Capable
NMCM	Not Mission Capable due to Maintenance
NMCS	Not Mission Capable due to Supply
NMP	National Maintenance Program
NMWR	National Maintenance Work Requirement
NPSA	NATO Support and Procurement Agency
NSA	National Security Agency
NSN	National Stock Number
OCONUS	Outside the Continental United States
ODC	Ozone Depleting Chemical
ODS	Ozone Depleting Substances
OGE	Out of Ground Effect
OIP	Overhaul Inspection Procedure
OJCS	Organization of the Joint Chiefs of Staff
OPI	Operator's Manual
OPPCL	Operating Procedures Precombat Checklist
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Act
PAM	Pamphlet
PCB	Printed Circuit Boards
PCN	Publications Control Number
PCT	Product Cross-reference Table
PD	Project Decision
PDF	Portable Document Format
PDREP	Product Data Reporting and Evaluation System
PENTA	Pentachlorophenol
PI	Parts Information
PID	Personal Identification
PIN	Publication Identification Number

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PLL	Prescribed Load List
PM	Phased Maintenance (Aviation) Publications Module (S1000D)
PMA	Portable Maintenance Aid
PMAC	Preliminary Maintenance Allocation Chart
PMC	Preventive Maintenance Checklist (Maintenance) Publications Module Code (S1000D)
PMCS	Preventive Maintenance Checks and Services
PMD	Preventive Maintenance Daily
PMI	Phased Maintenance Inspection
PMS	Preventive Maintenance Services
P/N	Part Number
POL	Petroleum, Oil, and Lubricant
PQDR	Product Quality Deficiency Report
PRF	Performance
PSA	Preshop Analysis
PSI	Pounds per Square Inch
QA	Quality Assurance
QTY	Quantity
QTY RECM	Quantity Recommended
RAM	Reliability, Availability, Maintainability
RATO	Rocket Assisted Take-Off
RCM	Reliability Centered Maintenance
RDF	Resource Description Framework
RMS	Reliability, Maintainability, and Supportability
RORO	Roll On/Roll Off
RPC	Responsible Partner Company
RPM	Revolutions Per Minute
SAE	Society of Automotive Engineers International
SB	Supply Bulletin
SC	Supply Catalog
SCO	Sharable Content Object
SCORM	Sharable Content objective Reference Model
SDC	System Difference Code

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SDDC	Surface Deployment and Distribution Command
SF	Standard Form
SGML	Standardized General Markup Language
SI	International System
SKO	Sets, Kits, and Outfits
SLAR	Side Looking Airborne Radar
SMR	Source, Maintenance, and Recoverability
SNS	Standard Numbering System
SOP	Standard Operating Procedure
SPC	Statistical Process Control
SPI	Special Packaging Instruction
SRA	Specialized Repair Activity
SRU	Shop Replaceable Assembly
SSR	Supply System Responsibility
STANAG	NATO Allied Standardization Agreement
STD	Standard
SVG	Scalable Vector Graphic
TACAN	Tactical Air Navigation
TACOM	Tank-automotive and Armaments Command
TAMMS	The Army Maintenance Management System
TAMMS-A	The Army Maintenance Management System - Aviation
TASMG	Theater Aviation Sustainment Maintenance Group
TB	Technical Bulletin
TBO	Time Between Overhaul
TC	Training Circular
TDA	Tables of Distribution and Allowances
TEA	Transportation Engineering Agency
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TMSS	Technical Manual Specifications and Standards
TOC	Table of Contents
TOE	Table of Organization and Equipment
TP	Transportability Peculiar
TPDR	Technical Publication Deficiency Report

TRADOC	Training and Doctrine Command
U/I	Unit of Issue
UAS	Unmanned Aircraft System
UOC	Usable On Code
UN	United Nations
URL	Uniform Resource Locator
U.S.	United States
USAMC	United States Army Materiel Command
USBL EFF	Usable Effective
USN	United States Navy
USSMG	United States S1000D Management Group
UURI	Using Unit Responsibility Items
UUT	Unit Under Test
VHF	Very High Frequency
W3C	World Wide Web Consortium
WARCO	Warranty Control Office
WPM	Wooden Packaging Materials
WRA	Weapons Replacement Assembly
WTB	Warranty Technical Bulletin
XML	Extensible Markup Language
XSL	Extensible Style sheet Language

3.3 Terms.

The terms used in this standard are defined as follows.

3.3.1 Acquiring Activity.

The DoD Agency acquiring the end item and accompanying technical manual and responsible for selection and determination of requirements for Technical Manuals (TMs).

3.3.2 Additional Authorization List (AAL) Items.

Items are optional (discretionary), are not essential to operate the end item, and are not listed on engineering drawings. Items are not turned in with the end item.

3.3.3 Adjust.

To maintain or regulate within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

3.3.4 Align.

To adjust specified variable elements of an item to bring about optimum or desired performance.

3.3.5 Army Master Data File (AMDF).

The files required to record, maintain, and distribute supply management data between and from Army commands to requiring activities.

3.3.6 Army Oil Analysis Program (AOAP).

Effort to detect impending equipment component failure and determine lubricant condition through periodic analytical evaluation of oil samples.

3.3.7 Assembled Item.

An item has an "A" as the first letter of the source code in the SMR. This indicates the item is not stocked as an assembly but is assembled from its constituent repair parts.

3.3.8 Assembly.

Two or more parts or subassemblies joined together to perform a specific function and capable of disassembly (e.g., brake assembly, fan assembly, audio frequency amplifier). Note that the distinction between an assembly and 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.

3.3.9 Auxiliary Equipment.

Equipment, accessories, or devices which, when used with basic equipment, extend or increase its capability (e.g., Modified Table of Organization and Equipment (MTOE) items, etc.).

3.3.10 Basic Issue Items (BII).

The minimum essential items not listed in the drawings, but required to place the equipment in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, basic issue items should be with the equipment during operation and whenever it is transferred between property accounts. BII may be packed with Communication Security (COMSEC) equipment.

3.3.11 Basis of Issue (BOI).

The quantity of an item (special tool) authorized for the end item density spread or for the unit level specified.

3.3.12 Block Diagram.

A modified schematic diagram in which each group of maintenance-significant components that together performs one or more functions is represented by a single symbol or block. The block or symbol representing the group of components shows simplified relevant input and output signals pertinent to the subject diagram.

3.3.13 Built-In Test Equipment (BITE).

Any identifiable device that is a part of the supported end item and is used for testing that supported end item.

3.3.14 Bulk Material.

Material issued in bulk for manufacture or fabrication of support items (e.g., sheet metal, pipe tubing, bar stock, or gasket material); excludes expendable items.

3.3.15 Business Rules EXchange (BREX).

An S1000D-authored Extensible Markup Language (XML) file containing machine-verifiable Army decisions (extracted from this standard).

3.3.16 Calibrate.

To determine and cause corrections or adjustments to be made to instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

3.3.17 Callout.

Anything placed on an illustration to aid in identifying the objects being illustrated, such as index numbers, nomenclature, leader lines, and arrows.

3.3.18 Caution.

Indicates a clear danger of damage to equipment or loss of mission capability

3.3.19 Chemical, Biological, Radiological, and Nuclear (CBRN).

Reference to decontamination procedures performed on equipment and/or personnel exposed to chemical, biological, radiological, nuclear, and explosive weapons..

3.3.20 Commercial and Government Entity (CAGE) Code (CAGEC).

A five-character code assigned to commercial activities that manufacture or supply items used by the Federal Government and Government activities that control design or are responsible for the development of certain specifications, standards, or drawings which control the design of Government items. CAGE codes can be found at <https://cage.dla.mil/>.

3.3.21 Complete Repair.

Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the repair function in a use or user environment in order to restore serviceability to a failed item. Excludes the prescriptive maintenance functions, overhaul, and rebuild.

3.3.22 Component.

A constituent part not normally considered to be capable of independent operation; a piece part.

3.3.23 Components of End Item (COEI).

Items identified on the engineering drawing tree, which are physically separated and distinct from the end item.

3.3.24 Comprehensibility.

The completeness with which a user in the target audience understands the information in the TM.

3.3.25 Computer Graphics Metafile (CGM).

Computer Graphics Metafile (CGM) is defined in ISO/IEC 8632. CGM provides a means of graphics data interchange for computer representation of 2D graphical information independent from any particular application, system, platform, or device. CGM contains a metafile that describes the content and additional function as in the standard. Basically, CGM is a wrapper for the data and the data is explained in the metafile.

3.3.26 Continuous Acquisition Life-Cycle Support (CALS).

A DOD initiative to transition from paper-intensive, non-integrated weapon systems design, manufacturing, and support processes to a highly automated and integrated mode of operation. This transition will be facilitated by acquiring, managing, and using technical data in standardized digital form.

3.3.27 Corrosion Prevention and Control (CPC).

Systematic maintenance steps/procedures taken to prevent, retard, repair, or otherwise mitigate the gradual rusting, oxidation, pitting, embrittlement, or other degradation/destruction of metallic and non-metallic surfaces, such as rubber and plastic, due to exposure to corrosive environments CPC examples include spot painting, application of corrosion inhibiting compounds, cleaning, abrasive blasting, etc.

3.3.28 Crew (Operator) Maintenance.

Operator and/or crew maintenance is the first and most critical operation of the Army Maintenance System. It is the cornerstone of Army maintenance and starts with the operator and/or crew performing PMCS using the applicable TM 10 series. The before- and during PMCS concentrate on ensuring equipment is FMC. Maintenance operations normally assigned to operator and/or crew include the following:

- a. Performance of PMCS.
- b. Inspections by sight and touch of accessible components per the TM 10 series and condition based maintenance indicators or instrumentation.
- c. Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including Corrosion Inhibiting Compound application and spot painting), tightening, replacement, and minor adjustments authorized by the MAC.
- d. Replacement of combat spares (unserviceable parts, modules, and assemblies) as authorized by the MAC and carried on board the equipment or system.

3.3.29 Critical Safety Item (CSI).

CSI is a part, assembly, installation or production system with one or more critical or critical safety characteristics that, if missing or not conforming to the design data, quality requirements or overhaul and maintenance documentation, would result in an unsafe condition that could cause loss or serious damage to the end item or major components, loss of control, uncommanded engine shutdown or serious injury or death to personnel. Unsafe conditions relate to hazard severity categories I and II of MIL-STD-882 and include items determined to be "lifelimited," "fracture critical," "fatigue-sensitive," etc. The determining factor in CSI is the consequence of failure, not the probability that the failure or consequence would occur.

3.3.30 Degradation.

The reduction in systems/subsystems/components performance capability.

3.3.31 Department of Defense (DoD).

The Office of the Secretary of Defense (OSD) (including all boards and councils), the Military Departments (Army, Navy, and Air Force), the Organization of the Joint Chiefs of Staff (OJCS), the Unified and Specified Commands, the National Security Agency (NSA), and the Defense Agencies.

3.3.32 Department of Defense Ammunition Code (DoDAC).

An eight-character code developed to indicate interchangeability of ammunition and explosive items in Federal Supply Classification (FSC) Group 13 and Group 14. This eight-character code is divided into two parts. The two parts are separated by a hyphen. The first four digits represent the FSC; the letter and last three numerals represent the DOD Identification Code that is assigned to items that are interchangeable in function and use. The eight-character DOD ammunition code is used for such ammunition operations as worldwide stock status reporting and requisitioning when specific items are not required.

3.3.33 Depot-Level Maintenance.

Depot maintenance consists of material maintenance or repair requiring the overhaul, upgrading, or rebuilding of end items, parts, assemblies, or subassemblies and the testing and reclamation of equipment as necessary, regardless of source of funds for the maintenance or repair or the location at which the maintenance or repair is performed. This term is applicable for all maintenance and repair tasks for Class IX items designated or coded as depot (D or L) that are performed in field or other nondepot locations. Depot maintenance includes any software maintenance that is required to be performed by depot level maintainer.

3.3.34 Depot Maintenance Work Requirement (DMWR).

A maintenance serviceability document for depot maintenance operations. The document prescribes the essential factors to ensure that an acceptable and cost-effective product is obtained.

3.3.35 Disassemble.

The step-by-step taking apart (or breakdown) of a spare or functional group-coded item to the level of its least commonality identified as maintenance-significant (i.e., assigned a Source, Maintenance, and Recoverability (SMR) code for the category of maintenance under consideration).

3.3.36 Document Instance.

The instance is the actual document text and its accompanying XML tags conforming to the specifications and restrictions set forth in the schema.

3.3.37 Electronic Countermeasures (ECM).

An electrical or electronic device designed to trick or deceive radar, sonar or other detection systems, like Infrared (IR) or lasers. It may be used both offensively and defensively to deny targeting information to an enemy. The system may make many separate targets appear to the enemy, or make the real target appear to disappear or move about randomly. It is used effectively to protect aircraft from guided missiles. Most air forces use ECM to protect their aircraft from attack. It has also been deployed by military ships and recently on some advanced tanks to fool laser/IR guided missiles. It is frequently coupled with stealth advances so that the ECM systems have an easier job. Offensive ECM often takes the form of jamming. Defensive ECM includes using blip enhancement and jamming of missile terminal homers.

3.3.38 Electrostatic Discharge (ESD).

Static electricity. A transfer of electrostatic charge between objects of different potentials caused by direct contact or induced by an electrostatic field. Devices such as integrated circuits and discrete devices (e.g., resistors, transistors, and other semiconductor devices) are susceptible to damage from electrostatic discharge.

3.3.39 End Item Code (EIC).

A code representing a final combination of end products, component parts, or materials that is ready for its intended use (e.g., tank, mobile machine shop, aircraft, receiver, rifle, recorder).

3.3.40 Embedded.

Describes hardware and or software which forms an integral part/component of some larger system and which is expected to function without human intervention. An embedded system usually does not include peripherals (e.g., keyboard, monitor, storage etc.). Embedded systems most often will provide real-time response.

3.3.41 Equipment Improvement Recommendation (EIR).

Solicitation of suggestions from end item users/operators for means to improve the operation and effectiveness of equipment. The SF Form 368 is the instrument by which suggested improvements are forwarded to the cognizant agency.

3.3.42 Equipment Nomenclature.

The official name of the equipment as shown in FEDLOG H6 listing, except for software.

3.3.43 Essential.

Those systems/subsystems/components that are required for a designated mission or system operation.

3.3.44 Evacuation.

A combat service support function which involves the movement of recovered material from a main supply route; maintenance collection material may be returned to the user, to the supply system for reissue, or to property disposal activities.

3.3.45 Expendable Items.

Items, other than repair parts, that are consumed in use (e.g., paint, lubricants, wiping rags, tape, cleaning compounds, sandpaper).

3.3.46 Extensible Markup Language (XML).

A set of rules for encoding documents electronically through the use of markup. Its primary purpose is to facilitate the sharing of structured data across different information systems. It is a product of the World Wide Web Consortium (W3C).

3.3.47 Extensible Stylesheet Language (XSL).

A family of languages used to transform and render XML documents.

3.3.48 Follow-on Maintenance.

A maintenance task or tasks that must be accomplished after the completion of a maintenance task or tasks. Followon maintenance is used to clean up or undo actions performed prior to or during a maintenance task and may be done directly after the task or after several tasks. For example, if a panel is removed to perform maintenance, it must be put back when the maintenance task is complete or may be done after several tasks requiring removal of the panel are completed.

3.3.49 Footer.

One or more lines of standard text that appear at the bottom of each page (also called feet and running feet).

3.3.50 Functional Diagram.

A type of illustration in which symbols are connected by lines to show relationships among the symbols. The symbols may be rectangles or other shapes, standard electronic symbols representing components or functions, or pictorials representing equipment or components. Where appropriate, voltage readings are shown. The lines may represent procedures or processes, such as signal or logic flow, and physical items, such as wires. Functional diagram includes schematics, wiring and piping diagrams, logic diagrams, flow charts, and block diagrams.

3.3.51 Functional Group Code (FGC).

A numeric or alphanumeric code assigned to identify major components, assemblies, and subassemblies to a functional system. Subordinate subfunctional groups/subassemblies are coded to relate back to the basic (top position) FGC in a sequential, Next Higher Assembly (NHA) relationship. For aviation systems, FGCs are prescribed by DA PAM 738-751. TB 750-93-1 may be used for some tactical vehicles as specified by the acquiring activity. Software used on the equipment is considered a major component and would be assigned an FGC accordingly.

3.3.52 Graphic(s).

Any type of presentation or representation which gives a clear visual impression.

3.3.53 Hazardous Air Pollutants-(HAP-) Free.

HAP-free means a material that contains no more than 0.1 percent by mass of any individual HAP that is an Occupational Safety and Health Act- (OSHA-) defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP, as demonstrated by a specification or standard, or a manufacturer's representation, such as in a material safety data sheet or product data sheet.

3.3.54 Hardness Critical Item (HCI).

A support item that provides the equipment with special protection from Electromagnetic Pulse (EMP) damage during a nuclear attack.

3.3.55 Hardness Critical Process (HCP).

A process affecting a mission critical item which could degrade system survivability in a nuclear, biological, or chemical hostile environment if hardness were not considered. Nuclear HCPs are processes, finishes, specifications, manufacturing techniques, and/or procedures which are hardness critical, and which, if changed, could degrade nuclear hardness.

3.3.56 Hardtime Interval Maintenance.

Hardtime interval maintenance is scheduled maintenance conducted at predetermined fixed intervals because of age, calendar, or use such as operating time, flying hours, miles driven, or rounds fired.

3.3.57 Hardware Breakdown.

A breakdown accomplished by sequencing all parts comprising the end item in a lateral and descending "family tree/generation breakdown." This breakdown consists of the end item, including all components, listing every assembly, subassembly, and parts which can be disassembled, reassembled/replaced. All parts are listed in their relation to the end item, component, assembly, or installation system in which they are contained and to their own further sub-sub-assemblies and parts. This relationship is shown by means of an indenture code.

3.3.58 Header.

One or more lines of standard text that appear at the top of each page (also called heads and running heads).

3.3.59 Icon.

Pictorial representation; visual image to give immediate recognition of a hazard or to provide essential information.

3.3.60 Illustration.

A general term meaning graphic presentations of all types. Illustrations include pictorials, functional diagrams, and line graphs. This term is used synonymously with figure, graphic, drawing, diagram, and artwork.

3.3.61 Index Number/Item Number.

Terms used interchangeably to mean a type of callout that is a number used to identify an item in an illustration or table.

3.3.62 Inspect.

To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

3.3.63 Install.

Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of equipment or a system.

3.3.64 Institute of Electrical and Electronics Engineers (IEEE).

Membership organization that includes engineers, scientists, and students in electronics and allied fields. Founded in 1963, it has over 300,000 members and is involved with setting standards for computers and communications.

3.3.65 International Organization for Standardization (ISO).

Organization that sets international standards, founded in 1946 and headquartered in Geneva. It deals with all fields except electrical and electronics, which is governed by the older International Electrotechnical Commission (IEC), also in Geneva. With regard to information processing, ISO and IEC created Joint Technical Committee for Information Technology (JTCI).

3.3.66 Interchangeability.

The ability to use a part/component on more than one end item or assembly due to similar fit, form and function.

3.3.67 Legend.

A tabular listing and explanation of the numbers or symbols on a figure or an illustration.

3.3.68 Limited Repair.

Scope of corrective repair authorized to be performed by a level of maintenance lower than the level of authorized complete repair.

3.3.69 Linear Data.

Linear data is technical data that is displayed in a sequential or document oriented manner. The sequence of the data presentation is largely determined by the data author. It is an organization of technical data that often replicates the order of information found in a page-based document. There is generally a default "path" through the technical data. Linear data should be used for information/tasks that must be done or must follow a certain order such as operating instructions, general information, some maintenance tasks, and simple troubleshooting tasks.

3.3.70 List of Applicable Publications (LOAP).

A separate listing of publications which are related to a specific piece of equipment, group of equipment, or system. For additional information refer to MIL-PRF-63049.

3.3.71 Logistics Product Data (LPD).

The LPD comprises the support and support-related engineering and logistics data acquired from contractors for use in materiel management processes such as those for initial provisioning, cataloging, and item management. Depending upon specific program requirements, this data may be in the form of summary reports, a set of specific data products, or both.

3.3.72 Maintenance Allocation Chart (MAC).

A list of equipment maintenance tasks showing maintenance level, maintenance class, and corresponding man-hours required for each task. The MAC is arranged in functional group code sequence or top-down breakdown sequence and uses the same sequence as used in the parts information.

3.3.73 Maintenance Class.

Maintenance classes are subsets of field and sustainment maintenance levels. They identify and implement the specific activity, identified by the MAC, to perform the maintenance. The maintenance classes of both the field and sustainment maintenance levels are further separated by aviation and non-aviation and the corresponding classes are shown below:

a. Field level classes:

(1) Aviation

(a) AMC - corresponds to MAC code - O.

(b) ASB - corresponds to MAC code - F.

(2) Non-aviation

(a) Crew (operator) - corresponds to MAC code - C (can be O in joint service manuals).

(b) Maintainer - corresponds to MAC code - F.

b. Sustainment level classes:

(1) Aviation

(a) TASMG - corresponds to MAC code - L.

(b) Depot - corresponds to MAC code - D.

(2) Non-aviation

(a) Below depot - corresponds to MAC code - H.

(b) Depot - corresponds to MAC code - D.

3.3.74 Maintenance Function.

Maintenance function is synonymous with maintenance tasks (refer to [3.3.76](#) for definition) and is used in the MAC and in maintenance policy documents.

3.3.75 Maintenance Level.

The primary division of maintenance activities. The U.S. Army uses a two-level maintenance concept. The two levels are "field" and "sustainment."

3.3.76 Maintenance Task.

A group of instructions with supporting illustrations on how to perform a maintenance action such as remove or install, etc. Each task has a definite beginning and end. A task is made up of one or more procedures.

3.3.77 Maintainer Maintenance.

Consists of the following:

- a. Performance of PMCS.
- b. Inspections.
- c. Lubrication, cleaning, preserving, tightening, replacement, and minor adjustments authorized by the MAC.
- d. Diagnosis and fault isolation as authorized by the MAC.
- e. Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC.
- f. Requisition, receipt, storage, and issue of repair parts.
- g. Verification of faults and level of repair of unserviceable materiel prior to evacuation.
- h. If beyond the MAC authorization, evacuate to next higher level (sustainment) or turn in to the appropriate supply support activity.
- i. Recovery or coordination for transportation of equipment to and from the support unit of action.
- j. Accomplishment of all actions directed by the AOAP.
- k. Materiel readiness reporting.
- l. Coordination and annotation of field level MWOs.
- m. Providing maintenance support to sustainment maintenance activities.
- n. Diagnosis and isolation of materiel or module malfunctions, adjustment, and alignment of modules that can be readily completed with assigned tools and TMDE.
- o. Performance of light body repair.
- p. Turn-in of components with maintenance repair codes of F, D, H, and L recoverable components to the support activity.
- q. Fabrication as identified by the appropriate TM.
- r. Operation of cannibalization points, when authorized.
- s. Identify and annotate corrosion and take corrective actions within the organization's capability to prevent or repair corrosion damage to Army materiel.
- t. Apply Corrosion Inhibiting Compounds IAW TB 43-0213 - Corrosion Prevention and Control (CPC) for Army Ground Equipment.
- u. Performance of Spot-Painting IAW TM 43-0242 - Chemical Agent Resistant Coating Spot Painting for Army Ground Equipment.
- v. Performance of Repainting IAW TM 43-0139 - Painting Instructions for Army Materiel.

w. Ensure that inspection, maintenance requests, and deficiency reports involving corrosion are submitted using the Corrosion/Rotted cause code (170). This includes failures where corrosion contributed to system or equipment failure or for maintenance being done as either a preventative measure or as a result of corrosion. Reports include:

- (1) DA Form 2404 (Equipment Inspection and Maintenance Worksheet).
- (2) DA Form 5988 - E (Equipment Maintenance and Inspection Worksheet).
- (3) DA Form 2407 (Maintenance Request).
- (4) DD Form 1225 (Storage Quality Control Report).
- (5) SF 364 (Report of Discrepancy (ROD)).
- (6) SF 368 (Product Quality Deficiency Report).

3.3.78 Mean Time Between Failures (MTBF).

Mean time between failure (MTBF) refers to the average amount of time that a device or product functions before failing. This unit of measurement includes only operational time between failures and does not include repair times, assuming the item is repaired and begins functioning again. MTBF figures are often used to project how likely a single unit is to fail within a certain period of time under specific conditions.

3.3.79 Mean Time to Repair (MTTR).

MTTR is a basic measure of the maintainability of repairable items. It represents the average (mean) time required to repair a failed component or device.

3.3.80 Modified Table of Organization and Equipment (MTOE).

A modified version of a TOE that authorizes the unit organization, personnel, and equipment needed to perform an assigned mission in a specific geographical or operational environment.

3.3.81 Modification Work Order (MWO).

Detailed instructions (including text and graphics) for making changes/improvements to a particular system in order to bring the system up to date and/or to improve its overall efficiency. (Refer to MIL-PRF-63002.)

3.3.82 Module.

A self-contained assembly of electronic components and circuitry, such as a circuit board in a computer, that is installed as a unit.

3.3.83 Mouse-Over.

A program element that triggers a change on an item (typically a graphic change, such as making an image or hyper-link appear) in a viewer when the pointer passes over it. The change usually signifies that the item is a link to related or additional information. Mouse-overs are used in navigation bars, pop-up dialog boxes, window panes, and or in-form submissions.

3.3.84 National Item Identification Number (NIIN).

The last nine digits of the National/NATO (North Atlantic Treaty Organization) stock number. The first two digits of the NIIN identify the country assigning the number and the remaining seven digits are a serially assigned number.

3.3.85 National Maintenance Work Requirement (NMWR).

A maintenance serviceability standard for depot level reparable that does not have an existing depot maintenance work requirement and for field level reparable that are repaired by maintenance activities below the depot level maintainers for return to the Army supply system.

3.3.86 Next Higher Assembly (NHA).

Assembly or subassembly of which subject component(s) or subassembly are a subpart.

3.3.87 Nomenclature.

The approved name or alphanumeric identifier assigned to an item, piece of equipment, or component in agreement with an organized designation system except for software.

3.3.88 Non-Destructive Inspection (NDI).

Testing/inspection of a nature, which does not impair the usability of the item.

3.3.89 Non-Linear Data.

Non-linear data is technical data that is not displayed in a sequential fashion. There are high levels of interactivity between the data and the user. The order of presentation is dictated by inputs from the user, from external sources or from events (as in diagnostics). Non-linear organization of content does not follow a document or page-based layout. Non-linear data may be used for areas of the publication that do not require a specific order such as complex troubleshooting or maintenance tasks.

3.3.90 Note.

Used to highlight essential information, conditions, or statements or convey important instructional data to the user.

3.3.91 On-Condition Maintenance.

Maintenance performed or an item replacement action performed based upon condition of the item as determined by an evaluation of each item on a scheduled basis.

3.3.92 Operator (Crew) Maintenance.

Operator and/or crew maintenance is the first and most critical operation of the Army Maintenance System. It is the cornerstone of Army maintenance and starts with the operator and/or crew performing PMCS using the applicable TM 10 series. The before and during PMC concentrate on ensuring equipment is fully mission capable. Maintenance operations normally assigned to operator and/or crew include the following:

- a. Performance of PMCS.

- b. Inspections by sight and touch of accessible components per TM 10 series and condition based maintenance indicators/ instrumentation.
- c. Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.
- d. Limited diagnosis and fault isolation as authorized by the MAC. This requires appropriate resources on-board the equipment or system to perform these tasks.
- e. Replacement of combat spares (unserviceable parts, modules, and assemblies) as authorized by the MAC and carried on board the equipment or system.

3.3.93 Overhaul.

That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul does not normally return an item to like new condition.

3.3.94 Overhaul Inspection Procedure (OIP).

Routine maintenance inspection conducted just prior to period specified for removal of aircraft for overhaul or retirement.

3.3.95 Part Number (P/N).

A primary number used to identify an item used by the manufacturer (individual, company, firm, corporation, or Government activity) that controls the design, characteristics, and production of the item by means of its engineering drawings, specifications, and inspection requirements.

3.3.96 Phase Maintenance Inspection (PMI) (aircraft).

A thorough and searching examination of the aircraft and associated equipment. Removal of access plates, panels, screens, and some partial disassembly of the aircraft is required to complete the inspection. Inspections are due after an appointed number of flying hours since new or from the completion of the last inspection.

3.3.97 Pictorial.

A type of diagram used to show the physical view of components and to show relative location and size.

3.3.98 Preshop Analysis.

To determine, prior to beginning maintenance activities, the extent of maintenance required to return the end item, assembly, subassembly, or component to a serviceable condition as specified by the depot level maintenance instructions.

3.3.99 Preventive Maintenance (Scheduled Maintenance).

The performance of scheduled inspections and maintenance functions necessary to keep the equipment in serviceable condition and ready for its primary mission.

3.3.100 Preventive Maintenance Checklist (PMC).

A stand-alone publication that contains PMCS information for any or all maintenance levels and intervals performed by the operator and/or maintainer to ensure that the equipment is mission capable and in good operating condition. The information in the PMC is extracted from the associated operator and/or maintenance manuals.

3.3.101 Preventive Maintenance Daily (Aircraft).

Inspection of aircraft and associated equipment after the last flight of the mission day or before the first flight of the next day. Some operational checks and removal of screens, panels, and inspection plates may be required to accomplish the inspection.

3.3.102 Preventive Maintenance Services Inspection (Aircraft).

Special recurring inspection of aircraft and associated equipment after an appointed number of flying hours or days whichever occurs first (e.g., 10 flying hours or 14 days). Some operational checks and removal of screens, panels, and inspection plates may be required to accomplish the inspection.

3.3.103 Preventive Maintenance Checks and Services (PMCS).

Preventive maintenance checks and service is the care, servicing, inspection, detection, and correction of minor faults before these faults cause serious damage, failure, or injury. The procedures and the category of maintenance to perform PMCS are found in the TM, LO, and sometimes PMC. Lubrication may be included in PMCS. PMCS procedures can be performed by maintainers at any level of maintenance, not just by operators. PMCS is for nonaviation systems only. Scheduled PMCS is usually performed by field maintainers and takes the equipment out of service for a period of time.

3.3.104 Proponent.

An Army organization or staff, which has been assigned primary responsibility for material or subject matter in its area of interest.

3.3.105 Publication Identification Number (PIN).

A number (assigned by Army Publishing Directorate (APD) to each publication) that is comprised of six numerals and a three-digit "change number" field that permits ordering a specific change to the publication (e.g., 001 for change 1, 023 for change 23).

3.3.106 Publication Type.

The type of publication (TM, DMWR, NMWR, MWO, SC, SB, TB, etc.). This does not include presentation types (IETP or page-oriented).

3.3.107 Quality Assurance (QA).

A planned and systematic pattern of all actions necessary to provide adequate confidence that the item or product conforms to established technical requirements.

3.3.108 Rebuild.

Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing tolerances.

3.3.109 Reference Designator.

Letters or numbers, or both, used to identify and locate discrete units, portions thereof, and basic parts of a specific equipment, assembly, or subassembly.

3.3.110 Reliability, Maintainability and Supportability (RMS) and Operational Availability (Ao).

Requirements imposed on materiel systems to ensure that they are operationally ready for use when needed, will successfully perform assigned functions, and can be economically operated and maintained within the scope of logistic concepts and policies.

3.3.111 Reliability Centered Maintenance (RCM).

A systematic approach for identifying preventive maintenance tasks for an equipment end item in accordance with a specified set of procedures and for establishing intervals between maintenance tasks.

3.3.112 Remove.

To remove an item when required to perform service or other maintenance functions. The act of taking a subcomponent off an asset to allow repair or replacement of that subcomponent or to facilitate other maintenance.

3.3.113 Repair.

The application of maintenance services (inspect, test, service, adjust, align, calibrate, and/or replace), including fault location/troubleshooting, removal/installation, and disassembly/ assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system. Repair is authorized by the LPD/MAC and the assigned maintenance level is shown as the fourth position code of the SMR code.

3.3.114 Repair Part.

Consumable items or material required for the maintenance, overhaul or repair of a system, equipment, or end item.

3.3.115 Replace.

To remove an unserviceable spare or repair part and install a serviceable counterpart in its place. Replace is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code.

3.3.116 Revision.

A revision is composed of corrected, updated, or additional pages or data modules to the current edition of a publication. It consists of replacement data modules that contain new or updated technical information, or improves, clarifies, or corrects existing information in the current edition of the publication.

3.3.117 Schematic Diagram.

A graphic representation showing the interrelationship of each component or group of components in the system/equipment. The essential characteristic of these diagrams is that every maintenance-significant functional component is separately represented. Also, where appropriate, voltage readings, hydraulic values, and pneumatic values should be shown.

3.3.118 Service.

Operations required periodically to keep an item operating, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

3.3.119 Set.

A unit and necessary assemblies, subassemblies, and parts connected together or used in association to perform an operational function (e.g., radio receiving set, measuring set, radar, or homing set which includes parts, assemblies, and units such as cables, microphones, and measuring instruments).

3.3.120 Source, Maintenance, and Recoverability (SMR) Code.

This code is composed of four parts consisting of a two-position source code, a two-position maintenance code, a one-position recoverability code and a one-position Service option code. The first two positions of the SMR code indicate the source for acquiring the item for replacement purposes. The third position represents who can install, replace, or use the item. The fourth position dictates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform a complete repair action. The fifth position indicates the recoverability intention/disposition intent and the maintenance level authorized to carry that out for unserviceable support items and for repairable items. The sixth position is unique to each Service and is utilized to disseminate specific instructions to that Service's logistics business process.

3.3.121 Spare Part.

Repairable component or assembly used for maintenance replacement purposes in the end items of equipment. They are articles identical to or interchangeable with the components of end items on contract which are procured over and above the quantity needed for initial installation for support of a system.

3.3.122 Special Tools/Kits.

Those tools/kits that have single or peculiar application to a specific end item/system.

3.3.123 Specialized Repair Activity (SRA).

A level of maintenance usually characterized by the capability to perform maintenance functions requiring specialized skills, disciplined quality control, highly sophisticated and expensive special tools, and Test, Measurement, and Diagnostic Equipment (TMDE). Its phases normally consist of adjustments, calibration, alignment, testing, troubleshooting, assembly, disassembly, fault isolation, and repair of unserviceable parts, modules, and Printed Circuit Boards (PCBs).

3.3.124 Subassembly.

Two or more parts that form a portion of an assembly or a component replaceable as a whole, but having a part or parts that are individually replaceable (e.g., gun mount stand, window recoil mechanism, floating piston, intermediate frequency strip, and mounting board with mounted parts).

3.3.125 Supply Catalog (SC).

The DA publication, which is the configuration control document that provides the user identification of Sets, Kits and Outfits (SKO) and its components. It also provides user supply management data and is an accountability aid. For Army, there is only one official SC with multiple component lists (CL).

3.3.126 Sustainment Maintenance.

Sustainment is off-system maintenance and is mainly repair of defective equipment/parts. Sustainment maintenance returns repaired equipment/parts to supply system.

3.3.127 System.

A group of items united or regulated by interaction or interdependence to accomplish a set of specific functions.

3.3.128 Tags.

Descriptive markup, as in a start-tag and end-tag.

3.3.129 Tailoring (Business Rules).

The process of evaluating individual potential requirements to determine their pertinence and cost effectiveness. The tailoring of data requirements is limited to the exclusion of information requirement provisions and selecting or specifying applicable requirements.

3.3.130 Task.

A generic task is a procedure or set of procedures. Refer to definitions of operating instructions and maintenance task. Refer to AR 750-1 for exact terms and definitions.

3.3.131 Technical Manual (TM).

A manual that contains instructions for the installation, operation, maintenance, and support of a weapon system, weapon system components, and support equipment. TM information may be presented, according to prior agreement between the contractor and the Government, in any form or characteristic, including hard printed copy, audio and visual displays, electronic imbedded media, disks, other electronic devices, or other media. They normally include operational and maintenance instructions, parts lists, and related technical information or procedures exclusive of administrative procedures.

3.3.132 Test.

To verify serviceability by measuring the mechanical, pneumatic, hydraulic, electrical, or electronic characteristics of an item and comparing those characteristics with prescribed standards.

3.3.133 Test, Measurement, and Diagnostic Equipment (TMDE).

Any system or device used to evaluate the operational condition of an end item or subsystem thereof, or to identify and/or isolate any actual or potential malfunction. TMDE includes diagnostic and prognostic equipment, semiautomatic and automatic test equipment (with issued software), and calibration test or measurement equipment.

3.3.134 Time Between Overhaul (TBO) Items.

Those items having a definite retirement schedule within a defined overhaul interval, e.g., those items, which are replaced within a system assembly, subassembly, or component between scheduled overhauls.

3.3.135 Top-Down Breakdown.

The pyramidal breakdown of an end item, with the top item being the complete end item. The process of breakdown is established from the engineering drawing structure in an NHA progression until the lowest reparable in each family tree group is identified. All nonreparables (spare parts) can be identified in like manner to establish their NHA relationships.

3.3.136 Usable On Code (UOC).

A one to four position alphanumeric code representing the applicable configuration in which an item is used.

3.3.137 User.

A person using the technical manual.

3.3.138 Viewer.

A program that allows a file to be displayed but not changed. Viewers are often freely distributable and platform independent, even when the editor application is not. This characteristic allows authors to create IETPs with an editor application and make the viewer, which displays the IETP, available to other users.

3.3.139 Warning.

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in injury or death during performance of the procedure or that could result in long term health hazards.

3.3.140 Wiring Diagram.

Diagram illustrating signal flow or wiring connections. Where appropriate, voltage readings should be shown.

3.4 Special Terms.

The following terms are unique to S1000D and identified here to draw comparisons and contrasts with terms used in legacy Army publications and standards.

3.4.1 Applicability.

The state or condition when associated data is valid (i.e., applying to a certain configuration, model, or even environmental condition). Applicability may also be used to describe how data modules pertain to different customers for delivery. The term "effectivity" is not used by S1000D.

3.4.2 Filtering.

The process of applying criteria based on the applicability information to determine what data is valid for a certain situation. Data modules can be filtered based on tail numbers, serial numbers, modifications, configurations, etc.

3.4.3 Illustrated Parts Data (IPD).

Data modules that contain repair parts and special tools information.

3.4.4 Information set.

Information sets define content depth requirements. Information set requirements can be collected together to provide an author with content depth requirements for a subset of data to be authored or an entire publication.

3.4.5 Interactive Electronic Technical Publication (IETP).

The interactive presentation of data modules that are displayed on screen and are not page formatted. This is roughly equivalent to the more U.S.-common term Interactive Electronic Technical Manual (IETM). Refer to [3.3.64](#).

3.4.6 Page-formatted (or page-oriented) publication.

A presentation of data modules formatted as a printed page. This can be literally printed or presented on screen (as with Portable Document Format [PDF]).

3.4.7 Product.

The equipment or materiel that is the primary subject of the technical data. This is used in lieu of terms like "aircraft," "vehicle," or "ship" since the specification can apply to air, land, and sea products.

3.4.8 Publication.

A publication refers to the presentation of data modules regardless of its output format (e.g., screen or paper).

3.4.9 Reset area.

The reset area is a part of the IETP viewing area that contains access to functionality such as the ability to return the IETP view back to its default settings. This is sometimes referred to as the guidepost.

3.4.10 Standard Numbering System (SNS).

Consists of three groups of characters. Intended to provide standardization in the arrangement or addressing of the Product. It is part of the data module code.

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4 GENERAL REQUIREMENTS

4.1 General.

This standard establishes the business rules to be used with S1000D Issues 4.2 for the preparation of page-based technical publications and Interactive Electronic Technical Publications (IETPs) required to support the various types of equipment and weapon systems within the Department of the Army and the Department of the Marine Corps. The requirements contained in this standard cover operation and maintenance at all levels through overhaul (depot), including Depot Maintenance Work Requirements (DMWRs) and National Maintenance Work Requirements (NMWRs).

4.2 Types of technical publications.

This standard provides requirements for both page-oriented publications and IETPs. [APPENDIX A](#). Content Selection Matrices, list specific technical content requirements for each type of maintenance manual, including multilevel publications, covered by this standard. Each type of publication shall provide in detail the maintenance coverage prescribed for the applicable maintenance level(s) by the Maintenance Allocation Chart (MAC) and Source, Maintenance, and Recoverability (SMR) coded items.

4.3 Selective application and tailoring.

This standard contains some requirements that may not be applicable to the preparation of all technical manuals. Selective application and tailoring of the business rules contained in this standard are the responsibility of the acquiring activity. The applicability of some requirements is also designated by one of the following statements: unless specified otherwise by the acquiring activity; as/when specified by the acquiring activity; or when specified by the acquiring or proponent activity; or following the heading "Project decisions."

4.4 Preparation of digital data for electronic delivery.

Technical manual data prepared and delivered digitally in accordance with this standard shall be Extensible Markup Language (XML) tagged using the S1000D schemas in accordance with S1000D. The schemas referenced in this standard interpret the technical content and structure for the functional requirements contained in this standard and S1000D and are mandatory for use. Development of publications is accomplished through the use of the schemas combined with the requirements contained in this standard and S1000D. For additional information on the schemas, refer to S1000D. The schemas may be obtained from <https://s1000d.org>.

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5 DETAILED REQUIREMENTS

5.1 S1000D Chapter 1.3 - How to use the specification.

5.1.1 Army business rules.

5.1.1.1 List of permitted CAGE codes and/or names to be used for the technical publication project.

BRDP-S1-00002: Create a list of permitted CAGE codes and/or names of the enterprises.

The project shall define a list of acceptable originator CAGE values. If the attribute **originatorName** is used, values shall also be included in the list. (BR-ARMY-00109)

5.1.2 Project decisions.

5.1.2.1 Use of "I" and "O."

BRDP-S1-00001: Decide whether and when to use the alpha characters "I" and "O".

5.2 S1000D Chapter 1.4 - Introduction to the specification - How to tailor for a specific project.

5.2.1 Army business rules.

5.2.1.1 General.

The project shall develop business rules documenting the details of the tailoring of S1000D for a specific project. These rules shall include documented decisions for every decision point. (JS-001)

5.2.1.2 Order of precedence.

Project business rules shall not contradict or supersede higher-level DoD or Joint Service business rules or requirements contained within S1000D. (JS-002)

5.2.1.3 Business rules sustainment.

Project business rules shall be developed prior to the start of development of technical data. Business rules shall be updated throughout the life of the project as necessary to reflect the project environment. (JS-003)

5.2.1.4 Use of S1000D Schemas.

S1000D provided schemas shall not be modified. (JS-088)

5.2.2 Project decisions.

None.

5.3 S1000D Chapter 1.5 - Introduction to the specification - Request for change.

5.3.1 Army business rules.

5.3.1.1 Changes to S1000D.

Programs may identify changes and needed improvements to S1000D. Programs shall submit all change requests to Army Logistics Data Analysis Center (LDAC) AMLD-LST Redstone Arsenal, AL 35898-5000. LDAC will coordinate and assist with other appropriate actions to shepherd the Change Proposal Form (CPF) through the United States S1000D Management Group (USSMG) and international S1000D Steering Committee processes. (BR-ARMY-00001)

5.3.2 Project decisions.

None.

5.4 S1000D Chapter 2.5.1 - Business rules - Categories and layers.

5.4.1 Army business rules.

5.4.1.1 Issue of S1000D to be used.

BRDP-S1-00003: Decide which issue or issues of S1000D to be used.

These rules are written for use with S1000D issue 4.2. (BR-ARMY-00013)

5.4.2 Project decisions.

5.4.2.1 Information sets to be used.

BRDP-S1-00004: Decide which information sets, given in S1000D and/or project specific, to be used.

5.4.2.2 Publications to be produced.

BRDP-S1-00005: Decide which publications to be produced.

5.4.2.3 Schemas to be used.

BRDP-S1-00006: Decide which Schemas to be used and in which information set they are to be used.

5.4.2.4 Use of optional elements and attributes.

BRDP-S1-00007: Decide whether and how to use each optional element and attribute in its structural context.

5.4.2.5 Possible deliverables.

BRDP-S1-00008: Decide on the possible deliverables, such as:

- a. S1000D objects (eg, data modules, publication modules, illustration sheets and multimedia objects, data management lists) using file based transfer. Refer to Chap 7.5.1.
- b. Page-oriented publications and/or interactive electronic technical publications.

5.4.2.6 Frequency of data exchanges.

BRDP-S1-00009: Decide on the frequency of data exchanges.

5.5 S1000D Chapter 3.3 - Information generation - Information sets.

5.5.1 Army business rules.

5.5.1.1 Content selection matrices.

Content Selection Matrices list specific technical content requirements for each type of maintenance manual, including multilevel TMs/IETPs, covered by this standard. Each type of TM/IETP shall provide in detail the maintenance coverage prescribed for the applicable maintenance level(s) by the MAC and SMR-coded items. The content selection matrices and the business rules provided in this standard list all applicable technical content breadth requirements for the development of S1000D TMs and IETPs. This is mandatory. The information contained herein is intended for compliance. Copies of the applicable matrices shall be completed and added as an attachment to the Document Summary List of the contract. The content selection matrices and information sets described in this standard shall be used when preparing technical content for Army manuals. The example information sets provided in S1000D Chapter 5.2 do not sufficiently specify, and in some cases are in conflict with, Army content depth and breadth requirements and shall not be used. (BR-ARMY-00002)

5.5.1.2 Content selection.

The matrices in [APPENDIX A](#) simplify tailoring the technical content requirements of technical manuals prepared using this standard as a guide. The matrices indicate which portions of this standard are applicable and list the content requirements for each type of TM/IETP. The content requirements for each applicable TM/IETP shall be arranged in the order presented in the matrices. (BR-ARMY-00003)

5.5.1.3 Additional information sets.

When specified by the acquiring activity, additional data modules shall be prepared when the information sets described herein do not support the data/information to be presented. Projects that identify requirements for an information set not specified here shall coordinate with LDAC to ensure consistent implementation across the Army. (BR-ARMY-00004)

5.5.2 Project decisions.

None.

5.6 S1000D Chapter 3.4 - Information generation - Zoning and access.

5.6.1 Army business rules.

5.6.1.1 Method for zoning and identifying access points.

BRDP-S1-00011: Decide which method to use for zoning and identifying access points.

When zoning and access information is a requirement for data modules, zones and access points shall be determined in accordance with the principles, requirements, and coding as defined in S1000D. Full zoning and access point definitions shall be defined within project business rules. (JS-004)

5.6.2 Project decisions.

5.6.2.1 Zone and access point identification system.

BRDP-S1-00010: Decide whether to use a zoning and access identification system.

5.7 S1000D Chapter 3.5 - Information generation - Updating data modules.

5.7.1 Army business rules.

5.7.1.1 Change package.

Changes shall consist of the following:

- a. Data Dispatch Note.
- b. All changes, including:
 - (1) Applicable publication modules.
 - (2) Changed front matter/rear matter.
 - (3) Changed/new data modules.
 - (4) Changed/new illustrations.
 - (5) Authentication information.
 - (6) The Publication Identification Number (PIN) shall be on the last page of the change package.
- c. Change transmittal page (instructions for implementing the change). (BR-ARMY-00005)

5.7.1.2 Revisions.

With new revisions, all previous change information shall be removed, but should be maintained for configuration control of the previous revisions to the publication. (BR-ARMY-00006)

5.7.1.3 Changes to front and rear matter.

Changes to front and rear matter pages and all data module pages shall include the applicable issue number located on the outer edge of the page opposite the binding side. (BR-ARMY-00007)

5.7.1.4 Changed data modules.

Changed data modules shall conform to the style and format of the basic publication/IETP and shall incorporate all approved information. (BR-ARMY-00008)

5.7.2 Project decisions.

None.

5.8 S1000D Chapter 3.6 - Information generation - Security and data restrictions.

5.8.1 Army business rules.

5.8.1.1 Classified data modules.

The project or organization business rules shall identify the latest instructions/directives at time of contract award. As of the release of this update to the standard, the current documents for classification are DoDM 5200.01, volumes 1-4, and DoDD 5220.22-M, and Executive Order 13526. (BR-ARMY-00010)

5.8.1.2 Controlled Unclassified Information (CUI).

When specified by the acquiring activity, a CONTROLLED UNCLASSIFIED INFORMATION (CUI) protectively marked TM shall be prepared. Any TM containing CUI information shall contain the required protective markings. Refer to DODI 5200.48 for specific requirements on using the CUI protective marking. (BR-ARMY-00011)

5.8.1.3 Retention of security classifications.

BRDP-S1-00015: Decide on the retention of security classification changes.

The retention of security classification markings shall be in accordance with DoD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-094)

5.8.1.4 Use and markings of security classifications (attribute `securityClassification`).

BRDP-S1-00013: Determine how the security classifications will be used.

The attributes `securityClassification` and `caveat` on the element `<security>` shall contain the overall classification of the publication or data module as specified in DoD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-017)

5.8.1.5 Marking of security classification.

BRDP-S1-00016: Decide on how the security classifications will be marked and/or indicated.

Security classifications shall be marked in accordance with DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-095)

5.8.1.6 Use of export control.

Projects shall decide whether export control regulations apply in accordance with DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-023)

5.8.2 Project decisions.**5.8.2.1 Application of caveats.**

BRDP-S1-00014: Determine if the policies that apply to security marking, instructions, etc, and how those markings are required to be applied within the given project.

5.8.2.2 Retention of derivative classifications changes.

BRDP-S1-00553: Decide on the retention of derivative classifications changes.

5.9 S1000D Chapter 3.7 - Information generation - Quality assurance.**5.9.1 Army business rules.****5.9.1.1 Final delivery of unverified data modules.**

Final delivery to the customer shall not include unverified data modules. At a minimum, <qualityAssurance> must be <firstVerification> (first verification or validation). (JS-005)

5.9.1.2 Verification rules.

The project verification rules shall comply with AMC-R 25-76. (BR-ARMY-00012)

5.9.1.3 Draft delivery of unverified data modules.

Draft data modules (i.e., inwork not equal to "00") may only be exchanged for the purposes of validation/verification and for other purposes expressly specified by the project. (JS-006)

5.9.2 Project decisions.**5.9.2.1 Rules for quality assurance.**

BRDP-S1-00017: Identify the project quality assurance rules and how those rules affect the methods used to perform quality assurance of the data modules/technical publications.

5.9.2.2 Rules for first and second verification.

BRDP-S1-00018: Decide on the rules for first and second verification. For example, such a rule might be that all data modules that have a safety related procedure must have first verification carried out "On object".

5.9.2.3 Review cycle process.

BRDP-S1-00019: Decide on the review cycle processes and procedures.

5.10 S1000D Chapter 3.9.1 - Authoring - General writing rules.

5.10.1 Army business rules.

5.10.1.1 Descriptive text.

Explanatory, descriptive, or theoretical text shall not contain procedures. (BR-ARMY-00014)

5.10.1.2 National Stock Number (NSN) and part numbers.

NSN and part numbers are allowed in tables and lists. NSN and part numbers are prohibited in illustrations. NSN and part numbers are allowed in narrative text only when necessary for identification and parts ordering. When used, NSN and part numbers shall be referenced to the corresponding parts information data module. (BR-ARMY-00018)

5.10.1.3 Military terms.

Military terms used shall be in accordance with Joint Publication (JP) 1-02, or any approved dictionary or glossary of Army military terms. (BR-ARMY-00019)

5.10.1.4 Nomenclature.

Unless specified otherwise by the acquiring activity, only approved names and official nomenclature shall be used. Official nomenclature shall be the nomenclature used in the FEDLOG H6 listing (<https://public.logisticsinformation-service.dla.mil/H6/search.aspx>). If the acquiring activity approves unofficial nomenclature (common name), an appropriate nomenclature cross-reference list shall be prepared for the manual and placed in the general information data module. Shortened versions of the approved nomenclature are not considered deviations. Approved nomenclature shall be used wherever the use of a common name might be ambiguous. (BR-ARMY-00020)

5.10.1.5 Terminology data base.

The project shall produce a terminology database or project glossary containing all product-specific maintenance terminology. A list of abbreviations shall be included. (BR-ARMY-00021)

5.10.1.6 Abbreviations.

The first use of abbreviations and acronyms within each data module shall have the word(s) spelled out completely with the abbreviation or acronym in parentheses immediately after the word(s). Acronyms such as "PMCS" shall be in all capital letters and shall contain no spaces or periods but abbreviations such as U.S., etc, e.g., etc may contain periods.

- a. Acronyms, abbreviations, and unusual terms may be used in any data module text, when applicable.
- b. Abbreviations and acronyms that are accepted as words (radar, sonar, laser, etc.) need not be spelled out completely.
- c. All abbreviations and acronyms used in the publication, including those in tables or figures, shall be defined in the "list of abbreviations/acronyms" paragraph of the general data module (IC/V 010A).

- d. Use of abbreviations and acronyms shall follow the following criteria:
- (1) Common abbreviations and acronyms shall be taken from ASME Y14.38.
 - (2) DOD unique abbreviations and acronyms shall be taken from JP 1.02.
 - (3) Army abbreviations and acronyms shall be taken from the Abbreviations, Brevity Codes, and Acronyms (ABCA) directory at <https://armypubs.army.mil/>.
 - (4) Any new abbreviations and acronyms shall be developed in accordance with AR 25-30.
- e. When abbreviations or acronyms are used as markings on the equipment (placarding), the same abbreviations or acronyms shall be used in the manual.
- f. When directed by the acquiring activity, the spelled-out version of the acronym or abbreviation can be displayed using a mouse-over technique or a link to the acronyms, abbreviations, and uncommon terms. Abbreviations may be plural (s) or possessive ('s). (BR-ARMY-00022)

5.10.1.7 Standard dictionary, grammar and writing.

BRDP-S1-00022: Decide which standard dictionary to use for producing data modules.

When using Standard American English, the U.S. Government Printing Office Style Manual (GP 1.23/4: ST 9/2008) shall be used as a general guide for Standard American English usage and punctuation. To determine and convey the proper spelling and meaning of words, the current version of Webster's International Dictionary of the English Language shall be used. (JS-007)

5.10.1.8 Use of equations.

The use of equations shall be held to the minimum use required by the needs of the user. (BR-ARMY-00023)

5.10.1.9 Specify the language.

BRDP-S1-00020: Decide which language to use for producing data modules.

Data modules shall be produced in English. (BR-ARMY-00024)

5.10.1.10 Proprietary names.

Trade names, copyrighted names, or other proprietary names applying exclusively to the product of one company shall not be used unless the items cannot be adequately described because of the technical involvement, construction, or composition. In such instances, lone, and if possible, several commercial products shall be listed, followed by the words "or equal." The same shall apply to manufacturers' part numbers or drawing numbers for minor parts where it is impractical to specify the exact requirements. If possible, the particular characteristics required for the "or equal" products shall be defined. (BR-ARMY-00025)

5.10.1.11 Advertising.

Publication material shall not contain advertising matter. (BR-ARMY-00026)

5.10.1.12 Nuclear hardness (Hardness-Critical Processes) marking.

All Hardness-Critical Processes shall be preceded with the acronym HCP (**itemCharacteristic="ic01"**), refer to [5.52.1.31](#). The acronym shall be prepared in boldface type and in the same style and size as the adjacent text. The acronym shall not be shown with the titles in the table of contents. Use of the acronym is as follows:

- a. When the entire task and all subordinate paragraphs and steps relate to establishing nuclear hardness, the value of the attribute **independentCheck** on the element **<mainProcedure>** shall be "HCP" and the acronym HCP shall precede the task title (e.g., HCP DISASSEMBLY). This is necessary because the element **<mainProcedure>** does not have an attribute **itemCharacteristic**.

- b. When the entire task and all subordinate paragraphs and steps do not contribute to establishing nuclear hardness, only those that do contribute shall be annotated with the acronym HCP. For example:

"SERVICING

1. _____

2. HCP _____ "

- c. Operating or maintenance actions which could degrade hardness, but which are not directly involved in establishing nuclear hardness, shall not be annotated with the acronym, but shall be preceded by a caution. (BR-ARMY-00027)

5.10.1.13 Electrostatic Discharge (ESD) sensitive marking.

All paragraphs addressing handling or maintenance which could damage ESD sensitive parts shall be marked with the acronym ESD as shown in the following (**itemCharacteristic="ic02"**), refer to [5.52.1.31](#). The acronym shall be prepared in boldface type and in the same style and size as the adjacent text. The acronym shall not be shown with the titles in the table of contents. Use of the acronym is described in the following list:

- a. When the entire task and all subordinate paragraphs and steps relate to ESD sensitive parts, the value of the attribute **independentCheck** on the element **<mainProcedure>** shall be "ESD" and the acronym ESD shall precede the task title (e.g., ESD DISASSEMBLY). This is necessary because the element **<mainProcedure>** does not have an attribute **itemCharacteristic**.

- b. When the entire task and subordinate paragraphs and steps are not directly related to ESD sensitive parts, only those which do apply shall be annotated with the acronym ESD. For example:

"SERVICING

1. _____

2. ESD _____ "

- c. Handling or maintenance actions which could damage ESD sensitive parts, but which are not directly related to handling or maintenance of ESD sensitive parts, shall not be annotated with the acronym ESD, but shall be preceded by a caution.

- d. Mark figures, drawings, and schematics with the ESD acronym. (BR-ARMY-00028)

5.10.1.14 Quality Assurance (QA).

Depot and aviation maintenance procedures, which have a QA impact, shall be identified by the acronym QA in boldface letters preceding the text (**itemCharacteristic="ic03"**), refer to [5.52.1.31](#). Only procedures at the step level shall be labeled with QA. For example:

"1. QA _____ " (BR-ARMY-00029)

5.10.2 Project decisions.

5.10.2.1 Use of ASD-STE100®.

BRDP-S1-00021: When producing data modules in English, decide whether to use ASD-STE100®.

5.10.2.2 Units of measure.

BRDP-S1-00025: Identify the standard to use for both primary and secondary units of measure.

5.10.2.3 Use of a terminology database or glossary.

BRDP-S1-00023: Decide whether to use a terminology database or a glossary. If used, agree on its content and management.

5.10.2.4 Use of a standard list of abbreviations.

BRDP-S1-00024: Decide whether to use a standard list of abbreviations. If used, agree on its content and management.

5.10.2.5 Highlighting text.

BRDP-S1-00026: Decide which method to use to highlight text.

5.11 S1000D Chapter 3.9.2 - Authoring - Illustration rules and multimedia.

5.11.1 Army business rules.

5.11.1.1 Repeating information

Duplicating information (i.e., authoring more than once) is discouraged. If it is necessary to repeat information to ensure completeness, references should be used to the maximum extent possible.

5.11.2 Project decisions.

5.11.2.1 Need of printable data.

BRDP-S1-00027: Decide which parts of the documentation (data modules and publications including IETP) need to be printable.

5.12 S1000D Chapter 3.9.2.1 - Illustration rules and multimedia - Illustrations, General.

5.12.1 Army content requirements.

5.12.1.1 Illustrations and graphs - Air crew manuals.

5.12.1.1.1 General.

Illustration formats shall be as specified by the acquiring activity in accordance with AR 25-30. Line drawings (black lines on white background) shall be used throughout the publication/IETP. Illustrations, including diagrams and schematics, shall be clear, simple, and complete, and shall contain all necessary callouts to support the text. The number of callouts on a single illustration or a single sheet of a multi-sheet illustration shall be 25 or less. If more than 25 callouts are required, the total number required shall be equally divided between two identical or similar illustrations. Broad-sides (illustrations that have been turned 90 degrees on the page) shall not be used.

5.12.1.1.2 Lettering.

Lettering and type on original artwork shall be well-defined and large enough to be easily read when the illustration is reproduced at page size. Lettering and type shall be in capital letters. The minimum font size shall be eight point type. Spacing of letters and words shall be controlled to ensure clear, legible copy.

5.12.1.1.3 Keys for illustrations.

Keys shall, when feasible, be included on the illustration. Where keys are too numerous or the explanations too lengthy to fit within the illustration cropped area without crowding, they shall be placed in tabular form immediately above or below the illustration or on the facing page. These tables shall be considered as a text function.

5.12.1.1.4 Presenting data graphically.

Unless otherwise specified by the acquiring activity, data that includes more than three variables shall be presented graphically. Data with three variables shall be presented graphically if it represents continuous data (for example, torque available as a function of altitude and temperature).

5.12.1.1.5 Explanatory text.

A brief explanation shall be provided for each graphic presentation including, but not limited to, description, purpose, procedure for use, applicable conditions, and effects of their variations.

5.12.1.1.6 Priorities.

Unless otherwise specified by the acquiring activity, the following order of priorities shall be followed while preparing graphical presentations:

- a. Minimize the possibility of user mistakes.
- b. Cover the full applicable range of data. Unless data ranges are specified in the illustration requirements of this standard, the maximum probable ranges to be expected in operation shall be used. MIL-HDBK-310 can be used for reference for ranges of climatic data.

- c. Provide adequate accuracy. The graphical presentation shall be readable over all ranges of the data. It shall also duplicate the source data to at least one percent of the applicable range of the parameter (for example, a free air temperature range from -60°C to +50°C should be readable to at least 1°C).
- d. Clarity and ease of use. Each graph shall be designed to directly provide the most commonly used parameters (for example, torque required to hover at known conditions of altitude, temperature, weight, and skid height). Less often used information, such as maximum temperature to hover at a given weight and altitude, shall be obtainable with additional effort.
- e. Place the graphs on the minimal number of pages, consistent with the importance of clarity and ease of use.
- f. General appearance, cost, and ease of production shall be given consideration, but only as three of the lesser priorities.

5.12.1.1.7 Titles for graphs.

Titles for graphs shall be the most succinct title that adequately indicates the nature of the graphical data.

5.12.1.1.8 Condition heading.

The range, parameter name, and units of each condition that apply to the data shall be listed with each condition separated. When abstract conditions (for example, clean configuration forward Center of Gravity (CG)) are used, they shall be described in detail and/or quantified in the accompanying text. Conditions that apply to more than three similar graphs shall be listed only on the first example and shall be referred to on all subsequent graphs in the series. General aircraft or system limits shall not be listed. Any condition known not to affect the data shall not be listed. The effect of variation of each listed condition on the data shall be discussed in the text. If the effect of condition variation is not known and cannot be estimated, it shall be so stated in the text. General conditions (for example, rigging, instrument errors, fuel types, etc.) applicable to all data in a chapter shall be discussed in a paragraph titled "General Conditions" which shall appear near the beginning of the chapter: The information in the "General Conditions" paragraph shall not be repeated on the graphs within the chapter.

5.12.1.1.9 Sub-graphs.

For some graphical data, it may be desirable to include separate sub-graphs with data on the same general subject. Titles and conditions differing from the main conditions shall be given for the sub-graphs.

5.12.1.1.10 Notes.

Notes should not be used on graphs. Notes may be placed on areas adjacent to charts, when absolutely necessary, in order to prevent misuse or misinterpretation of the data. If the note does not fit this condition, it should appear in the text.

5.12.1.1.11 Data basis.

Data basis information shall include data type (for example, flight test, estimated, etc.) and each actual data source document used to compute the data presented.

5.12.1.1.12 Examples.

An example shall be provided on the graphical data to demonstrate primary use of each type of graph. If there are two equally important uses of the charts, a maximum of two examples may be presented on the graph. Additional

examples (text only) of other uses or methods of use of the data, where applicable, shall be included in explanatory text. These examples shall be in the same format as those with the graphical data.

5.12.1.1.13 Example text.

The example text shall be clear yet succinct. Omit articles, conjunctions, prepositions, etc. Wanted parameter names shall only be used. A maximum of three parameters shall be used. If more wanted parameters are available, use additional examples in the explanatory text to explain them. Use one line each to list known parameters and values. If the known parameter value is obtained from elsewhere in the manual, or the source is not evident, parenthetically (below known parameter line) describe the most probable source, such as "from example 1" or "computed from winds aloft." The method for using the graph shall be described using one line per distinct step. Known values shall not be repeated in the method. If needed or useful intermediate values are obtained using the method, these values shall be stated. The example text shall be located on the left side of the graphical data. If multiple examples are used; each example shall be sequentially numbered using Roman numerals (for example, EXAMPLE I, EXAMPLE II, etc.). If a single example is used, it shall be identified by the heading "EXAMPLE."

5.12.1.1.14 Example values.

Example values shall be chosen to represent reasonably critical conditions. Standard and absolute extreme conditions shall not be used. If restricted or special conditions are shown on the chart, the example values shall be chosen to illustrate their effect. Values shall be chosen to require graphical interpolation on every parameter.

5.12.1.1.15 Scaling.

Scale and data line increments shall conform to the rule of 1, 2, 5, or 10 minor divisions per major division, except as noted here. The preferred scale grid shall be five minor divisions per major division along each axis. Ten division grids are undesirable and shall be used only when absolutely necessary. Four division grids shall be used only with the permission of the acquiring activity (6.2). Asymmetrical (4 * 5) grids are permitted. For highly nonlinear variations approximately equal increments of the dependent variable(s) shall be used. The minimal minor grid spacing shall be six points, unless otherwise specified by the acquiring activity.

5.12.1.1.16 Units.

Each parameter on the graph and its corresponding unit of measure shall be those most commonly used for the subject aircraft. If the parameter is available on an aircraft indicator, the units used on the graph shall be the same as those on the indicator. If the parameter is not on an aircraft indicator, the units used shall be the same as those of the most often used source of the data. In some instances, two nearly equal common units may be in use or a transition may be in progress from an older model to a newer model. When this occurs, the primary unit of measure shall be that associated with the new model. Where practicable, the primary unit shall be used on the primary scale and the unit associated with the older model shall be presented on a (redundant) secondary scale. When scales or data include negative values, + and - prefixes shall be used with all numbers for that parameter. For data values on the graph, brackets shall be used around the prefixes.

5.12.1.1.17 Data range.

The data range presented shall cover the full applicable range of data. Scales shall extend to the next major division beyond the extreme or limit value(s) and no further, unless specified by the acquiring activity.

5.12.1.1.18 Grid.

The grid shall correspond to the primary scales. Grids shall be prepared to the graphical line standards.

5.12.1.1.19 Scales.

The scale title shall include the parameter name and units of measure. When used, multipliers shall be included with the units (for example, GROSS WEIGHT - pounds *1000). Multipliers shall be used only to meet specific illustration requirements in this specification for values with three zeros or more, or when significant improvement in the appearance of the graph would result. Resulting fractional values (for example, GROSS WEIGHT - 1000 pounds = 20.2) shall be avoided. Secondary scales should be located on the opposite side of the grid from the primary scale. Scale numbers shall be used for each major, or every other (most even value) major, scale increment, unless the secondary scale corresponds to markings on an aircraft indicator. In this case, the increment and value labeling shall be the same as those on the indicator.

5.12.1.1.20 Data lines and label values.

Labels for data lines shall include the parameter name, multiplier, if any, units, and corresponding value. They shall be located approximately at the midpoint of, and oriented parallel to, the data line, as read from the bottom of graph. Labels shall minimally obscure the grids. Data line labels and values shall be located according to the following order of preference:

- a. Parallel centered interrupting the line, alternately staggered to avoid masking a continuous area of the grid (shall be used for primary data line numbers).
- b. At the end of, and parallel to, the data line (suitable for secondary data lines).
- c. Adjacent and parallel to the data line (suitable for secondary data lines).
- d. Outside the data lines with leader lines to each data line (suitable for secondary data lines).

5.12.1.1.21 Primary data lines.

Primary data lines shall be prepared in accordance with [TABLE I.](#) and [TABLE II.](#) Scales shall be chosen so that the mid-range of approximately linear data are oriented at approximately 45°. Increments shall be chosen so that the majority of the data lines are separated by at least one minor grid width and no more than one major grid width. Converging data lines shall be truncated (alternately) when the separation decreases to ½-1 minor grid spacing, so that actual convergence does not occur.

5.12.1.1.22 Secondary data lines.

Operating limits, restricted operating conditions, and optimum, recommended, or critical operating conditions shall be depicted, as applicable, on each graph. Secondary data lines shall be prepared in accordance with [TABLE I.](#) and [TABLE II.](#)

TABLE I. Graphical line standards.

USE		Color	Length	Width	Remarks
1.	Primary Data	Black	To limits	1	Most even value
			or	0	Alternate lines
			operational	.00	Use if increments
			range		change

TABLE I. Graphical line standards. (continued)

	USE	Color	Length	Width	Remarks
2.	Grid Lines	Grey	Correspond to Primary scales	0 00	Major increments Minor increments
3.	Transfer Grid	Grey	1/3 to 1 major grid	0.00	Direction of transfer only
4.	Grid Border	Black	Primary scale length	1	Over outside grid
5.	Primary Scale Tick Marks	Black	1/2 to 1 minor grid division	1	Inside grid border ma- jor grid only
6.	Secondary Scale Tick Marks	Black	As required	0 (Major) 00 (Minor)	Outside grid border
7.	Limit Lines	Black	As required	1	
8.	Maximum Performance or Recommended Operation	Black	As required	1 0	Major lines Use if multiple lines
9.	Restricted or Time Lim- ited Operation	Grey	As required	0.00 (Border shaded)	Shaded area with black border line
10.	Extrapolated Data	Black Dashed	As required	1, 0, 00	Use for data beyond source data conditions
11.	Beyond Limit Data	Black Dashed	As required	1, 0, 00	Use for data beyond operating limits to aid interpolation

TABLE II. Line definitions.

Weight ¹	Number ²	Width in inches	Width in millimeters
Very Fine	000	0.004	0.1
Fine	00	0.008	0.2
Medium	0	0.012	0.3
Heavy	1	0.016	0.4
Very Heavy	2	0.020	0.5

Dashed: 5 to 10 x width line lengths, 3 to 5 x width gap space

Dotted: 1 to 2 x width line lengths, 2 to 3 x width gap space

Notes:

¹ Line weight requirements apply to the final printed product. A 20% deviation is allowed; however, deviation on any page should be in the same direction.

² Corresponds to Rapidograph pen numbering system.

5.12.1.1.23 Layout and sizing.

Scales and grid size shall be chosen to take maximum advantage of the available space to provide the most easily read graph, consistent with the previously specified range and readability requirements. Several single graphs on the same general subject may be included on a single page. For sequential graphs, the following requirements apply. The general layout shall have the example text near the upper left corner of the page. The first step graph shall be near the upper right corner. The sequence shall be for the user to enter on left of first graph, move right, reflect down at right angles, reflect left, and reflect down, etc., until the primary wanted parameter is read out on the final scale. A transfer grid (in the direction of transfer only) shall be provided between each step graph. Intermediate parameters may be provided on secondary scales by continuing through the reflector data lines or by reflecting in the opposite direction to the primary direction.

5.12.1.1.24 Original graphical data designs.

For original (sequential) graphical designs, the following requirements also apply:

- a. Each "known" parameter shall be used only once in the sequence, unless its use will simplify a procedure.
- b. The sequence shall proceed from the best-known (or most certain) parameter to the least certain parameter consistent with technical requirements.
- c. Each sequential stop shall reflect at right angles (90° parameter transfers only). "Paralleling" data transfers shall be avoided.

5.12.2 Army business rules.**5.12.2.1 Tools and test equipment illustrations.**

Only uncommon or unusual uses and connections for test purposes shall be illustrated if it is essential to do so to avoid misunderstanding. Unusual operations shall also be illustrated. Special tools and test equipment shall be illustrated, as applicable. Standard tools and test equipment shall not be illustrated, nor shall self-evident or generally known uses be shown. (BR-ARMY-00030)

5.12.2.2 Digital graphic formats.

Graphic file types for use in electronic publications include 2D vector and raster formats. Vector file format is based on mathematical shapes on an X-Y grid and is scalable without loss of detail. Scalable Vector Graphics file (SVG) and Computer Graphics Metafile (CGM) vector file formats are preferred for line drawings, charts, and diagrams. Vector format has a smaller file size than raster format. Raster, or bitmap, file format is based on an array of pixels and cannot scale up without loss of detail (pixelization). Joint Photographic Experts Group (JPEG) and Tagged Image File Format (TIFF) raster file format are acceptable for photographs and software screenshot illustrations. (BR-ARMY-00031)

5.12.2.3 Use of human figures.

When necessary, illustrations may include parts of the human body such as a hand, arm, leg or foot. The human figure shall not contain any information that can identify the person including a face, rank insignia, identification numbers, unit/company/brigade patches, medals/wings, etc. Jewelry shall not appear in any illustration. The human figure shall not be permitted to obscure details of the equipment necessary for a complete understanding of its operation. The human figure shall be clothed as designated by the acquiring activity. A cross section of races and genders shall be used. (BR-ARMY-00032)

5.12.2.4 Procedural data in figures.

Figures shall not contain procedural steps. (JS-091)

5.12.2.5 Credit lines.

No credit lines shall be included on graphics. (BR-ARMY-00033)

5.12.2.6 Multi-sheet illustrations.

Multisheet illustrations may be used to clarify, identify significant features, or further detail equipment assemblies, subassemblies, and detailed parts. (BR-ARMY-00034)

5.12.2.7 Illustration placement.

Illustrations are placed as close as possible, immediately above or below, to the supporting text or the procedural step or group of steps. Whenever possible, place illustrations on the same or facing page of associated text. Illustrations may float on a page to reduce the white space on a page. (BR-ARMY-00035)

5.12.2.8 Symbols.

All nonstandard symbols shall be defined in the list of abbreviations and acronyms contained in the General Information portion of the TM. New symbols shall not duplicate those presently listed in ASTM-F856 where possible. (BR-ARMY-00038)

5.12.2.9 Graphics in tables.

Use of element **<symbol>** to present graphics in tables is allowed. (BR-ARMY-00039)

5.12.2.10 Engineering drawings (DMWR/NMWR only).

Engineering drawings may be used with the approval of the acquiring activity. Engineering drawings are controlled documents and when used, they shall be used in their entirety, without modification. They shall be reduced or redrawn to meet page size restrictions. When the controlled elements of an engineering drawing (i.e., title block, sources of supply, revision data, etc.) are removed, leaving only the "field" of the drawing, it is treated as a typical line drawing. (BR-ARMY-00040)

5.12.2.11 Graphic scale.

Graphics should be displayed to a scale at least as large as its designated minimum size so that all essential detail is legible. Ensure the graphical resolution is high enough that details of enlarged views (zoom-in) are legible. (BR-ARMY-00041)

5.12.2.12 Leader lines.

Leader lines shall be uniform, short, and as straight as possible; avoid the use of dogleg-shaped lines unless absolutely necessary. Arrowheads may be added for clarity. Do not allow leader lines to touch the callout. Do not allow arrowheads to enter the object to which they apply. If it is necessary to enter the object to provide for greater clarity, a break off symbol shall be used in lieu of an arrowhead. (BR-ARMY-00042)

5.12.2.13 Index numbers.

Index numbers shall start with Arabic numeral 1 and continue consecutively within an illustration. For multisheet illustrations, index numbers continue in sequence from one sheet to another. (BR-ARMY-00043)

5.12.2.14 Index number order.

When index numbers are used to locate and identify equipment components or parts, the index numbers shall be presented of the following ways:

- a. Assigned in clockwise sequence (beginning at 11 o'clock). This is the preferred method.
- b. In inspection or disassembly/assembly order.
- c. In the order mentioned in the text.
- d. If the manual is an IETP which is fully hotspotted and it will never be printed, index numbers may be omitted. (BR-ARMY-00044)

5.12.2.15 Nomenclature callouts.

Nomenclature callouts may be used to identify items on a graphics. When used, they should follow the guidance below:

- a. Nomenclature callouts should only be used for graphics with a small number of callouts (generally no more than 10). If there is a larger number of callouts (generally more than 10), numerical callouts (index numbers) should be used to avoid overcrowding and degrading readability.
- b. Nomenclature callouts, if used, should not make the graphic look crowded or cluttered. They should be clear and easy to read.
- c. When using nomenclature callouts, type size should not be reduced to accommodate more callouts. Reducing type size will degrade readability. Type size should be no smaller than 8 points. (BR-ARMY-00045)

5.12.2.16 Identification of significant features.

Index numbers, reference designators, nomenclature, leader lines, sweep arrows, legends, and other identifiers shall be used, when necessary, to identify significant features. (BR-ARMY-00046)

5.12.2.17 Index numbers and nomenclature.

Both index numbers and nomenclature can be used in the same document. However, they shall not be used together in the same illustration. (BR-ARMY-00047)

5.12.2.18 Index numbers in multi-sheet illustrations.

Within a multi-sheet illustration, if an item already assigned an index number is used in more than one illustration in that multi-sheet illustration, it shall retain the same index number. (BR-ARMY-00048)

5.12.3 Project decisions.

5.12.3.1 Graphic orientation.

BRDP-ARMY-00115: For ease of reading and cross-reference, the preferred layout is portrait (IPD illustrations shall always be in portrait layout). Fold-outs or landscape shall only be allowed as exceptions, as defined in the project business rules.

5.12.3.2 Illustration annotations written in upper or sentence case.

BRDP-S1-00554: Decide whether to write illustration annotations in upper or lower case.

5.12.3.3 Engineering numbers and revision status within the illustration reproduction area.

BRDP-S1-00028: Decide if schematics derived from engineering drawings include the original drawing number and revision status within the illustration reproduction area.

5.12.3.4 Use of color in the final deliverable.

BRDP-S1-00029: Decide whether to use color in the final deliverable.

5.12.3.5 Inclusion of the ICN in the illustration.

BRDP-S1-00555: Decide whether to allow the ICN to be included in the illustration.

5.13 S1000D Chapter 3.9.2.2 - Illustration rules and multimedia - Navigation and configuration.

5.13.1 Army business rules.

5.13.1.1 Hotspot explanation.

When hotspot techniques are used in conjunction with callouts, an explanation shall be provided in the "how to use" portion of the IETP. (BR-ARMY-00076)

5.13.1.2 Nested hotspots.

Hotspots shall not be nested. (BR-ARMY-00077)

5.13.1.3 Figure title.

The figure title format shall:

- a. Include "Figure" in title case, followed by the figure number, a period, two spaces, and the title. (For example, "Figure 3. Fuel Indicator.")
- b. Capitalize the first letter of the first and each major word of the title.

- c. End with a period following the last word.
- d. Identify illustrations applicable to one Service in a joint service TM. (For example, "Figure 3. Fuel Indicator (Army Only).")
- e. Identify illustrations applicable to more than one Service in a joint service TM. (For example, "Figure 3. Indicator (Army and Air Force Only).")
- f. When too long to fit on one line, align the second line with the first letter of the title. (BR-ARMY-00078)

5.13.1.4 Multiple appearances of an assembly.

When an identical assembly appears subsequent times, the assembly item name shall appear in the description and shall be followed by the statement "See FIG ## FOR BREAKDOWN." (BR-ARMY-00079)

5.13.1.5 Figure numbers.

Figure numbers shall be included for all illustrations except inline graphics (example equation). Figures shall be numbered using Arabic numbers sequentially within each data module starting with the Arabic numeral 1. The figure number shall precede the title. The figure number and title shall not be an integral part of the figure. (BR-ARMY-00080)

5.13.1.6 Identical parts in same figure.

Identical parts (same part number) appearing in a figure (illustration) shall have the same item number. (BR-ARMY-00081)

5.13.2 Project decisions.

None.

5.14 S1000D Chapter 3.9.2.3 - Illustration rules and multimedia - Use of color and photographs.

5.14.1 Army business rules.

5.14.1.1 Use of photographic illustrations.

Photographic illustrations shall not be used unless prior approval has been obtained from the acquiring activity. Photographs shall not be used in foldouts. (JS-008)

5.14.1.2 Digital photographs.

All photographs, regardless of source, shall be delivered as digital photographs. The acquiring activity shall determine acceptability of photographs and usage of line drawings. (BR-ARMY-00083)

5.14.1.3 Photographs.

Photographs, film or digital, may be used for illustrations when a photograph provides for better clarity than a line drawing. All photographs, regardless of source, shall be delivered as digital photographs. The acquiring activity shall determine acceptability of photographs and usage of line drawings. (BR-ARMY-00530)

5.14.1.4 Photograph quality.

Photographs shall be detailed and sharp, free of heavy shadows, distorted objects, cluttered foregrounds and backgrounds, and of good contrast. Photographs shall provide sufficient detail for the user to clearly identify all components. (BR-ARMY-00531)

5.14.1.5 Retouching.

Photographic retouching shall be held to a minimum. Retouching shall be used only to emphasize detail, exclude unwanted detail, correct slight photographic defects, and eliminate undesirable shadow from that portion of the photograph related to the text only. (BR-ARMY-00532)

5.14.1.6 Use of photographs in place of line drawings.

For photographs that cannot meet the requirements specified previously, line drawings shall be prepared and used. Photographs may be used in place of line drawings. Photographs and line art may appear in the same figure. (BR-ARMY-00533)

5.14.2 Project decisions.

5.14.2.1 Use of color line art.

BRDP-S1-00556: Decide whether to allow the use of color line art.

5.15 S1000D Chapter 3.9.2.4 - Illustration rules and multimedia - Multimedia, General.

5.15.1 Army business rules.

5.15.1.1 Classified data files.

Audio and video shall not convey classified data. (BR-ARMY-00084)

5.15.1.2 Use of the attribute `autoPlay`.

Projects shall not use the attribute `autoPlay` on `<multimediaObject>`. (JS-106)

5.15.1.3 Use of 3D visualization.

3D visualizations (graphics) should be developed in a standard and neutral (non-proprietary) file format. Software used to create 3D visualizations must produce a file format that is supported from open-source rendering libraries. 3D visualizations must be a file type that stores the models in a compact, efficient, and portable format, that is easy

to use, widely supported across platforms; in a streamlined, interoperable format for the delivery of 3D assets that minimize file size and runtime processing. (BR-ARMY-00528)

5.15.1.4 3D visualization content.

3D visualizations must support, store and contain all the information needed to render a 3D scene; including 3D model geometry, appearance, scene graph hierarchy, meshes, textures, materials, cameras, nodes, skins, and animations. (BR-ARMY-00529)

5.15.2 Project decisions.

5.15.2.1 General.

BRDP-ARMY-00002: Audio, video clips and animations are not played automatically. The multimedia player is activated through a hotspot, inline with the narrative, or resident in a separate pane. Audio, video clips and animations are manually started by pressing "PLAY" on a multimedia player or plug-in control panel. Developers need to ensure that the technician can use the multimedia format being delivered.

5.15.2.2 Use of three-dimensional (3D) illustrations.

BRDP-ARMY-00003: The project shall decide if 3D illustrations may be used, and if so for what purposes.

5.15.2.3 3D visualization file types.

BRDP-ARMY-00163: The project shall decide which 3D file extension types shall be used for the 3D visualization. The preferred formats for 3D visualizations are:

- a. STEP AP203 3D Models (STEP).
- b. ISO/IEC 12113:2022 glTF Specification.

5.15.2.4 Project use of 3D visualization.

BRDP-ARMY-00164: Decide whether to use 3D visualizations.

5.16 S1000D Chapter 3.9.2.7 - Illustration rules and multimedia - ICN metadata file.

5.16.1 Army business rules.

None.

5.16.2 Project decisions.

5.16.2.1 Use of icnmetadata schema.

BRDP-ARMY-00120: Decide on the use of the icnmetadata schema.

5.16.2.2 Reuse of the generic ICN title in data modules.

BRDP-S1-00557: Decide if, and under which circumstances, the generic ICN title given in the ICN metadata file should be used to populate figure and multimedia titles in data modules.

5.17 S1000D Chapter 3.9.3 - Authoring - Warnings, cautions and notes.

5.17.1 Army business rules.

5.17.1.1 Tank or reservoir alerts.

The warnings and cautions to observe in servicing a particular tank or reservoir shall be stated clearly. (BR-ARMY-00085)

5.17.1.2 Alert definitions.

Refer to Section [3](#) of this standard for definitions of warning, caution, and note. (BR-ARMY-00086)

5.17.1.3 Alert headers.

When a warning, caution, or note consists of two or more paragraphs, the header WARNING, CAUTION, or NOTE shall not be repeated above each paragraph. (BR-ARMY-00087)

5.17.1.4 Alerts and page breaks.

Layout shall not result in warnings, cautions, and notes divided so first lines of text or groups of icons appear on one page and remaining lines or groups of icons on another page. Layout shall avoid warnings, cautions, and notes being placed on a different page than the paragraph to which they apply. (BR-ARMY-00088)

5.17.1.5 Use of general warnings, cautions and notes as separate data modules.

BRDP-S1-00030: Decide whether to produce general warnings, cautions and notes in separate descriptive data modules.

Delivered data modules with procedures that require warnings shall not reference warnings in a separate data module. Delivered data modules shall contain the warning content. (JS-010)

5.17.1.6 Cautions in separate data modules.

Delivered data modules with procedures that require cautions shall not reference cautions in a separate data module. Delivered data modules shall contain the caution content. (JS-011)

5.17.1.7 Notes in separate data modules.

Delivered data modules that require notes shall not reference notes in a separate data module. Delivered data modules shall contain the note content. (JS-012)

5.17.1.8 Use of the attribute `vitalWarningFlag`.

BRDP-S1-00032: Decide whether and how to use the attribute `vitalWarningFlag`.

The attribute `vitalWarningFlag` on the element `<warning>` shall not be used. (BR-ARMY-00089)

5.17.1.9 First aid.

Warnings shall include basic first aid instructions/guidance in the event of exposure/injury. (BR-ARMY-00090)

5.17.1.10 Descriptive data.

Warnings and cautions shall not be used in descriptive data, except in the case of a publication's warning summary. (BR-ARMY-00091)

5.17.1.11 Use of notes.

Notes may be used in any data module type allowed by the schema. (BR-ARMY-00092)

5.17.1.12 Placement of notes.

Notes shall follow the title and precede the associated text. (BR-ARMY-00093)

5.17.1.13 Alert indenture.

Warning, caution, and note text shall be indented on the right and left. (BR-ARMY-00094)

5.17.1.14 Grouping alerts.

Warnings, cautions, and notes that pertain to the same task, procedure, or step(s) shall be grouped under respective headings. When grouping warnings, cautions, and notes, each shall be separated by at least one line and shall be bulleted and unnumbered. Multiple warnings shall be grouped first, followed by caution(s), and followed by note(s). If an individual warning, caution, or note contains multiple paragraphs, subsequent paragraphs shall not be bulleted. (BR-ARMY-00095)

5.17.1.15 Safety conditions.

The warnings and cautions listed in safety conditions (element `<safetyRqmts>`) of preliminary requirements shall include and be limited to only those safety conditions that must be met before the task is carried out (i.e., shall not be a general summary of all warnings and cautions contained with the procedure. (BR-ARMY-00096)

5.17.1.16 General warnings as individual data modules.

General warnings and cautions (e.g., safety summary) shall be prepared as individual data modules (IC 012) only as directed by these business rules and the content selection matrices located in [A.5](#). (BR-ARMY-00097)

5.17.1.17 Use of attribute `warningType`.

BRDP-S1-00033: Decide whether and how to use the attribute `warningType`.

The attribute **warningType** is allowed and shall only be used to indicate a warning for a procedural step that contains a critical safety item (CSI) (refer to [5.89.1.5.8](#)). (BR-ARMY-00098)

5.17.1.18 Use of attribute **cautionType.**

BRDP-S1-00034: Decide whether and how to use the attribute **cautionType**.

The attribute **cautionType** shall not be used. (BR-ARMY-00099)

5.17.1.19 Use of attribute **noteType.**

BRDP-S1-00035: Decide whether and how to use the attribute **noteType**.

The attribute **noteType** shall not be used. (BR-ARMY-00100)

5.17.1.20 Use of warning and/or caution collections.

BRDP-S1-00031: Decide whether to use warning and/or caution collections, internal or external.

The use of the element **<warningsAndCautions>** shall not be used. (BR-ARMY-00101)

5.17.1.21 Notes content.

A note shall be used to highlight essential information, conditions, or statements or convey important instructional data to the user. Notes shall not contain procedural steps and shall not be used to insert steps to avoid renumbering. Notes shall not be used for filtering. Notes shall not contain references to figures. Notes shall not contain references to steps except to indicate the steps that the note applies to when it applies to multiple steps. (BR-ARMY-00102)

5.17.1.22 Hazardous materials icons.

Hazardous materials icons shall be used in cases where hazardous materials are present. (JS-086)

5.17.2 Project decisions.

None.

5.18 S1000D Chapter 3.9.4 - Authoring - Front matter.

5.18.1 Army business rules.

5.18.1.1 Use of LOEP or LOEDM.

BRDP-S1-00037: Decide whether to use the LOEP or the LOEDM.

Publications shall not have a List of Effective Pages. (JS-014)

5.18.1.2 List of effective data modules content.

The LOEDM shall present, at a minimum, the data module code, the data module title, and issue number. The inwork number shall not be presented. (JS-015)

5.18.1.3 Table of contents.

The table of contents shall include all data modules and publications included in the publication. This includes front matter such as, title page, LOEDM, and change record. The table of contents shall not reference itself. (BR-ARMY-00457)

5.18.1.4 Use of Highlights with updating instructions.

BRDP-S1-00042: Decide whether to use Highlights with updating instructions.

The use of highlights with updating instructions is required for page-based publications. (BR-ARMY-00103)

5.18.2 Project decisions.

5.18.2.1 Use of linear or hierarchically subdivided table of contents.

BRDP-S1-00046: Decide whether to use a linear or a hierarchically subdivided table of contents.

5.18.2.2 Use of the element `<pmRef>` in the element `<tocEntry>`.

BRDP-S1-00305: Decide whether publications have to be listed by the publication only or also by its individual data modules.

5.18.2.3 Inclusion of the number of pages in the Table of contents.

BRDP-S1-00307: Decide whether to include the number of pages in the Table of contents entries.

5.19 S1000D Chapter 3.9.5.1 - Data modules - Identification and status section.

5.19.1 Army business rules.

5.19.1.1 Information name.

Use of the element `<infoName>` is mandatory. (JS-016)

5.19.1.2 Allocation of the information codes and the information names.

BRDP-S1-00052: Decide which information codes and associated information names will be used.

The Joint Service information codes and information names shall be used. It is not required that information code variants (ICVs) be limited to use with a single specific schema type. (JS-107)

5.19.1.3 Data module change/revised ratio.

BRDP-S1-00053: Decide on the threshold that a data module is considered revised rather than changed.

All changed data modules, even if only identification and status section elements are changed, shall be distributed in a change/revision cycle. (BR-ARMY-00009)

5.19.1.4 Alternate information names.

The alternate Army information names provided in [APPENDIX B](#) shall be used with the corresponding information codes. All project-specific, or additional, information names shall be coordinated with LDAC to ensure consistency across the Army. (BR-ARMY-00105)

5.19.1.5 Language.

The attribute **languageIsoCode** shall be set to English ("**en**") or Simplified Technical English ("**sx**") and the attribute **countryIsoCode** value shall be set to the United States ("**US**"). (BR-ARMY-00106)

5.19.1.6 Priorities and relationships of the security attributes **securityClassification**, **commercialClassification**, and **caveat**.

BRDP-S1-00055: Decide on the priorities and relationships between the attributes **securityClassification**, **commercialClassification** and **caveat** if they are used.

See [JS-093](#). (BR-ARMY-00458)

5.19.1.7 Classification values.

Refer to [5.52.1.53](#). (BR-ARMY-00459)

5.19.1.8 Use of NATO classified data.

Foreign and NATO classified data shall not be used. (JS-018)

NOTE

Use of this rule for joint-nation projects is a project decision.

5.19.1.9 Use of the element **<restrictionInstructions>**.

The child elements of **<restrictionInstructions>** shall be used as directed by the applicable business rules for each child element, i.e., [JS-022](#), [JS-023](#), [JS-024](#), [JS-025](#), and [JS-026](#). (JS-096)

5.19.1.10 Use of the element **<restrictionInfo>**.

The child elements of **<restrictionInfo>** shall be used as directed by the applicable business rules for each child element. i.e., [JS-020](#), [JS-021](#), and [JS-029](#). (JS-097)

5.19.1.11 Use of the element **<dataRestrictions>**.

The optional element **<dataRestrictions>** shall be used for all publication modules and data modules. (JS-019)

5.19.1.12 Data distribution element.

The element **<dataDistribution>** within **<restrictionInstructions>** shall contain the appropriate distribution statement as selected from DoD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-022)

5.19.1.13 Use of the element <exportControl>.

Projects shall decide the export control statement (using the element **<exportControl>** within **<restrictionInstructions>**) as directed by DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-099)

5.19.1.14 Handling.

Because handling information is typically presented as part of the export control notice and the destruction notice, the element **<dataHandling>** within **<restrictionInstructions>** shall not be used unless specified by the acquiring activity. (JS-026)

5.19.1.15 Destruction notice element.

The element **<dataDestruction>** within **<restrictionInstructions>** shall contain the appropriate destruction notice in service level instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-024)

5.19.1.16 Destruction notice.

For classified and unclassified Army documents, the element **<dataDestruction>** within **<restrictionInstructions>** shall contain the following text "Destroy by any means possible to prevent disclosure of contents or reconstruction of the document. Classified data must also be compliant with DODD 5220.22-M and DODM 5200.01, volumes 1-4." (BR-ARMY-00107)

5.19.1.17 Disclosure.

Because disclosure information is typically presented as part of the export control notice and the destruction notice, the element **<dataDisclosure>** within **<restrictionInstructions>** shall not be used unless specified by the acquiring activity. (JS-025)

5.19.1.18 Use of the element <copyright> and source of copyright information.

BRDP-S1-00065: Decide whether and how to use the element **<copyright>**. Any copyright information must be obtained from the relevant authority.

Publications should not contain copyrighted material except as specified in the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulation (DFAR) Supplement. When copyrighted or proprietary material is included in a publication, the author shall obtain prior written permission from the copyright owner or authorized agent for its use. The signed, written permission shall contain a statement declaring whether or not a copyright credit line is required. When a copyright credit line is required, the following information shall appear in the element **<copyright>** of the data module:

"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."
(JS-029)

5.19.1.19 Method of populating copyright information (in each data module or in a consolidated data module).

BRDP-S1-00066: Decide whether to populate copyright information in each data module or whether to cross-reference to a copyright data module.

NOTE

While choosing the population method, assess the impact of changes to copyright information on updating of data modules.

If it is necessary to include copyright information, the copyright information shall not be contained in a separate copyright data module. (BR-ARMY-00460)

5.19.1.20 Lists in copyright statement.

If random lists are used in the element **<copyright>**, they shall contain only one level. (BR-ARMY-00108)

5.19.1.21 Use of the element **<policyStatement>.**

If required, the element **<policyStatement>** within **<restrictionInfo>** within **<dataRestrictions>** within **<pmStatus>** and **<dmStatus>** shall contain the classification source and reason for classification, as specified in DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-020)

5.19.1.22 Use of the element **<dataConds>.**

If used, the element **<dataConds>** within **<restrictionInfo>** within **<dataRestrictions>** within **<pmStatus>** and **<dmStatus>** shall contain declassification and downgrade instructions as specified in DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. (JS-021)

5.19.1.23 Element **<authorityNotes> with the element **<techStandard>**.**

If **<techStandard>** is used, and there are no notes, projects shall populate the element **<authorityNotes>** in **<techStandard>** with the following text, "None." (JS-030)

5.19.1.24 Business Rules EXchange (BREX).

The project shall develop and use a project-specific set of business rules and, to that effect, develop their own BREX data module. The Project BREX shall use the layered BREX concept to extend the Army BREX. Project business rules shall not supersede or contradict Army business rules. (BR-ARMY-00110)

5.19.1.25 Element <reasonForUpdate> and change packages.

Reason for update (element <reasonForUpdate>) shall be used and it shall include the reasons for updates for each changed data module in the latest change package. It shall also include textual reference to all appropriate reason for update documentation (e.g., engineering change proposals). (BR-ARMY-00111)

5.19.1.26 Element <reasonForUpdate> and highlights.

Reason for update (element <reasonForUpdate>) shall be used to automatically generate a highlights data module. It shall be used from issue "002" upwards. (BR-ARMY-00112)

5.19.1.27 Availability statement and general purpose notices.

The availability statement and any general purpose notices that apply to the entire publication shall be populated using the <remarks> element of the publication module. The availability statement shall be used for **DMWR/NMWR only**. (BR-ARMY-00113)

5.19.1.28 Content of <supersedure>.

When a publication is revised, a supersedure notice shall be included and an asterisk (*) shall prefix the supersedure notice and the Publication Module Code (PMC). (BR-ARMY-00114)

5.19.1.29 Publication title page.

Publication title pages shall be generated from the meta data contained in the publication module identification and status section. (BR-ARMY-00115)

5.19.1.30 Use of the element <enterpriseName> and/or the attribute enterpriseCode for the responsible partner company.

BRDP-S1-00070: Decide whether to use the element <enterpriseName> and/or the attribute **enterpriseCode** to capture the name and CAGE code, respectively, of the responsible partner company. If the name is used it must be done consistently and be mandatory for the project.

The responsible partner company for data modules and nested publication modules shall be the company or organization responsible for maintaining the data module or nested publication module. The responsible partner company for parent publication modules shall be the publication issuing authority (e.g. "Headquarters, Department of Army"). The attribute **enterpriseCode** for the element <responsiblePartnerCompany> shall be mandatory and include the Cage Code representing the responsible partner company. (JS-113)

5.19.1.31 Element <logo>.

The use of <logo> is prohibited. (JS-098)

5.19.1.32 Skill level.

The element <skillLevel> (within element <dmStatus>) shall not be used. (BR-ARMY-00116)

5.19.1.33 Element <productSafety>.

Use of the element <productSafety> is prohibited. (JS-100)

5.19.1.34 Second verification.

Second verification (element <secondVerification> on element <qualityAssurance>) is mandatory for final delivery. (BR-ARMY-00117)

5.19.1.35 Issue type.

Use of the attribute **issueType** is mandatory. (BR-ARMY-00118)

5.19.1.36 Element <functionalItemCode>.

The element <functionalItemCode> is used to identify the FGC of the repair parts list. This is identified in the identification and status section and shall be populated for all parts data modules. (BR-ARMY-00119)

5.19.1.37 Exchange of draft data modules.

BRDP-S1-00077: Decide whether the project will allow the exchange of draft data modules.

See [JS-006](#). (JS-108)

5.19.2 Project decisions.

5.19.2.1 Use and definitions of the attributes commercialClassification and caveat.

BRDP-S1-00054: Decide on the use and definitions of the attributes **commercialClassification** and **caveat**.

5.19.2.2 Use of the element <derivativeClassification> within data modules.

BRDP-S1-00558: Decide whether and how to use the element <derivativeClassification>.

5.19.2.3 Definition of the issue date.

BRDP-S1-00049: Decide on the definition of the issue date.

5.19.2.4 Data module code extension.

BRDP-ARMY-00137: The project shall decide if the extended data module identification scheme has to be applied to achieve unique data module instance identities.

5.19.2.5 Define a list of Commercial and Government Entity (CAGE) codes.

BRDP-ARMY-00138: If the data module code extension is used, the project shall define a list of allowed CAGECs that can be used to populate the attribute **extensionProducer**.

5.19.2.6 Deleted data module retention.

BRDP-ARMY-00139: The project shall decide on the length of time that they retain changed and deleted data modules.

5.19.2.7 Responsible Partner Company (RPC) Commercial and Government Entity (CAGE) values.

BRDP-ARMY-00140: Projects shall define a list of acceptable RPC CAGE values. Values shall also be included in the RPC list. RPC CAGE and RPC name shall be typed exactly as in the RPC list given in the business rules.

5.19.2.8 Originator Commercial and Government Entity (CAGE) values.

BRDP-ARMY-00141: The project shall define a list of acceptable originator CAGE values. If the attribute **enterpriseCode** is used, values shall also be included in the list.

5.19.2.9 Use of the element <enterpriseName> and/or the attribute enterpriseCode for the originator.

BRDP-S1-00071: Decide whether to use the element **<enterpriseName>** and/or the attribute **enterpriseCode** to capture the name and CAGE code respectively, of the originator. If the name is used it must be done consistently and be mandatory for the project.

5.19.2.10 Applicability.

BRDP-ARMY-00142: The project shall decide on how applicability is to be used. The project shall decide on the population of the elements and attributes of applicability and shall then enforce its consistency.

5.19.2.11 Technical standard.

BRDP-ARMY-00143: Project shall decide the use of the element **<techStandard>**. If used, it shall be used consistently throughout the entire project.

5.19.2.12 Standard reasons for update.

BRDP-ARMY-00144: The project shall define standard reason for update sentences to be used.

5.19.2.13 Reason for update and the production process.

BRDP-ARMY-00145: The project shall decide on whether the element **<reasonForUpdate>** is to be used during the production process.

5.20 S1000D Chapter 3.9.5.2.1.1 - Common constructs - Change marking.

5.20.1 Army business rules.

5.20.1.1 Deletion content.

Deleted content shall be marked accordingly within the data module. Content marked as deleted shall not be rendered for print or display. (JS-033)

5.20.1.2 Use of the attribute `updateReasonType`.

After issue 001, at least one reason for update shall be included in a data module. Technical changes shall be included in highlights. All other RFU types are prohibited from inclusion in highlights. Reason For Update (RFU) shall include a brief statement indicating why the content was changed. (using the element `<simplePara>`). RFUs shall not include any content for non-technical changes. A non-technical change shall include the attribute `update-Highlight` with the value "0," indicating it will not appear in the highlights data module. All changes shall include the attribute `changeMark`, attribute `changeType`, and attribute `reasonForUpdateRefIds`. (BR-ARMY-00120)

5.20.2 Project decisions.

5.20.2.1 Types of changes to mark up. Deleted

5.20.2.2 Definition of project-specific change types.

BRDP-ARMY-00005: The project shall decide if any of the project-configurable attributes (values "`urt56`" to "`urt99`") are to be used on the element `<reasonForUpdate>`. The project shall apply meanings for them to ensure they are consistently used in the project.

5.20.2.3 Format of reason for update identifiers.

BRDP-ARMY-00006: The project shall define and document a format for reason for update identifiers (for example: "`rfu-001`").

5.20.2.4 Standard sentences for reasons for update.

BRDP-S1-00089: Decide whether standard sentences for reasons for update are to be used.

5.20.2.5 Use of reason for update.

BRDP-ARMY-00007: The project shall decide on the use of reason for update which can be used to automatically generate the highlights data module.

5.20.2.6 Use of reason for update in conjunction with the production process.

BRDP-S1-00090: Decide whether the element `<reasonForUpdate>` is used during the production process.

5.20.2.7 Use of applicability information.

BRDP-S1-00091: Decide whether it is permissible to differentiate reasons for update based on product configuration.

5.20.2.8 Modify and add change markers.

BRDP-ARMY-00009: The project shall decide the use of "modify" and "add" change markers.

5.20.2.9 Use of the value "modify".

BRDP-ARMY-00010: Use of the value "modify" and the value "add" in change markers shall be consistent across the project. The rules for use shall be specified in the Project or the Organization's business rules documentation.

5.20.2.10 Use of change marks for tables.

BRDP-S1-00092: Decide whether and how to use change marks for tables.

5.20.2.11 Use of change marks for figures.

BRDP-S1-00093: Decide whether and how to use change marks for figures.

5.20.2.12 Relationship between the element <reasonForAmendment> and the element <reasonForUpdate>.

BRDP-ARMY-00011: The project shall decide if the reason for amendment details for a figure (or the individual illustration sheets of a multi-sheet figure) are also reflected in the data module status element <reasonForUpdate> and subsequently used in the generation of the highlights data module.

5.20.2.13 Recording reason for amendment.

BRDP-ARMY-00012: The project shall decide if the reason for amendment is to be recorded in addition to the reason for update. The use of "standard reason for amendment" statements should be considered.

5.20.2.14 Change attributes on individual sheets of a multi-sheet figure.

BRDP-ARMY-00013: The project shall decide if change attributes are allowed on individual sheets of a multi-sheet figure.

5.21 S1000D Chapter 3.9.5.2.1.2 - Common constructs - Referencing.**5.21.1 Army business rules.****5.21.1.1 Extent of cross-referencing.**

BRDP-S1-00094: Decide on the extent of cross-referencing within data modules and the methods used for populating the various attributes.

A cross-reference element (e.g., `<internalRef>`, `<dmRef>`, `<functionalItemRef>`, `<catalogSeqNumberRef>`) shall be used for linking topics or resources. See [JS-038](#) for a minimal list of elements which can be referenced. (JS-035)

5.21.1.2 Use of the attribute `internalRefTargetType`.

BRDP-S1-00100: Decide whether to use the attribute `internalRefTargetType`, which values to use and allocate suitable definitions to the values. Refer to Chap 3.9.6.1.

Use the attribute `internalRefTargetType` is prohibited. (BR-ARMY-00121)

5.21.1.3 Linking to list items.

A list item shall not be the destination of a link. (BR-ARMY-00122)

5.21.1.4 Define the words before and after the reference elements.

BRDP-S1-00107: Define the words before and after the elements `<dmRef>`, `<pmRef>` and `<externalPubRef>`. This is important as it has implications on the stylesheets used. Example: For one implementation, the stylesheet can automatically generate the words "Refer to data module: " when it recognizes the element `<dmRef>`. This will cause problems if the author has written "Refer to" within the paragraph before the element `<dmRef>`.

Any key words (e.g., "Refer to") preceding or following a reference shall be authored. (BR-ARMY-00123)

5.21.1.5 Use of element `<internalRef>` in titles.

BRDP-S1-00095: Use of the element `<internalRef>` in titles is strongly discouraged. However, decide whether to use cross-references in titles.

Titles shall not contain references. (JS-103)

5.21.1.6 Data module references.

The element `<dmRef>` shall not include `<issueInfo>` or `<language>` of the referenced data module except in the case of `<dmRef>` as used in front matter (which relies on content from `<language>` and/or `<issueInfo>` during auto-generation of content such as List of Effective Data Modules (LOEDM), highlights, etc.). (BR-ARMY-00124)

5.21.1.7 Use of the element `<pmTitle>`.

The element `<pmTitle>` shall be used and shall contain the title of the referenced publication module. (BR-ARMY-00125)

5.21.1.8 External publication references.

The element `<externalPubRef>` shall include the element `<externalPubTitle>` and the element `<externalPubCode>`. All other information is optional. (BR-ARMY-00126)

5.21.1.9 Use of the element `<externalPubTitle>`.

The element `<externalPubTitle>` shall be used. (BR-ARMY-00127)

5.21.1.10 Use of the element `<behavior>`.

The element `<behavior>` shall not be used in any `<refs>` child elements. (BR-ARMY-00128)

5.21.1.11 Use of the attribute `targetTitle`.

BRDP-S1-00096: Decide whether to use the attribute `targetTitle`. When used (populated), it is a tooltip in a viewer application.

The use of the attribute `targetTitle` of element `<internalRef>` is prohibited. (BR-ARMY-00130)

5.21.1.12 Use of the textual content of the element `<internalRef>` in cross-references.

BRDP-S1-00098: Decide whether to use the textual content of the element `<internalRef>`. When used (populated), it must be presented.

Text is prohibited within the element `<internalRef>`. (BR-ARMY-00131)

5.21.2 Project decisions.**5.21.2.1 Define the format of the cross-reference attributes `id` and `internalRefId`.**

BRDP-S1-00101: Decide whether the values of the cross-reference attributes `id` and `internalRefId` must be prefixed by alpha characters that identify the type of the target element.

Example:

- a. Structure: Prefix followed by a hyphen and a four digit number to make it unique within the data module (eg, "par-0001")

Prefixes:

- a. "fig" for figures and alternates
- b. "tab" for tables
- c. "mma" for multimedia and alternates
- d. "sup" for supplies
- e. "seq" for support equipment
- f. "spa" for spares
- g. "par" for levelled paragraphs and alternates
- h. "stp" for steps of procedure, fault isolation, etc, and alternates
- i. "gra" for graphics (multiple sheets)
- j. "mmo" for multimedia objects
- k. "hot" for hotspots (eg, "fig-0001-hot-0002")

- l. "pme" for parameters
- m. "zon" for zones
- n. "wla" for work locations
- o. "mat" for single material or material sets
- p. "msl" for material set lists
- q. "acp" for access points

Note

The four digit number has no connection to, for example, the figure or table number which is generated for data module presentation. For example, the value of the attribute **id** can be "fig-0345" for "Fig 1". Refer to Para 2.1.

Note

Refer to Chap 3.9.5.2.1.10 for the equivalent business rule decision point regarding footnotes. Example: "ftn-0001".

5.21.2.2 Population of the element <refs>.

BRDP-S1-00106: Decide if and how the element <refs> is populated. If populated, the order of items in the list must be specified.

5.21.2.3 Use of the "identifiers" given in the elements <reqSupportEquips>, <reqSupplies>, <reqSpares> or <workLocation>.

BRDP-S1-00099: Decide whether to use any of the "identifiers" given in the elements <reqSupportEquips>, <reqSupplies>, <reqSpares> or <workLocation> as the presented link (textual content of the element <internalRef>), or as a tooltip in a viewer application (value of the attribute **targetTitle**).

NOTE

The "identifiers" can be derived from the content of the child elements or the attributes of the four elements.

5.22 S1000D Chapter 3.9.5.2.1.4 - Common constructs - Caption Groups.

5.22.1 Army business rules.

5.22.1.1 Caption group.

The optional element <captionGroup> shall not be used. (BR-ARMY-00132)

5.22.2 Project decisions.

5.22.2.1 Caption style guide.

BRDP-S1-00559: Decide on a project style guide to be used for captions.

5.22.2.2 Inline use of captions.

BRDP-S1-00117: Decide whether inline captions affect the text line spacing and how this is defined.

5.23 S1000D Chapter 3.9.5.2.1.5 - Common constructs - Titles.**5.23.1 Army business rules.****5.23.1.1 Use of titles for the elements `<levelledPara>` and `<proceduralStep>` from sublevel six thru eight for legacy data.**

BRDP-S1-00120: Decide whether titles can be included for the elements `<levelledPara>` and `<proceduralStep>` from sublevel six thru eight when converting legacy data to S1000D.

See [BR-ARMY-00156](#). (BR-ARMY-00133)

5.23.1.2 Use of the element `<title>`.

BRDP-S1-00118: Decide how to use the element `<title>` and on which elements.

When used, the elements `<figure>`, `<multimedia>`, and `<levelledPara>` (up to level 5) shall include a `<title>`. All other elements which allow a title shall be decided by project or organization decision. (JS-105)

5.23.1.3 Use of cross-references from titles.

BRDP-S1-00119: Decide whether to allow cross-referencing from titles.

See [JS-103](#). (JS-104)

5.23.2 Project decisions.**5.23.2.1 Use of titles.**

BRDP-ARMY-00014: All other elements (not listed in [JS-105](#)) and procedural steps which allow a title shall be decided by project or organization decision.

5.24 S1000D Chapter 3.9.5.2.1.6 - Common constructs - Tables.**5.24.1 Army business rules.****5.24.1.1 Use of tables as graphics.**

BRDP-S1-00122: Decide if tables represented as graphics are allowed, and if they are, in what situations they can be used.

The `<graphic>` branch of the element `<table>` shall not be used. (BR-ARMY-00134)

5.24.1.2 Table presentation settings.

The project shall apply the Continuous Acquisition and Life-Cycle Support (CALS) table attributes **frame**, **orient**, **pgwide**, **colsep**, **rowsep**, etc., where they are appropriate, so that the table is displayed in accordance with the basic presentation styles given in S1000D Chapter 6.2.3 and these business rules. The presentation system shall faithfully render the tables using the presentation attributes found in the table. (BR-ARMY-00135)

5.24.2 Project decisions.

5.24.2.1 Use of standard table types.

BRDP-S1-00121: Decide if a list of standard table types applies to the project (eg, inspection, examination) and define what the business rules are for these types in terms of their presentation requirements and certain textual values (eg, titles and heading row values). Each of these standard types must have a defined value that can be applied to the table's attribute **tabstyle**.

5.24.2.2 Use of applicability information of various table child elements - attribute **applicRefId** of the element **<table>**.

BRDP-S1-00123: Decide whether and how to use the attribute **applicRefId** of various **<table>** child elements. The child elements can be differentiated based on Product configuration.

5.25 S1000D Chapter 3.9.5.2.1.7 - Common constructs - Figures and foldouts.

5.25.1 Army business rules.

5.25.1.1 Types of legends.

BRDP-S1-00128: Decide on the strategy for legends, if used. Legends can appear as part of the illustration or as text using the element **<legend>**. The advantage of making the legend part of the text is that:

- a. the same illustration can have different legends wherever it appears (eg, in multi-language projects).
- b. the text of the element **<legend>** can be searched (this might not be the case if the legend is part of the illustration).
- c. items in the illustration can be linked to the legend by the use of hotspots.
- d. the legend in the text can save space on the illustration (particularly when the legends are long).

Illustrations shall not contain legends. If a legend is required, it shall only be prepared using appropriate XML markup. (BR-ARMY-00049)

5.25.2 Project decisions.

5.25.2.1 Use of foldouts.

BRDP-S1-00131: Decide whether to use the element **<foldout>** and, if used, where its use is allowed (eg, within specific information sets).

NOTE

It is only used for page-oriented publications, as it will not have an effect in the screen view of an IETP.

5.25.2.2 Multimedia technologies and environment.

BRDP-ARMY-00114: The project shall agree to the multimedia technologies used and the expected environment in which they will operate.

5.25.2.3 Suitability of multimedia use.

BRDP-S1-00129: Decide whether using multimedia is suitable for the environment in which the project will operate.

5.25.2.4 Permitted types of multimedia.

BRDP-S1-00130: Decide what types of multimedia objects are permitted.

5.26 S1000D Chapter 3.9.5.2.1.8 - Common constructs - Hotspots.

5.26.1 Army business rules.

5.26.1.1 Use of hotspots.

Hotspots may be used. Nested hotspots shall not be used. Raster graphics may have hotspots. (BR-ARMY-00136)

5.26.1.2 Hotspot attributes when using SVGs or 3D models.

The following requirements apply to the element **<hotspot>**:

- a. Use of the attribute **id** is required.
- b. The attribute **hotspotTitle** is required and shall be used to display link text and hover-over text.
- c. One of the following attributes shall be used (choice) **applicationStructureName** or **applicationStructureIdent**.
- d. See [BR-ARMY-00527](#). (BR-ARMY-00137)

NOTE

The use of **applicationStructureIdent** indicates the author's intent to highlight a single object in the graphic. The use of **applicationStructureName** indicates the author's intent to highlight all objects with the same name in the graphic.

5.26.1.3 Use of attribute **hotspotType**.

When using the element **<hotspot>**, use of the attribute **hotspotType** is required. Only the following values are allowed:

- a. callout
- b. detail

- c. 3Ditem (3D visualization)
- d. 3Dview (3D visualization)
- e. 3Danimation (3D visualization). (BR-ARMY-00527)

5.26.1.4 Creation of generic hotspots.

Generic hotspots shall be created as follows:

- a. The attribute **id** shall be structured using a fig-gra-hot sequence (e.g., <hotspot id="fig-0001-gra-00002-hot-00001">).
- b. The attribute **applicationStructureName** of the element <hotspot> shall be obtained from the attribute **applicationStructureName** of the hotspot object defined in the CGM graphics. For <hotspot> elements that identify the same object within a <figure> (including multi-sheet figures using multiple <graphic> child elements), the attribute **applicationStructureName** within the CGM shall be identical. See [BR-ARMY-00137](#). (BR-ARMY-00138)

5.26.2 Project decisions.

5.26.2.1 Use of hotspots.

BRDP-S1-00132: Decide whether and how to use hotspots as follows:

- a. If hotspots are to be used, decide whether hotspots can be used to link to graphical objects from local text.
- b. If hotspots are to be used, decide whether hotspots can be used to link from graphical objects to other graphical objects or local text.
- c. If hotspots are to be used, decide whether hotspots can be used to link from graphical objects to other data modules.

5.26.2.2 Use of the element <parameter>.

BRDP-S1-00133: Decide whether to use the element <parameter> and how to use it. If used, specify the attributes to be used within the project or organization.

5.27 S1000D Chapter 3.9.5.2.1.9 - Common constructs - Preliminary requirements and requirements after job completion.

5.27.1 Army business rules.

5.27.1.1 Test equipment and tools setup information.

Test equipment and tools setup information shall be listed in support equipment (element <reqSupportEquips>) of preliminary requirements (element <preliminaryRqmts>). (BR-ARMY-00461)

5.27.1.2 Materials and parts setup information.

Materials and parts setup information shall not be combined. These shall be marked up as supplies (element <reqSupplies>) and spares (element <reqSpares>) of preliminary requirements. (BR-ARMY-00462)

5.27.1.3 Use of the element **<reqTechInfoGroup>** in the element **<preliminaryRqmts>**.

BRDP-S1-00147: Decide whether and how to use the element **<reqTechInfoGroup>**.

References that require the maintainer to physically obtain the reference material shall be documented in **<reqTechInfoGroup>**. References that only recap where additional information may be found shall be documented in the element **<refs>** prior to preliminary requirements. (BR-ARMY-00139)

5.27.1.4 Personnel.

The attribute **numRequired** on the element **<personnel>** shall be used when the number of personnel of a certain skill or category is necessary to perform the maintenance action. (BR-ARMY-00140)

5.27.1.5 Required persons.

The element **<reqPersons>** (and its child element **<personnel>**) shall be included, but not populated when it is not necessary to specify skill but only to indicate persons required ("As required"). (BR-ARMY-00141)

5.27.1.6 Use of the element **<reqPersons>** in the element **<preliminaryRqmts>**.

BRDP-S1-00144: Decide whether and how to use the element **<reqPersons>**. For example, use either the element **<personnel>** or **<person>** or use both elements.

The element **<person>** shall not be used. (BR-ARMY-00142)

5.27.1.7 Man-Hours.

The element **<estimatedTime>** of the element **<personnel>** shall be used to author manhours for a task. (BR-ARMY-00143)

5.27.1.8 National Stock Number (NSN).

NSNs shall not be used in preliminary requirements. (BR-ARMY-00144)

5.27.1.9 Use of the element **<partAndSerialNumber>**.

The element **<partAndSerialNumber>** shall not be used. (BR-ARMY-00463)

5.27.1.10 Use of the attribute **id** on the element **<supportEquipDescr>** in the element **<preliminaryRqmts>**.

BRDP-S1-00150: Decide whether to link from the body of the procedure to the support equipment listed in Preliminary requirements.

NOTE

The attribute **id** on element **<supportEquipDescr>** is used to establish the link between the two and will guarantee consistent use of identification throughout the procedure. The use of cross-references is encouraged.

When support equipment is identified, the attribute **id** is required. (BR-ARMY-00145)

5.27.1.11 Use of the attribute `id` on the element `<supplyDescr>` in the element `<preliminaryRqmts>`.

BRDP-S1-00155: Decide whether to use the attribute `id` to create cross-references from the procedure to the supplies listed in Preliminary requirements. The attribute `id` on element `<supplyDescr>` is used to establish the link between the two and will guarantee consistent use of identification throughout the procedure. The use of cross-references is encouraged.

When supplies are identified, the attribute `id` is required. (BR-ARMY-00146)

5.27.1.12 Use of the attribute `id` on element `<sparesDescr>` in the element `<preliminaryRqmts>`.

BRDP-S1-00156: Decide whether to use the attribute `id` to create cross-references from the procedure to the spares listed in Preliminary requirements. The attribute `id` on element `<sparesDescr>` is used to establish the link between the two and will guarantee consistent use identification throughout the procedure. The use of cross-references is encouraged.

When spares are identified, the attribute `id` is required. (BR-ARMY-00147)

5.27.2 Project decisions.

5.27.2.1 Use of the element `<taskDuration>` in the element `<preliminaryRqmts>`.

BRDP-S1-00142: Decide whether and how to use the element `<taskDuration>`. The possibility of duplication and mismatch of data given in the maintenance planning information must be taken into account.

5.27.2.2 Production management data.

BRDP-ARMY-00015: The project shall decide whether or not to use the element `<productionMaintData>`.

5.27.2.3 Use of the element `<thresholdInterval>`.

BRDP-ARMY-00016: The project shall decide whether or not to use element `<thresholdInterval>`.

5.27.2.4 Use of the attribute `lsarData`.

BRDP-ARMY-00017: The project shall decide whether or not to use the attribute `lsarData`.

5.27.2.5 Use of the element `<workArea>` in the element `<preliminaryRqmts>`.

BRDP-S1-00137: Decide whether and how to use the element `<workArea>`. If used, decide which data module types to use it.

5.27.2.6 Use of the attribute `reqCondCategory`.

BRDP-ARMY-00018: The project shall decide the use of the attribute `reqCondCategory` (refer to [5.52.1.48](#)).

5.27.2.7 Inclusion of a circuit breaker list as part of the preliminary conditions - (element <reqCondCircuitBreaker>).

BRDP-S1-00143: Decide if circuit breaker lists are allowed in required conditions and thus the use of the element, or if all the circuit breaker settings must be part of the steps. In this latter case the element <circuitBreaker-DescrGroup> in steps content can be used.

5.27.2.8 Values for the attribute personCategoryCode in the element <preliminaryRqmts>.

BRDP-S1-00145: Define a list of skill categories/types (eg, Airframe, Electrical, Avionic, Engine).

5.27.2.9 Values for the attribute trade in the context of the element <preliminaryRqmts>.

BRDP-S1-00146: If trades are required, define a list of trades/trade codes.

5.27.2.10 Listing of standard tools in Preliminary requirements.

BRDP-S1-00149: Decide what types of standard tools or toolkits to be identified and listed in the table "Support equipment".

5.27.2.11 Use of identification elements in the element <supportEquipDescr>, the element <supplyDescr> and the element <spareDescr> context.

BRDP-S1-00152: Decide which of the elements <catalogSeqNumberRef>, <natoStockNumber>, <identNumber>, <toolRef>, <supplyRef>, <supplyRqmtRef>, <partRef>, <functionalItemRef> and <materialSetRef> to use for identification and how to populate these elements.

5.27.2.12 Use of the element <preliminaryRqmts>.

BRDP-S1-00134: Decide whether to use the element <preliminaryRqmts> in maintenance planning, fault isolation, maintenance checklist and/or process data modules.

5.27.2.13 Use of the element <workAreaLocationGroup> in the element <preliminaryRqmts>.

BRDP-S1-00135: Decide whether and how to use the element <workAreaLocationGroup>. The possibility of duplication and mismatch of data given in the maintenance planning information must be taken into account.

5.27.2.14 Use of the element <workLocation> in the element <preliminaryRqmts>.

BRDP-S1-00136: Decide whether and how to use the element <workLocation>. If used, decide the data module types with which it will be used.

5.27.2.15 Use of the element <installationLocation> in the element <preliminaryRqmts>.

BRDP-S1-00138: Decide whether and how to use the element <installationLocation>. If used, decide which data module types to use it.

5.27.2.16 Use of the element `<productItem>` in the element `<preliminaryRqmts>`.

BRDP-S1-00139: Decide whether and how to use the element `<productItem>`. If used, decide which data module types to use it.

5.27.2.17 Use of the attribute `productItemName` in the element `<preliminaryRqmts>`.

BRDP-S1-00140: Decide whether and how to use the attribute `productItemName`.

5.27.2.18 Use of the attribute `productItemType` in the element `<preliminaryRqmts>`.

BRDP-S1-00141: Decide whether and how to use the attribute `productItemType`.

5.27.2.19 Use of the attribute `materialUsage` in the element `<supportEquipDescr>`, the element `<supplyDescr>` and the element `<spareDescr>` context.

BRDP-S1-00151: Decide whether to use the attribute `materialUsage` in the elements `<supportEquipDescr>`, `<supplyDescr>` and `<spareDescr>` context and what values to be used.

5.27.2.20 Use of the element `<closeRqmts>` in the process data modules.

BRDP-S1-00157: Decide whether to use the element `<closeRqmts>` in the process data modules.

5.28 S1000D Chapter 3.9.5.2.1.10 - Common constructs - Text elements.**5.28.1 Army business rules.****5.28.1.1 Use of the symbols.**

BRDP-S1-00171: Decide whether and how to use symbols using the text element `<symbol>`.

Symbols used in inline text shall be large enough to be readable yet no larger than two times the line spacing within the normal text. When larger symbols, such as equations, are needed, the symbol shall be included individually within a separate paragraph (element `<para>`) in order to maintain consistent spacing. (JS-037)

5.28.1.2 Use of footnotes.

BRDP-S1-00172: Decide whether and how to use the text element `<footnote>` and when used, decide whether the use of footnotes is limited to regular text and titles (inline) and/or to tables (table footnotes).

Footnotes shall not be used in regular text. Footnotes are allowed in tables. (BR-ARMY-00148)

5.28.1.3 Types of inline significant data to markup using the attribute `significantParaDataType` in the text element `<inlineSignificantData>`.

BRDP-S1-00160: Decide whether to use the attribute `significantParaDataType` and which types of data to mark up and in what contexts.

NOTE

It must also be considered that data modules can be less portable if the paragraph significant data types are extended in the BREX file past the standard types.

The use of the element **<inlineSignificantData>** is allowed. Only the **significantParaDataType** attribute values and open range defined below are available for use. (BR-ARMY-00149)

Allowable values	Army interpretation
psd01	Ammunition
psd02	Instruction disposition
psd03	Lubricant
psd04	Maintenance level
psd05	Manufacturer code
psd06	Manufacturers recommendation
psd07	Modification code
psd08	Qualification code
psd09	Training level
psd10	Control or indicator value
psd51	Immediate emergency procedure checklist item
psd52	Placard
psd53	Test point
psd54	Critical safety item
psd55	Designator symbol
psd56	Graphical User Interface (GUI) item
psd57~psd65	Reserved for Army
psd66~psd99	Available for projects

5.28.1.4 Miscellaneous significant paragraph data.

The value definition "miscellaneous" (or anything similar) for the attribute **significantParaDataType** is prohibited. (BR-ARMY-00150)

5.28.2 Project decisions.**5.28.2.1 Use of the text element <indexFlag>.**

BRDP-S1-00169: The project shall decide whether an index is required and to what level indexing should be made.

5.28.2.2 Use of the element `<acronym>`.

BRDP-ARMY-00019: The project shall decide the use of the optional element `<acronym>`.

5.28.2.3 Use of attribute `verbatimStyle`.

BRDP-ARMY-00020: The project shall decide the use of the available values for the attribute `verbatimStyle` (refer to [5.52.1.68](#)) and allocate suitable definitions to them in the project or organization business rules.

5.28.2.4 Use of the element `<quantity>`.

BRDP-ARMY-00022: The project shall decide whether to use quantity data markup and to what extent it is used.

5.28.2.5 Types of quantity data to markup.

BRDP-ARMY-00023: If using quantity data markup, the project shall decide which types of data to mark up and in what contexts.

5.28.2.6 Use of the value (element `<quantityValue>`) and tolerance (element `<quantityTolerance>`) decomposition in the text element `<quantity>`.

BRDP-S1-00163: Decide whether and how to use to use the element `<quantityValue>` and the element `<quantityTolerance>` decomposition.

5.28.2.7 Unit of measure to be used.

BRDP-S1-00164: If using the value and tolerance decomposition, decide at which level of the markup the attribute `quantityUnitOfMeasure` must be included. Allowable locations are on the parent element `<quantityGroup>` which applies to all child elements or on the individual child elements `<quantityValue>` and `<quantityTolerance>`. A consistent usage of the attribute `quantityUnitOfMeasure` is required to produce a consistent display or printout to the user.

5.28.2.8 Circuit breaker.

BRDP-ARMY-00024: The project shall decide if a circuit breaker list is to be considered as part of preliminary conditions and thus the use of the element `<reqCondCircuitBreaker>` or if the circuit breaker settings are part of the steps. In the latter, the element `<circuitBreakerDescrGroup>` in steps content can be used.

5.28.2.9 Use of the attribute `circuitBreakerAction` in text element `<circuitBreakerRef>`.

BRDP-S1-00158: Decide whether to use the attribute `circuitBreakerAction`. If used, establish writing rules to ensure that authors will be consistent in the paragraph text and the value of the attribute itself.

5.28.2.10 Use of the attribute `checksum` in text element `<circuitBreakerRef>`.

BRDP-S1-00159: Decide whether to use and how to populate the attribute `checksum`.

5.28.2.11 Use of the element <zoneRef>.

BRDP-S1-00166: Decide whether and how to use the element **<zoneRef>**. Consideration for duplication and mismatch of data given in the maintenance planning information has to be taken.

5.28.2.12 Use of the element <accessPointRef>.

BRDP-S1-00167: Decide whether to use the element **<accessPointRef>** and how to use it. Consideration for duplication and mismatch of data given in the maintenance planning information has to be taken.

5.28.2.13 Types of footnote markers.

BRDP-S1-00173: Decide on the types of footnote markers (attribute **footnoteMark**) to use. It is recommended to use:

- a. only one type of footnote marker for each of the table footnotes and the inline footnotes throughout a project.
- b. superscripted numbers for both.

5.28.2.14 Identification of parts.

BRDP-S1-00560: Decide whether the project can use OEM renamed part numbers instead of part numbers allocated by the part design authority in the attribute **partNumberValue**.

5.29 S1000D Chapter 3.9.5.2.1.11 - Common constructs - Controlled content.**5.29.1 Army business rules.****5.29.1.1 Presentation of controlled content.**

BRDP-S1-00176: Decide how to present controlled content using the attributes **authorityName** and **authorityDocument**.

Use of controlled content (attributes **authorityName** and **authorityDocument**) shall not be used. (BR-ARMY-00151)

5.29.2 Project decisions.

None.

5.30 S1000D Chapter 3.9.5.2.1.12 - Common constructs - Common information.**5.30.1 Army business rules.****5.30.1.1 Use of common information.**

BRDP-S1-00177: Decide whether to use the element **<commonInfo>** in business rules exchange, common repositories, fault, maintenance checklist, maintenance planning, procedural, process, and service bulletin data modules. If decided to be used, then determine the circumstances for its use for each related data module type, and give guidance and rules that will make sure it is consistently used.

The element **<commonInfo>** shall be used when it is necessary to provide data to the user that applies to the entire data module. (BR-ARMY-00152)

5.30.1.2 Markup method for common information text.

BRDP-S1-00178: Decide which markup method to use for common information text:

- a. the method containing **<note>**, **<para>** and **<commonInfoDescrPara>** or
- b. the method containing only **<commonInfoDescrPara>**

The only allowed child under the element **<commonInfo>** is the element **<commonInfoDescrPara>**. All children, allowed by the schema, under **<commonInfoDescrPara>** are permitted. (BR-ARMY-00153)

5.30.2 Project decisions.

None.

5.31 S1000D Chapter 3.9.5.2.2 - Content section - Descriptive information.

5.31.1 Army business rules.

5.31.1.1 Maximum number of subordinate levelled paragraphs in a descriptive data module.

BRDP-S1-00180: Decide on the maximum number of levelled paragraphs allowed in a descriptive data module. Exceeding five levels of depth is strongly discouraged in development of new data. It is recommended that additional levels are only used in a conversion effort where the existing data is authored to this depth (maximum eight levels) and restructuring of data is not feasible.

Paragraph depth shall be limited to a primary paragraph plus four subparagraph levels. (BR-ARMY-00154)

5.31.1.2 Use of the attribute **id**.

The use of the attribute **id** is required on the following items:

- a. **<figure>**
- b. **<table>**
- c. **<levelledPara>**
- d. **<proceduralStep>** and **<crewDrillStep>**
- e. **<multimediaObject>**

Projects shall decide which additional elements are required to include the attribute **id**. Projects shall decide whether to enforce the attribute **id** value patterns in their business rules and BREX. (JS-038)

5.31.1.3 Additional Army requirements for attribute **id**.

In addition to the elements identified in [JS-038](#), the following elements shall also include the attribute **id**:

- a. **<graphic>** (when more than one **<graphic>** is included)

b. **<multimedia>** (BR-ARMY-00155)

5.31.2 Project decisions.

5.31.2.1 Minimum levelled paragraph occurrences.

BRDP-S1-00181: Decide whether to impose a minimum of two occurrences of child elements **<levelledPara>** and/or **<levelledParaAlts>**.

5.32 S1000D Chapter 3.9.5.2.3 - Content section - Procedural information.

5.32.1 Army business rules.

5.32.1.1 Use of titles for procedural steps.

Use of step titles is prohibited. (BR-ARMY-00156)

5.32.1.2 Single step numbering.

A single step shall not be numbered. (BR-ARMY-00157)

5.32.1.3 Use of the optional attribute `itemCharacteristic`.

The attribute `itemCharacteristic` shall be used as appropriate. See [BR-ARMY-00220](#). (BR-ARMY-00158)

5.32.2 Project decisions.

5.32.2.1 Use of the optional attribute `independentCheck`.

BRDP-ARMY-00025: The project shall decide whether or not to use the attribute `independentCheck` and how to use it.

5.32.2.2 Maximum number of step levels in a procedure.

BRDP-S1-00186: Decide on the maximum number of step levels allowed in a procedure. Exceeding five levels of depth is strongly discouraged in development of new data. It is recommended that additional levels are only used in a conversion effort where the existing data is authored to this depth (maximum eight levels) and restructuring of data is not feasible.

5.32.2.3 Minimum number of substeps in a step.

BRDP-S1-00187: Decide whether to allow for a single substep, or to insist on a minimum of two substeps in a step.

NOTE

The Schema allows for a single substep.

5.32.2.4 Use of the alternates concept within the element `<mainProcedure>`.

BRDP-S1-00185: Decide whether to use the alternates concept for steps, figures and multimedia within the element `<mainProcedure>`. This concerns the child elements `<proceduralStepAlts>` (refer to Para 2.4.2), `<figureAlts>` (refer to Chap 3.9.5.2.1.7) and `<multimediaAlts>` (refer to Chap 3.9.5.2.1.7).

5.33 S1000D Chapter 3.9.5.2.4 - Content section - Fault information.

5.33.1 Army business rules.

5.33.1.1 Use of titles in fault isolation steps.

Use of step titles is prohibited. (BR-ARMY-00159)

5.33.1.2 Preliminary requirements.

To avoid duplication, the element `<preliminaryRqmts>` shall not be used in the `<faultIsolation>` structure as it is required in the `<isolationProcedure>` structure. (BR-ARMY-00160)

5.33.2 Project decisions.

5.33.2.1 Use of correlation fault concept.

BRDP-S1-00192: Decide whether to use the correlated fault concept.

5.33.2.2 Use of correlated fault messages and warnings.

BRDP-S1-00193: Decide how to populate the elements `<warningMalfunction>`, `<assocWarningMalfunction>` and `<bitMessage>` when using the correlated fault concept.

5.33.2.3 Use of detection and description information elements.

BRDP-S1-00194: Decide whether the repetition of the detection and description information for the basic fault which has been correlated (elements `<faultDescr>` and `<detectionInfo>`) is used. Projects can consider that the detection and description information can for example be populated during IETP generation by picking up the information in the detected fault list data module describing the basic faults.

5.33.2.4 Use of the attribute `independentCheck` on the elements `<isolationProcedure>`, `<isolationStep>` and `<isolationProcedureEnd>`.

BRDP-S1-00195: Decide whether to use the attribute `independentCheck`, which values to use and allocate suitable definitions.

5.34 S1000D Chapter 3.9.5.2.5 - Content section - Maintenance planning information.

5.34.1 Army business rules.

5.34.1.1 Use of the top level preliminary requirements construct for maintenance inspections.

BRDP-S1-00562: Decide whether to use the top level preliminary requirements for maintenance inspections.

The **<preliminaryRqmts>**, **<inspectionDefinition>**, **<taskDefinition>**, and **<timeLimitInfo>** branches of the schedule data module are prohibited. (BR-ARMY-00464)

5.34.1.2 Use of the element **<maintPlanning>**.

The element **<maintPlanning>** allows for several branch options. Only the use of **<commonInfo>**, **<maintAllocation>**, **<toolsList>**, and **<remarksList>** is allowed. (BR-ARMY-00161)

5.34.1.3 Use of the element **<componentAssy>**.

The element **<componentAssy>** shall be used only within the element **<componentAssyGroup>** and not in a separate branch. (BR-ARMY-00162)

5.34.1.4 Use of the element **<componentAssyGroup>**.

The element **<componentAssyGroup>** shall be used when authoring component/assembly information. (BR-ARMY-00163)

5.34.1.5 Use of the element **<maintQualifier>**.

The element **<maintQualifier>** shall be used only within the element **<componentAssyGroup>** and not in a separate branch (as a child of **<maintAllocationGroup>**). (BR-ARMY-00164)

5.34.1.6 Use of the attribute **maintLevelCode**.

Only the defined values are allowed for the attribute **maintLevelCode**, refer to [5.52.1.36](#). (BR-ARMY-00166)

5.34.1.7 Use of the attribute **timeLimitCategoryValue**.

BRDP-S1-00563: In case standard descriptions are not applicable, describe how the values "1" and "2", respectively, will be used for the attribute **timeLimitCategoryValue**.

Use of the element **<timeLimitCategory>** is prohibited. (BR-ARMY-00167)

5.34.1.8 Values for the attribute **inspectionTypeCategory**.

BRDP-S1-00197: Decide which values to use for the attribute **inspectionTypeCategory** and allocate suitable definitions.

See [BR-ARMY-00464](#). (BR-ARMY-00465)

5.34.1.9 Methodology of assigning tasks into the element <taskGroup>.

BRDP-S1-00198: Decide on a methodology of assigning tasks to groups.

See [BR-ARMY-00464](#). (BR-ARMY-00466)

5.34.1.10 Use of the attribute markerType.

BRDP-S1-00199: Decide whether which values to use for the attribute **markerType**, which values to use and allocate suitable definitions.

See [BR-ARMY-00464](#). (BR-ARMY-00467)

5.34.1.11 Values for the attribute sourceOfRqmt.

BRDP-S1-00202: Decide which values to use for the attribute **sourceOfRqmt** and allocate suitable definitions.

See [BR-ARMY-00464](#). (BR-ARMY-00468)

5.34.1.12 Use of the element <preliminaryRqmts> in the element <taskDefinition>.

BRDP-S1-00204: Decide whether to use the element **<preliminaryRqmts>** in the context of task definition.

See [BR-ARMY-00464](#). (BR-ARMY-00469)

5.34.2 Project decisions.**5.34.2.1 Use of the element <typeDesignation>.**

BRDP-ARMY-00026: The project shall decide whether or not the element **<typeDesignation>** shall be used. If used, it shall be used consistently throughout the MAC.

5.35 S1000D Chapter 3.9.5.2.6 - Content section - Crew/Operator information.**5.35.1 Army business rules.****5.35.1.1 Preparing data modules.**

Procedural aircrew information shall be authored using crew data modules. Descriptive aircrew information may use descriptive or crew data modules. (BR-ARMY-00168)

Flight Manual requirements are mirrored from regulations whose Army Custodian and Preparing Activity is Combat Capabilities Development Command, Aviation and Missile Center. Questions regarding requirements or stylesheet availability for flight manuals shall be addressed to AMCOM Logistics Center, ATTN: AMAM-LLP-S, Bldg 5301, Martin Road, Redstone Arsenal, AL 35898 or e-mailed to usarmy.redstone.amcom.list.immc-pubepco@army.mil.

5.35.1.2 Crew drill step levels.

Crew drill steps (**<crewDrillStep>**) shall not exceed seven levels. (BR-ARMY-00169)

5.35.1.3 Use of the element **<crewMemberGroup>**.

The element **<crewMemberGroup>** shall not be used. (BR-ARMY-00170)

5.35.1.4 Use of the element **<crewProcedureName>**.

The element **<crewProcedureName>** shall not be used. (BR-ARMY-00171)

5.35.1.5 Use of the element **<endMatter>**.

The element **<endMatter>** shall not be used. (BR-ARMY-00172)

5.35.1.5.A Challenge-Response procedural steps.

Rotary wing (RW) publications shall only use the value "line" for the attribute **separatorStyle** (element **<crewDrillStep>**) for challenge-response steps (element **<challengeAndResponse>**). Fixed wing (FW) and uncrewed aircraft system (UAS) publications shall only use the value "dot" for the attribute **separatorStyle** (element **<crewDrillStep>**) for challenge-response steps (element **<challengeAndResponse>**). See [5.106](#). (BR-ARMY-00538)

5.35.2 Project decisions.

5.35.2.1 Use the attribute **crewStepCondition**.

BRDP-ARMY-00027: The project shall decide whether or not to use the attribute **crewStepCondition**. Only the **crewStepCondition** attribute values and open range defined below are available for use.

Allowable values	Army interpretation
csc01	Used to indicate if equipment is installed or available (O)
csc02	Used to indicate that a detailed procedure for the step is located in the performance section of the condensed checklist (□)
csc03	Used to indicate that performance of the step is mandatory for all through-flights used for combat/tactical operations (*)
csc04	Used for a step that is mandatory for night flights (N)
csc05	Used to indicate a task or step required by the operator's manual (T)
csc51	Used to indicate duties that are the responsibility of the pilot (not on the controls) (④)

Allowable values	Army interpretation
csc52	Used to indicate a task or step that required a flight engineer function or response (F)
csc53	Used to indicate that the performance of the step is mandatory for all maintenance test flights (**)
csc54~csc60	Reserved for Army
csc61~csc99	Available for projects

5.35.2.2 Use of the optional attribute `independentCheck`.

BRDP-ARMY-00028: The project shall decide whether or not to use the attribute `independentCheck`.

5.36 S1000D Chapter 3.9.5.2.7 - Content section - Parts information.

5.36.1 Army business rules.

5.36.1.1 Parts list figures.

A single `<figure>` or element `<multimedia>` shall precede each parts list. This requirement does not apply to COEI/BII/SSR lists (IC 105C/D) or bulk items (IC 603B). (BR-ARMY-00173)

5.36.1.1.A Use of the attribute `itemSeqNumberValue`.

The attribute `itemSeqNumberValue` shall contain a three-position value. For catalog sequence numbers (element `<catalogSeqNumber>`) with a single item sequence number (element `<itemSeqNumber>`), and when the attribute `item` includes a unique value (callout/index number) in a single data module, the value for the attribute `itemSeqNumberValue` shall be "00A." (BR-ARMY-00541)

5.36.1.2 Callout placement.

When practical, all callouts shall be placed outside the boundaries of the parts illustrated so that parts are not obscured. (BR-ARMY-00174)

5.36.1.3 Number of callouts.

Whenever possible, the average maximum number of callouts within a 7-inch by 10-inch area should not exceed 70. (BR-ARMY-00175)

5.36.1.4 Leader lines.

Leader lines shall not cross another leader line. (BR-ARMY-00176)

5.36.1.5 Number of Items.

A multiplier shall not be used to indicate the number of items. (BR-ARMY-00177)

5.36.1.6 Place nuts.

Place nuts shall be illustrated. (BR-ARMY-00178)

5.36.1.7 Hardness critical items.

When survivability considerations are specified and Hardness Critical Items (HCI) are identified on drawings and parts lists, the items shall be marked (using the attribute **partCharacteristic** with the value "**pc01**") and presented in the "DESCRIPTION" entry. All changes to or proposed substitutions of HCIs shall be evaluated for hardness impacts by the engineering activity responsible for survivability. The introduction will include an explanation of the HCI symbol's usage and method of highlighting and other pertinent information as necessary to emphasize uniqueness of HCIs. (BR-ARMY-00179)

5.36.1.8 Electrostatic Discharge (ESD).

If electronic equipment to be handled, inspected, repaired or assembled is ESD sensitive, the items shall be marked (using the attribute **partCharacteristic** with the value "**pc06**") and presented in the "DESCRIPTION" entry. The introduction will include an explanation of the ESD symbol's usage and method of highlighting and other pertinent information as necessary to emphasize uniqueness of ESD sensitive components. (BR-ARMY-00180)

5.36.1.9 Expendable and durable items.

Expendable and durable items shall not be listed in the IPD. (BR-ARMY-00181)

5.36.1.10 Part information order.

Items shall be listed in ascending alphanumeric sequence. (BR-ARMY-00182)

5.36.1.11 Non-stocked assembled items.

Spare and repair parts that are part of a nonstocked assembled item (source coded "AO," "AF," "AH," or "AD") shall be assigned item numbers on illustrations and shall be listed in item number sequence on the repair parts list. These items/parts shall be listed immediately below the item to be assembled on the repair parts list. When a particular illustration does not show the parts breakdown of the nonstocked assembly, reference shall be made to the breakdown IPD data module. (BR-ARMY-00183)

5.36.1.12 Special tools.

All special tools shall be listed in one IPD data module. (BR-ARMY-00184)

5.36.1.13 Usable On Code (UOC).

UOC shall be placed on the last line under the item description. The letters "UOC:" followed by the applicable UOC shall be indented. (BR-ARMY-00185)

5.36.1.14 North Atlantic Treaty Organization (NATO) Stock Number.

The element **<natoStockNumber>** shall be used for all stocked parts that have an NSN. (BR-ARMY-00186)

5.36.1.15 Use of the element <natoStockNumber> (NATO stock number).

The following NSN attributes shall be used:

- a. The attribute **natoSupplyClass** shall contain the four digit Federal Supply Code/Classification (FSC).
- b. The attribute **natoCodificationBureau** shall contain the first two digits of the NATO Item Identification Number (NIIN).
- c. The attribute **natoItemIdentNumberCore** shall contain the final seven digits of the NIIN.

Use of the element **<fullNatoStockNumber>** is prohibited. (JS-040)

5.36.1.16 Identical parts.

Identical parts (same part number) appearing in a figure (illustration) shall have the same item number. (BR-ARMY-00187)

5.36.1.17 Identical assemblies.

When an identical assembly appears subsequent times, the assembly item name shall appear in the description and shall be followed by the statement "Breakdown: [DM reference]." (BR-ARMY-00188)

5.36.1.18 Basic issue items.

The technical name shall be "Basic issue items." (BR-ARMY-00189)

5.36.1.19 Bulk item SNS.

The technical name shall be "Bulk material" for bulk items. (BR-ARMY-00190)

5.36.1.20 Part numbers.

When part numbers of spare/repair items are not the same for all serial numbered equipment of the same model, the usable effective (USBL EFF) serial numbers shall be presented under "Description" and authored using the element **<modelVersion>**. See [BRDP-S1-00234](#). (BR-ARMY-00191)

5.36.1.21 Quantities for basis of issue items.

The element **<quantityPerNextHigherAssy>** shall be populated with "AR" for special tools which include Basis of Issue (BOI). (BR-ARMY-00192)

5.36.1.22 Use of the element <sourceMaintRecoverability> in the element <locationRcmdSegment> within the element <itemSeqNumber>.

BRDP-S1-00233: Decide which values to use for the sixth character of the element **<sourceMaintRecoverability>** and allocate suitable definitions.

When applicable, the use of the sixth position in the element **<sourceMaintRecoverability>** shall be populated with the values for service option codes as described and in accordance with Joint Regulation Governing the Use and Application of Uniform Source, Maintenance, and Recoverability Codes (AR 700-82/SECNAVINST 4410.23/AFMAN 21-106). (JS-121)

5.36.1.23 Catalog sequence number indenture.

Catalog sequence number shall not exceed five levels of indenture (the value of the attribute indenture in **<catalogSeqNumber>** shall not exceed "5"). (BR-ARMY-00470)

5.36.1.24 Non-chapterized Catalog Sequence Number (CSN).

The use of non-chapterized data modules is prohibited. (BR-ARMY-00193)

5.36.1.24.A Presentation of additional content.

Any content which is authored but not represented by a column shall be presented under the DESCRIPTION header. (BR-ARMY-00542)

5.36.1.25 Quantities of components.

Quantities of components shall be included in BOI statement. (BR-ARMY-00514)

5.36.1.26 Kit identification.

Kit items shall be listed under the kit itself with each item having an incremented indenture. (BR-ARMY-00194)

5.36.1.27 Bulk item lists.

A bulk items data module shall not have any illustrations. Bulk items shall be listed alphabetically by name (element **<descrForPart>** within **<itemIdentData>**, a child of **<partSegment>**). Bulk items shall populate the attribute item with the value "000" and include **<notIllustrated>**. (BR-ARMY-00195)

5.36.1.28 Use of the element <service> in the element <locationRcmdSegment> within the element <itemSeqNumber>.

BRDP-S1-00232: Decide on the values and definitions of the third character of the element **<service>**.

The first two characters for the **<service>** code shall be US (for NATO projects the 2 digit code shall be "NA"). The third character shall specify the originating service for which the part data is applicable as follows:

- a. A - Army
- b. N - Navy
- c. F - Air Force
- d. M - Marine Corps
- e. C - Coast Guard (JS-039)

5.36.1.29 Basis of Issue (BOI).

When authoring BOI data for special tools lists (IC 604B), BOI shall be recorded using the generic part data elements. The attribute **genericPartDataName** will be set to "**basisOfIssue**" and the value shall be identified using the element **<genericPartDataValue>**. (BR-ARMY-00196)

5.36.1.30 Quantity per end item.

Quantity per end item (Marine Corps only) shall be recorded using the element **<totalQuantity>**. (BR-ARMY-00197)

5.36.1.31 Use of the BREX to define the non S2000M elements.

BRDP-S1-00237: Decide whether to use BREX for the definition of the non S2000M elements.

The only allowed value for the attribute **genericPartDataName** is "**basisOfIssue**." (BR-ARMY-00198)

5.36.1.32 Initial provisioning project number.

The element **<initialProvisioningProject>** and its attributes shall not be used. (BR-ARMY-00199)

5.36.1.33 Use of the element <physicalSecurityPilferageCode> in the element <techData> within the element <itemSeqNumber>.

BRDP-S1-00221: Decide whether and how to use the element **<physicalSecurityPilferageCode>**. S2000M lists the possible codes in the data definition for physical security pilferage code (PSC).

The element **<physicalSecurityPilferageCode>** shall not be used in parts list data. (BR-ARMY-00200)

5.36.1.34 Use of the element <usableOnCodeEquip> in the element <applicabilitySegment> within the element <itemSeqNumber>.

BRDP-S1-00229: Decide whether and how to use the element **<usableOnCodeEquip>**. If used, decide on the values and their definitions. S2000M lists the possible codes and their usage in the data definition for usable on code equipment (UCE).

The usable on codes provided by the provisioning data shall be used for **<usableOnCodeEquip>**. (BR-ARMY-00201)

5.36.1.35 Use of the element <usableOnCodeAssy> in the element <applicabilitySegment> within the element <itemSeqNumber>.

BRDP-S1-00230: Decide whether and how to use the element **<usableOnCodeAssy>**. If used, decide on the values and their definitions. S2000M lists the possible codes and their usage in the data definition for usable on code assembly (UCA).

The usable on codes provided by the provisioning data shall be used for **<usableOnCodeAssy>**. (BR-ARMY-00202)

5.36.1.36 Use of the element **<interchangeability>** in the element **<applicabilitySegment>** within the element **<itemSeqNumber>**.

BRDP-S1-00231: Decide whether and how to use the element **<interchangeability>**. If used, decide on the values and their definitions. S2000M lists the possible codes and their usage in the definition for interchangeability (ICY).

The element **<interchangeability>** shall be used when two or more parts have the same form, fit, and function. The element **<interchangeability>** shall contain a two-position code to identify interchangeable item sequence numbers (ISNs) (element **<itemSeqNumber>**) within the same catalog sequence number (element **<catalogSeqNumber>**). The first position represents the preceding ISN and the second position represents the succeeding ISN. When **<interchangeability>** is included, at least two ISNs must exist. See [TABLE II.](#) The meaning of the **<interchangeability>** shall be presented to the end user. (BR-ARMY-00203)

TABLE II.A Interchangeability codes.

Val- ue	Meaning
0	Not interchangeable item
1	Fully interchangeable deprecated item (succeeding item only)
2	Fully interchangeable preferred item (preceding item only)
3	One-way interchangeable with succeeding item (succeeding item only)
4	Fully interchangeable item
5	One-way interchangeable item with preceding item (preceding item only)
6	Qualified interchangeable item
7	Obsolete item
9	Identical item
-	Used as a filler to make clear the position of a single numerical code presented in the ICY field.

NOTE

A hyphen is not populated in S2000M, but would be included in S1000D, as applicable.

5.36.1.36.A Use of the element **<notIllustrated>**.

The element **<notIllustrated>** shall be included for each item that is not depicted in the corresponding figure. When included, the element **<notIllustrated>** shall be populated with only a dash. (BR-ARMY-00537)

5.36.2 Project decisions.

5.36.2.0.A Population of the attribute **item**.

BRDP-ARMY-00165: Decide how to populate the attribute **item** for parts that are not illustrated along with the population of the attribute **itemSeqNumberValue** to form a unique reference in a single data module.

5.36.2.1 Use of the attribute `unitOfMeasure` in the element `<unitOfIssueQualificationSegment>` within the element `<itemSeqNumber>`.

BRDP-S1-00222: Decide on the range and definitions of the values for the attribute `unitOfMeasure`.

NOTE

When the IPD data modules are created from S2000M, the list of allowed unit of measure (UOM) values must contain those defined in the data definition in S2000M. When S2000M is used, it is strongly recommended to use the S2000M UOM values throughout the project.

5.36.2.2 Use of the element `<modelVersion>` in the element `<locationRcmdSegment>` within the element `<itemSeqNumber>`.

BRDP-S1-00234: Decide whether and how to use the element `<modelVersion>`. If used, decide on the values and their definitions.

5.36.2.3 Use of the element `<effectivity>` in the element `<locationRcmdSegment>` within the element `<itemSeqNumber>`.

BRDP-S1-00235: Decide whether and how to use the element `<effectivity>`. If used, decide on its range and the definition of the values to be used.

5.36.2.4 Use of the element `<partSegment>` in the element `<itemSeqNumber>`.

BRDP-S1-00219: Decide whether to use the element `<partSegment>` to store the part data in the IPD data module each time the part is listed, or store the part data once externally in the part CIR data module.

NOTE

The element `<partSegment>` must be used for S2000M IPD data modules.

5.36.2.5 Use of the element `<optionalPart>` in the element `<partRefGroup>` within the element `<itemSeqNumber>`.

BRDP-S1-00223: Decide on the method of identification of the optional part.

5.36.2.6 Use of the element `<preferredSparePart>` in the element `<partRefGroup>` within the element `<itemSeqNumber>`.

BRDP-S1-00224: Decide on the method of identification of the preferred spare part.

5.36.2.7 Use of the element `<alteredFromPart>` in the element `<partRefGroup>` within the element `<itemSeqNumber>`.

BRDP-S1-00225: Decide on the method of identification of the altered from part.

5.36.2.8 Use of the element `<localFabricationMaterial>`.

BRDP-S1-00226: Decide on the method of identification of the local fabrication material.

5.37 S1000D Chapter 3.9.5.2.9 - Content section - Wiring information (and all sub-chapters).

5.37.1 Army business rules.

None.

5.37.2 Project decisions.

5.37.2.1 Use of the wiring data module.

BRDP-ARMY-00031: The project may elect to use the wiring data module. If so, the project is required to coordinate efforts, including related business rules, with LDAC.

5.37.2.2 Use of the element `<wireType>`.

BRDP-S1-00239: Decide on the definition of wire type content/codes.

5.37.2.3 Use of the element `<wireSeqNumber>`.

BRDP-S1-00240: Decide whether and how to use the wire sequential number.

NOTE

The element `<wireSeqNumber>` must be used if the wire sequential number is not given in the element `<wireNumber>`.

5.37.2.4 Use of the element `<electricalEquipConnection>`.

BRDP-S1-00241: Decide whether and how to use electrical equipment connection information, in particular define the values of attribute `connectionType` consistently.

5.38 S1000D Chapter 3.9.5.2.10 - Content section - Process data module.

5.38.1 Army business rules.

5.38.1.1 Use of the process data module.

The process data module shall be used when it is necessary to maintain state information or present data to the user in a logical order based on state information. Some examples of uses are troubleshooting, diagnostics, and training. (JS-041)

5.38.1.2 Use of alternative data module nodes.

Alternative data module nodes shall be mutually exclusive. (JS-042)

5.38.2 Project decisions.**5.38.2.1 Use of the process data module.**

BRDP-ARMY-00032: The project shall decide when to use the process data module.

5.38.2.2 Use of applicability for variables in process data modules.

BRDP-S1-00244: Decide on the level of applicability filtering. This is established based on viewer capability and portability of the data.

5.38.2.3 Use of use of dialogs to declare unassigned variables in process data modules.

BRDP-S1-00246: Decide whether to use a dialog to assign values to an unassigned variable.

5.38.2.4 Use of default values in a dialog in process data modules.

BRDP-S1-00247: Decide whether a variable default value will be displayed in a dialog.

5.38.2.5 Use of the attribute `variableName` in the element `<variable>` in process data modules.

BRDP-S1-00248: The project shall determine authoring guidance about variable naming and typing.

5.38.2.6 Use of the attribute `variableType` in the element `<variable>` in process data modules.

BRDP-S1-00249: Decide whether to use the attribute `variableType` and decide on the rules for selection of the defined values.

5.39 S1000D Chapter 3.9.5.2.11 - Content section - Common information repository.**5.39.1 Army business rules.****5.39.1.1 Internal and external use of Common Information Repository (CIR) data modules.**

See [JS-044](#). (JS-111)

5.39.2 Project decisions.**5.39.2.1 Use of common information repository.**

BRDP-ARMY-00033: The project shall decide whether or not to require the delivery of common information repository data modules (as additional data).

5.39.2.2 Use of the attribute `altNumber` in the functional items CIR.

BRDP-S1-00251: Decide whether to use the attribute `altNumber`, which values to use and allocate suitable definitions to the values.

5.39.2.3 Use of the attribute `altNumber` in the circuit breakers CIR.

BRDP-S1-00252: Decide whether to use the attribute `altNumber`, which values to use and allocate suitable definitions to the values.

5.39.2.4 Use of the attribute `zoneRefType`.

BRDP-S1-00253: Decide which values (eg, subzones) to use for the attribute `zoneRefType` and allocate suitable definitions to the values.

5.39.2.5 Use of the attribute `altNumber` in the zones CIR.

BRDP-S1-00254: Decide whether to use the attribute `altNumber`, which values to use and allocate suitable definitions to the values.

5.39.2.6 Use of the attribute `accessPointRefType`.

BRDP-S1-00255: Decide which values (eg, subaccess points) to use for the attribute `accessPointRefType` and allocate suitable definitions to the values.

5.39.2.7 Use of the attribute `altNumber` in the access points CIR.

BRDP-S1-00256: Decide whether to use the attribute `altNumber`, which values to use and allocate suitable definitions to the values.

5.39.2.8 Use of the attribute `toolRefType` in the tools CIR.

BRDP-S1-00260: Decide which values to use for the attribute `toolRefType` and allocate suitable definitions to the values.

5.39.2.9 Use of the attribute `altNumber` in the tools CIR.

BRDP-S1-00261: Decide whether to use the attribute `altNumber`, which values to use and allocate suitable definitions to the values.

5.39.2.10 Use of the attribute `taskCategoryCode` in the tools CIR.

BRDP-S1-00262: Decide which values (eg, servicing, maintenance, overhaul, repair) to use for the attribute `taskCategoryCode` and allocate suitable definitions to the values.

5.39.2.11 Use of the attribute `systemDiffCode` in the element `<functionalPhysicalAreaIdent>`.

BRDP-S1-00263: Decide whether to apply the system difference code in the functional and/or physical areas CIR data module.

5.39.2.12 Use of the attributes `disassyCode` and `disassyCodeVariant` in the element `<functionalPhysicalAreaIdent>`.

BRDP-S1-00264: Decide whether to apply the disassembly code and disassembly variant code in the functional and/or physical areas CIR data module.

5.40 S1000D Chapter 3.9.5.2.12 - Content section - Container data module.

5.40.1 Army business rules.

5.40.1.1 Container data modules.

All delivered data shall include instances of the data modules that shall have no unresolved container data module dependencies. This does not prohibit container data modules being used in the development process, nor does it prohibit delivery of container data modules as additional data. (BR-ARMY-00204)

5.40.2 Project decisions.

None.

5.41 S1000D Chapter 3.9.5.2.13 - Content section - Learning data modules.

5.41.1 Army business rules.

5.41.1.1 Use of learning data modules.

If learning data modules are used, the project shall document a plan for implementing learning content using S1000D data modules and non-proprietary methods and tools. Projects shall coordinate learning data plans and related business rules with Training and Doctrine Command (TRADOC) and LDAC. (BR-ARMY-00205)

5.41.2 Project decisions.

5.41.2.1 Use of learning data modules.

BRDP-ARMY-00034: The project shall decide whether or not to use learning data modules.

5.41.2.2 Use of the available branches.

BRDP-ARMY-00035: If learning data modules are used, the project shall decide which of the five available branches is most appropriate for the intended content.

5.41.2.3 Use of titles in the Learning data module.

BRDP-S1-00561: In the substructures of the Learning data module, decide to what extent optional occurrences of the element **<title>** can be used and how given titles and generated titles must be presented to achieve a readable presentation of the information.

5.41.2.4 Conducting a performance analysis.

BRDP-S1-00267: Decide whether to conduct a performance analysis to determine factors that can affect performance and gaps in job performance or a training needs analysis to determine training requirements.

5.41.2.5 Developing learning objectives.

BRDP-S1-00268: Decide whether to develop learning objectives in accordance with task analysis items. Learning objectives ought to be developed in accordance with task analysis items that support system maintenance and operational procedures. Aligning learning objectives with task analysis items in the early content preplanning stages will foster reusable data and content alignment. Refer to Chap 3.9.7 for content preplanning discussions.

5.41.2.6 Packing lesson plans in SCORM content package modules.

BRDP-S1-00269: Decide whether to package lesson plans in SCORM content package modules.

5.41.2.7 Define life cycle need for performance analysis data.

BRDP-S1-00270: Define life cycle need for analysis information and requirements resulting from a performance analysis for the client organization and human performance system affected by the product.

5.41.2.8 Define life cycle need for training needs analysis data.

BRDP-S1-00271: Define life cycle need for analysis information and requirements resulting from a training needs Analysis for a training intervention.

5.41.2.9 Use of the attribute **weightingFactor.**

BRDP-S1-00273: Decide whether to assign weighted values to individual interactions.

5.41.2.10 Use of the attribute **attempts.**

BRDP-S1-00274: Decide whether to allow multiple response attempts for interaction items.

5.42 S1000D Chapter 3.9.5.2.14 - Maintenance Checklists and Inspections.**5.42.1 Army business rules.**

None.

5.42.2 Project decisions.

5.42.2.1 Define maximum number of steps levels in <checkListProcedure>.

BRDP-S1-00279: Projects must decide the maximum number of step levels allowed.

5.43 S1000D Chapter 3.9.5.2.15 - Service bulletin data module.

5.43.1 Army business rules.

5.43.1.1 Use of the attribute `sbTopicType` in the element <sbTopic> within the element <sbRevisionInfo>.

BRDP-S1-00280: Decide which topic type values are mandatory, which are optional, and on the sequence in which the corresponding element <sbTopic> must be given in the element <sbRevisionInfo>. Refer to Chap 3.9.6.1.

Use of Service Bulletin is prohibited. (BR-ARMY-00471)

5.43.1.2 Use of the attribute `sbTopicType` in element <sbTopic> within the element <sbSummary>.

BRDP-S1-00281: Decide which topic types are mandatory, which are optional, and on the sequence in which the corresponding element <sbTopic> must be given in the element <sbSummary>. Refer to Chap 3.9.6.1.

Use of Service Bulletin is prohibited. (BR-ARMY-00472)

5.43.1.3 Use of the attribute `sbTopicType` in the element <sbTopic> within the element <sbPlanningInfo>.

BRDP-S1-00282: Decide which topic types are mandatory, which are optional, and on the sequence in which the corresponding element <sbTopic> must be given in the element <sbPlanningInfo>. Refer to Chap 3.9.6.1.

Use of Service Bulletin is prohibited. (BR-ARMY-00473)

5.43.1.4 Use of the attribute `sbTopicType` in the element <sbTopic> within the element <sbAdditionalInfo>.

BRDP-S1-00283: Decide which topic types are mandatory, which are optional, and on the sequence in which the corresponding element <sbTopic> must be given in the element <sbAdditionalInfo>. Refer to Chap 3.9.6.1.

Use of Service Bulletin is prohibited. (BR-ARMY-00474)

5.43.2 Project decisions.

None.

5.44 S1000D Chapter 3.9.5.2.15.2 - Material information.

5.44.1 Army business rules.

5.44.1.1 Use of the element `<sbProcurementInfo>` in the element `<sbMaterialSet>`, the element `<sbSupportEquipSet>`, the element `<sbIndividualSupportEquip>`, the element `<sbSupplySet>`, the element `<sbIndividualSupply>`, the element `<sbSpareSet>`, and the element `<sbIndividualSpare>`.

BRDP-S1-00287: Decide whether the use of the element `<sbProcurementInfo>` is allowed within the element `<sbMaterialSet>` the definitions of individual material sets (ie, `<sbSupportEquipSet>`, `<sbSupplySet>` and `<sbSpareSet>`) the definitions of individual spares, supplies and support equipment (ie, `<sbIndividualSupportEquip>`, `<sbIndividualSupply>` and `<sbIndividualSpare>`).

Use of Service Bulletin is prohibited. (BR-ARMY-00475)

5.44.1.2 Use of the element `<sbIndustrySupport>` in the element `<sbMaterialSet>`, the element `<sbSupportEquipSet>`, the element `<sbIndividualSupportEquip>`, the element `<sbSupplySet>`, the element `<sbIndividualSupply>`, the element `<sbSpareSet>`, the element `<sbIndividualSpare>`, the element `<sbRemovedSpareSet>`, the element `<sbIndividualRemovedSpare>`.

BRDP-S1-00288: Decide whether the use of the element `<sbIndustrySupport>` is allowed within `<sbMaterialSet>` the definitions of individual material sets (ie, `<sbSupportEquipSet>`, `<sbSupplySet>`, `<sbSpareSet>` and `<sbRemovedSpareSet>`) the definitions of individual spares, supplies, support equipment and removed spares (ie, `<sbIndividualSupportEquip>`, `<sbIndividualSupply>`, `<sbIndividualSpare>` and `<sbIndividualRemovedSpare>`)

Use of Service Bulletin is prohibited. (BR-ARMY-00476)

5.44.2 Project decisions.

None.

5.45 S1000D Chapter 3.9.5.2.16 - Front matter.

5.45.1 Army business rules.

5.45.1.1 Content of the element `<productIntroName>`.

BRDP-S1-00294: Decide whether to use the element `<productIntroName>`.

When using the front matter schema to author a title page, and stylesheets do not generate the type of publication and/or maintenance level (based on the joint service publication code), the element `<productIntroName>` shall be used to indicate the publication type and/or level(s) of maintenance coverage, such as "Operator and Field Maintenance Manual including Parts List." (BR-ARMY-00477)

5.45.1.2 Use of the element `<productAndModel>`.

BRDP-S1-00295: Decide whether and how to use the element `<productAndModel>` and its child elements.

When using the front matter schema to author a title page, the element **<productAndModel>** shall be used to include, at a minimum, the National Stock Number (NSN) and End Item Code (EIC). (BR-ARMY-00478)

5.45.1.3 Use of the element **<dataRestrictions>** in the element **<frontMatterTitlePage>**.

BRDP-S1-00296: Decide whether and how to use the element **<dataRestrictions>** and its child elements.

When using the front matter schema to author a title page, the element **<dataRestrictions>** shall be used. The content of the child elements of **<dataRestrictions>** shall comply with the Joint Service business rules. See [JS-096](#) and [JS-097](#). (BR-ARMY-00479)

5.45.1.4 Use of the element **<frontMatterInfo>**.

BRDP-S1-00301: Decide whether and how to use the element **<frontMatterInfo>** including the allowed values of attribute **frontMatterInfoType** and their interpretation as titles at presentation. Refer to Chap 3.9.6.1.

NOTE

The content given in the element **<title>** takes precedence over the interpretation of the value of attribute **frontMatterInfoType**.

When using the front matter schema to author a title page, the element **<frontMatterInfo>** can be used to author general purpose notices, availability statements, and other information that does not have explicit element support. (BR-ARMY-00480)

5.45.2 Project decisions.

5.45.2.1 Use of the element **<enterpriseSpec>** in the element **<frontMatterTitlePage>**.

BRDP-S1-00297: Decide whether and how to use the element **<enterpriseSpec>**.

5.45.2.2 Use of the element **<enterpriseLogo>**.

BRDP-S1-00298: Decide whether to use the element **<enterpriseLogo>** and if it is populated from the element **<logo>** given in the Identification and status section.

5.45.2.3 Method of populating the element **<publisherLogo>**.

BRDP-S1-00299: Decide whether and how to use the element **<logo>** in the Identification and status section to populate the element **<publisherLogo>**.

5.45.2.4 Use of the attribute **barCodeSymbology**.

BRDP-S1-00300: Decide whether to use the attribute **barCodeSymbology** and which barcode symbology to be used.

5.45.2.5 Use of the element **<title>** in the element **<frontMatterInfo>**.

BRDP-S1-00302: Decide whether to use the content of the element **<title>** or the interpretation of the value of the attribute **frontMatterInfoType** as the title of the Front matter information.

5.45.2.6 Use the element `<reducedPara>` in the element `<frontMatterTableOfContent>`.

BRDP-S1-00303: Decide whether to use the introductory paragraph and on the wording of any standard phrase.

5.45.2.7 Use the element `<reducedPara>` in the element `<frontMatterList>`.

BRDP-S1-00309: Decide whether to use the introductory paragraph and on the wording of any standard phrase for each of the front matter list.

5.45.2.8 How to store total number of pages for S1000D publications.

BRDP-S1-00310: Decide on the use of `<footnoteRemarks>` to store the total number of pages for a complete S1000D publication.

5.45.2.9 How to store total number of pages for non-S1000D publications.

BRDP-S1-00311: Decide on the use of `<footnoteRemarks>` to store the total number of pages for a complete non-S1000D publication.

5.46 S1000D Chapter 3.9.5.2.17 - SCO content data module.

5.46.1 Army business rules.

None.

5.46.2 Project decisions.

5.46.2.1 Use of the element `<contentDescription>` in the element `<scoContent>`.

BRDP-S1-00313: Decide whether and how to use the element `<contentDescription>` (eg, to add information about the training resource).

5.46.2.2 Use of the element `<contentDescription>` in the element `<trainingStep>`.

BRDP-S1-00314: Decide whether and how to use the element `<contentDescription>` (eg, to add information about the content defined in the training step).

5.46.2.3 Use of the element `<contentDescription>`.

BRDP-S1-00315: Decide whether the optional element `<contentDescription>` must be used to add information about the content defined in the training step.

5.47 S1000D Chapter 3.9.5.3 - Data modules - Applicability.

5.47.1 Army business rules.

5.47.1.1 Use of the attribute `applicPropertyValue`.

The values for the attribute `applicPropertyValue` shall conform to the following rules:

- a. Numeric value ranges shall be padded with zeros so the low number in the range contains the same number of characters as the high number in the range (for example "0001~9999").
- b. Spaces (white space) shall not be used in any values.
- c. Negative numbers shall be reversed (for example, the range of negative 50 though negative 99 shall be indicated as "-50~-99").
- d. When decimals are required in the ranges, both sides of decimals shall be padded (for example, "001.000~999.999").
- e. Date ranges shall use International Organization for Standardization (ISO) 8601 short notation (for example, "2010-01-01~2010-12-31"). (BR-ARMY-00206)

5.47.2 Project decisions.

5.47.2.1 Applicability strategy.

BRDP-ARMY-00036: The project shall determine the use of applicability and describe that approach in the business rules.

5.47.2.2 Use of the element `<displayText>` in the element `<applic>`.

BRDP-S1-00317: Decide whether the element `<displayText>` is populated by the technical author or generated from the computable branch or some other source when using the human-readable branch of applicability.

5.47.2.3 Use of the attribute `applicDisplayClass` within the element `<applic>`.

BRDP-S1-00318: Decide whether to use the attribute `applicDisplayClass` when using the computable applicability annotation branch.

5.47.2.4 Use of textual applicability annotations in the element `<assert>` in the element `<evaluate>`.

BRDP-S1-00319: Decide if textual applicability annotations are allowed in the element `<assert>` when using the computable applicability annotation branch or if every element `<assert>` must reference a declared product attribute or condition.

5.47.2.5 Use of the element `<applic>` in the data module status and content.

BRDP-S1-00316: Decide how to use the element `<applic>` and to populate its child elements and attributes across the project or the organization.

5.48 S1000D Chapter 3.9.5.3.1 - Applicability - Applicability cross-reference table.

5.48.1 Army business rules.

None.

5.48.2 Project decisions.

5.48.2.1 Use of the attribute `valuePattern` and the element `<enumeration>` or to use open text when using ACT.

BRDP-S1-00320: Decide whether to specify the allowable values for a product attribute achieved by using both the attribute `valuePattern` and the element `<enumeration>` or to allow open text without using the attribute `valuePattern` and the element `<enumeration>`.

5.48.2.2 Method of defining multiple values or ranges for the element `<enumeration>` in the ACT.

BRDP-S1-00322: Decide whether to use a single element `<enumeration>` containing the entire set or to use multiple elements `<enumeration>` where each contains only one value or range.

5.48.2.3 Use of the element `<displayName>` in the element `<productAttribute>` when using ACT.

BRDP-S1-00321: Decide whether to use the element `<displayName>`.

5.49 S1000D Chapter 3.9.5.3.2 - Applicability - Conditions cross-reference table.

5.49.1 Army business rules.

None.

5.49.2 Project decisions.

5.49.2.1 Use of conditions cross-reference table.

BRDP-ARMY-00037: The project shall decide whether to develop and deliver conditions cross reference table(s).

5.49.2.2 Use of multiple tables.

BRDP-ARMY-00038: If used, the project shall decide whether to create one single technical conditions cross-reference table data module or several cross-reference table data modules divided by some logical criteria.

5.49.2.3 Use of the attribute `valuePattern` and the element `<enumeration>` or to use open text when using CCT.

BRDP-S1-00323: Decide whether to specify the allowable values for a product attribute achieved by using both the attribute `valuePattern` and the element `<enumeration>` or to allow open text without using the attribute `valuePattern` and the element `<enumeration>`.

5.49.2.4 Method of defining multiple values or ranges for the element `<enumeration>` in the CCT.

BRDP-S1-00324: Decide whether to use a single element `<enumeration>` containing the entire set or to use multiple elements `<enumeration>` which each contain only one value or range.

5.49.2.5 Use of the element `<displayName>` in the element `<productAttribute>` when using CCT.

BRDP-S1-00325: Decide whether to use the element `<displayName>`.

5.49.2.6 Constraining conditions by use of the element `<dependency>` in the element `<cond>` in the CCT.

BRDP-S1-00326: Decide whether to constrain allowable conditions based on other condition values by use of the element `<dependency>`.

5.50 S1000D Chapter 3.9.5.3.3 - Applicability - Product cross reference table.

5.50.1 Army business rules.

None.

5.50.2 Project decisions.

5.50.2.1 Use of the Product Cross-reference Table (PCT).

BRDP-ARMY-00039: The project shall decide whether to develop and deliver PCT data modules. If used, the project shall decide which product sets are referenced in the PCT.

5.50.2.2 Product attributes and conditions to include in the PCT.

BRDP-S1-00327: Decide which product attributes and conditions to include in the PCT. Conditions that represent operational or environmental properties will usually not be included in the PCT as they are not associated with a product instance.

5.51 S1000D Chapter 3.9.6 - Authoring - Attributes.

5.51.1 Army Business Rules.

None.

5.51.2 Project decisions.

5.51.2.1 Translation of the "S1000D interpretation" of configurable attribute values.

BRDP-S1-00328: Decide whether to translate and use the "S1000D interpretation" of configurable attribute values in the languages adopted by the project.

NOTE

At no time must a project allocate values outside the ranges given in the subchapters.

5.52 S1000D Chapter 3.9.6.1 - Authoring - Project configurable attributes.

5.52.1 Army Business Rules.

5.52.1.1 Access point type - attribute `accessPointTypeValue`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00207)

TABLE III. Attribute values - `accessPointTypeValue`.

Allowable values	Army interpretation
accpn101	Door
accpn102	Panel
accpn103	Electrical panel
accpn104	Hatch
accpn105	Fillet
accpn106 - accpn150	Not available for projects
accpn151	Cover
accpn152	Plate
accpn153	Screen
accpn154	Opening
accpn155 - accpn165	Reserved for Army
accpn166 - accpn199	Available for projects

5.52.1.2 Type of acronym or abbreviation - attribute `acronymType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00208)

TABLE IV. Attribute values - `acronymType`.

Allowable values	Army interpretation
at01	Acronym
at02	Term

TABLE IV.. Attribute values - `acronymType`. (continued)

Allowable values	Army interpretation
at03	Symbol
at04	Spec
at05 - at50	Not available for projects
at51 - at55	Reserved for Army
at56 - at99	Available for projects

5.52.1.3 Type of classification action - attribute `actionIdentType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00481)

TABLE V. Attribute values - `actionIdentType`.

Allowable values	Army interpretation
ai01	Classified On
ai02	Declassify On
ai03	Downgrade On
ai04	Upgrade On
ai05	Downgrade securityClassification to 03
ai06	Downgrade securityClassification to 04
ai07	Downgrade securityClassification to 05
ai08	Upgrade securityClassification to 03
ai09	Upgrade securityClassification to 04
ai10	Upgrade securityClassification to 05
ai11 - ai50	Not available for projects
ai51 - ai99	Reserved for Army

5.52.1.4 Type of barcode - attribute `barCodeSymbology`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00482)

TABLE VI. Attribute values - `barCodeSymbology`.

Allowable values	Army interpretation
bcs01	Codabar
bcs02	Code 11
bcs03	EAN-13
bcs04	EAN-8
bcs05	Industrial 2 of 5
bcs06	Interleaved 2 of 5
bcs07	MSI
bcs08	Plessey
bcs09	POSTNET
bcs10	UPC-A
bcs11	Standard 2 of 5
bcs12	UPC-E
bcs13	Code 128
bcs14	Code 39
bcs15	Code 93
bcs16	LOGMARS
bcs17	PDF417
bcs18	DataMatrix
bcs19	Maxicode
bcs20	QR Code
bcs21	Data Code
bcs22	Code 49
bcs23	16K
bcs24	Bookland EAN
bcs25	ISSN and the SISAC Barcode
bcs26	OPC
bcs27	UCC/EAN-128
bcs28	UPC Shipping Container Symbol: ITF-14
bcs29	PLANET
bcs30	Intelligent Mail (USPS4CB)
bcs31 - bcs50	Not available for projects
bcs51 - bcs99	Reserved for Army

5.52.1.5 Business rule decision point priority - attribute brDecisionPointPriority.

Attribute values shall be used as defined in the following table. (BR-ARMY-00483)

TABLE VII. Attribute values - brDecisionPointPriority.

Allowable values	Army interpretation
brpr01	Highest BR priority
brpr02	Next lower level of BR priority
brpr03	Next lower level of BR priority
brpr04	Next lower level of BR priority
brpr05	Lowest level of BR priority
brpr06 - brpr50	Not available for projects
brpr51 - brpr99	Reserved for Army

5.52.1.6 Business rule breach severity level - attribute brSeverityLevel.

Attribute values shall be used as defined in the following table. (BR-ARMY-00484)

TABLE VIII. Attribute values - brSeverityLevel.

Allowable values	Army interpretation
brsl01	Most severe
brsl02	Medium severity
brsl03	Least severe
brsl04 - brsl50	Not available for projects
brsl51 - brsl99	Reserved for Army

5.52.1.7 Business rule quality assurance status - attribute brStatus.

Attribute values shall be used as defined in the following table. (BR-ARMY-00485)

TABLE IX. Attribute values - brStatus.

Allowable values	Army interpretation
brst01	Unverified
brst02	First verified
brst03	Second verified
brst04 - brst50	Not available for projects
brst51 - brst99	Reserved for Army

5.52.1.8 Caption for dialog cancel function - attribute cancelCaption.

Attribute values shall be used as defined in the following table. (BR-ARMY-00209)

TABLE X. Attribute values - `cancelCaption`.

Allowable values	Army interpretation
ca01	Sets the caption to "CANCEL"
ca02	Sets the caption to "ABORT"
ca03	Sets the caption to "NO"
ca04	Sets the caption to "END"
ca05	Sets the caption to "QUIT"
ca06 - ca50	Not available for projects
ca51 - ca99	Reserved for Army

5.52.1.9 National caveat - attribute `caveat`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00210)

TABLE XI. Attribute values - `caveat`.

Allowable values	Army interpretation
cv01 - cv50	Not available for projects
cv51	Controlled Unclassified Information
cv52 - cv55	Reserved for Army
cv56 - cv99	Available for projects

5.52.1.10 Check list category - attribute `checkListCategory`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00211)

TABLE XII. Attribute values - `checkListCategory`.

Allowable values	Army interpretation
clc01	Preventive maintenance inspection form
clc02	Preventive Maintenance Checks and Services (PMCS)
clc03	Schematics
clc04 - clc50	Not available for projects
clc51	Checking unpacked equipment
clc52	Preventive Maintenance Check-list (PMC)
clc53 - clc55	Reserved for Army
clc56 - clc99	Available for projects

5.52.1.11 Type of circuit breaker - attribute `circuitBreakerRefType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00486)

TABLE XIII. Attribute values - `circuitBreakerRefType`.

Allowable values	Army interpretation
cbr01	Reference to the primary circuit breaker
cbr02	Reference to the provisioned circuit breaker (for a dummy circuit breaker)
cbr03 - cbr50	Not available for projects
cbr51 - cbr99	Reserved for Army

5.52.1.12 Type of circuit breaker - attribute `circuitBreakerType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00487)

TABLE XIV. Attribute values - `circuitBreakerType`.

Allowable values	Army interpretation
cbt01	Electronic circuit breaker
cbt02	Electromechanical circuit breaker
cbt03	Clipped circuit breaker
cbt04 - cbt050	Not available for projects
cbt51 - cbt099	Reserved for Army

5.52.1.13 Caption color - attribute `color`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00212)

TABLE XV. Attribute values - `color`.

Allowable values	Army interpretation
co00	None
co01	Green
co02	Amber
co03	Yellow
co04	Red
co05	Not available for projects
co06	Not available for projects
co07	White
co08	Grey

TABLE XV.. Attribute values - color. (continued)

Allowable values	Army interpretation
co09	Clear (default value)
co10	Black
co11 - co50	Not available for projects
co51 - co55	Reserved for Army
co56 - co99	Available for projects

5.52.1.14 Priority level of a comment - attribute commentPriorityCode.

Attribute values shall be used as defined in the following table. (BR-ARMY-00213)

TABLE XVI. Attribute values - commentPriorityCode.

Allowable values	Army interpretation
cp01	Routine
cp02	Emergency
cp03	Safety critical
cp04 - cp50	Not available for projects
cp51 - cp55	Reserved for Army
cp56 - cp99	Available for projects

5.52.1.15 Type of crew member required for drill or procedural step - attribute crewMemberType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00214)

TABLE XVII. Attribute values - crewMemberType.

Allowable values	Army interpretation
cm01	All
cm02	Pilot
cm03	Co-pilot
cm04	Navigator
cm05	Engineer
cm06	Ground crew
cm07	Load master
cm08	Cabin supervisor
cm09 - cm50	Not available for projects
cm51	Loader

TABLE XVII.. Attribute values - crewMemberType. (continued)

Allowable values	Army interpretation
cm52	Driver
cm53	Gunner
cm54	Commander
cm55	Crew chief
cm56	Technician
cm57	Installer
cm58	Maintainer
cm59	Officer
cm60	Operator
cm61	Crew member
cm62	Specialist
cm63	Repairer
cm64	Mechanic
cm65	Attendant
cm66	Handler
cm67	Machinist
cm68	Supervisor
cm69	Electrician
cm70	Chief
cm71 - cm80	Reserved for Army
cm81 - cm99	Available for projects

5.52.1.16 Crew step condition - attribute crewStepCondition.

Attribute values shall be used as defined in the following table. (BR-ARMY-00215)

Table XVIII. Attribute values - crewStepCondition.

Allowable values	Army interpretation
csc01	Used to indicate if equipment is installed or available (O)
csc02	Used to indicate that a detailed procedure for the step is located in the performance section of the condensed checklist (□)
csc03	Used to indicate that performance of the step is mandatory for all through-flights used for combat/tactical operations (*)

Table XVIII. Attribute values - crewStepCondition. (continued)

Allowable values	Army interpretation
csc04	Used for a step that is mandatory for night flights (N)
csc05	Used to indicate a task or step required by the operator's manual (T)
csc06 - csc50	Not available for projects
csc51	Used to indicate duties that are the responsibility of the pilot (not on the controls) (④)
csc52	Used to indicate a task or step that required a flight engineer function or response (F)
csc53	Used to indicate that the performance of the step is mandatory for all maintenance test flights (**)
csc54 - csc57	Reserved for Army
csc58	Used to indicate immediate actions (underlined).
csc59	Used to indicate urgency to land.
csc60	Reserved for Army
csc61 - csc99	Available for projects

5.52.1.17 Default business rule breach severity level - attribute defaultBrSeverityLevel.

Attribute values shall be used as defined in the following table. (BR-ARMY-00488)

TABLE XIX. Attribute values - defaultBrSeverityLevel.

Allowable values	Army interpretation
brsl01	Most severe
brsl02	Medium severity
brsl03	Least severe
brsl04 - brsl50	Not available for projects
brsl51 - brsl99	Reserved for Army

5.52.1.18 Type of aircrew drill - attribute drillType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00216)

TABLE XX. Attribute values - `drillType`.

Allowable values	Army interpretation
dt00	None
dt01	Green
dt02	Amber
dt03	Yellow
dt04	Red
dt05	Orange
dt06	Blue
dt07 - dt50	Not available for projects
dt51 - dt55	Reserved for Army
dt56 - dt99	Available for project

5.52.1.19 Type of emphasis - attribute `emphasisType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00217)

TABLE XXI. Attribute values - `emphasisType`.

Allowable values	Army interpretation
em01	Bold
em02	Italic
em03	Underline
em04	Overline
em05	Strikethrough
em06 - em50	Not available for projects
em51	Small capitals
em52	Two Line
em53	All capitals
em54	Reverse
em55	Bold and italic
em56 - em99	Reserved for Army

5.52.1.20 Type of front matter information - attribute `frontMatterInfoType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00489)

TABLE XXII. Attribute values - frontMatterInfoType.

Allowable values	Army interpretation
fmi01	Generic front matter information
fmi02	Manufacturer's information
fmi03	Reporting errors and recommending improvements statement
fmi04	Availability statement
fmi05	Preventive maintenance service warning
fmi06	General purpose notice
fmi07	Ozone depleting chemical information
fmi08	Hazardous materials information
fmi09 - fmi50	Not available for projects
fmi51 - fmi99	Reserved for Army

5.52.1.21 Type of front matter - attribute frontMatterType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00490)

TABLE XXIII. Attribute values - frontMatterType.

Allowable values	Army interpretation
fm01	LOEP - List of effective pages
fm02	LOEDM - List of effective data modules
fm03	HIGH - Highlights
fm04	HIGH - Highlights with updating instructions
fm05	Publication list data modules
fm06	LOI - List of illustrations
fm07	LOA - List of abbreviations
fm08	LOT - List of terms
fm09	LOS - List of symbols
fm10	TSR - Technical standard record
fm11	LOM - List of modifications
fm12	LOASD - List of applicable specifications and documentation
fm13	LOW - List of warnings

TABLE XXIII.. Attribute values - frontMatterType. (continued)

Allowable values	Army interpretation
fm14	LOC - List of cautions
fm15	LOSE - List of support equipment
fm16	LOSU - List of supplies
fm17	LOSP - List of spares
fm18	LOV - List of vendors
fm19 - fm50	Not available for projects
fm51 - fm99	Reserved for Army

5.52.1.22 Type of maintenance function - attribute function.

Attribute values shall be used as defined in the following table. The attribute **function** and these attribute values are applicable to MACs only. (BR-ARMY-00218)

TABLE XXIV. Attribute values - function.

Allowable values	Army interpretation
ft00	None
ft01	Inspect
ft02	Test
ft03	Services
ft04	Adjust
ft05	Align
ft06	Calibrate
ft07	Remove/Install
ft08	Replace
ft09	Repair
ft10	Overhaul
ft11	Rebuild
ft12 - ft50	Not available for projects
ft51	Paint
ft52	Demilitarize
ft53	Remove
ft54	Install
ft55	Prepare for Use
ft56	Disassemble
ft57	Clean

TABLE XXIV.. Attribute values - function. (continued)

Allowable values	Army interpretation
ft58	Non-Destructive Inspection
ft59	Lubricate
ft60	Assemble
ft61	Radio Interference Suppression
ft62	Place In Service
ft63	Preparation for Storage or Shipment
ft64	Mark
ft65	Arm
ft66	Pack
ft67	Load
ft68	Unpack
ft69	Unload
ft70	Preserve
ft71	Tow
ft72	Jack
ft73	Park
ft74	Moor
ft75	Cover
ft76	Hoist
ft77	Sling
ft78	External Power
ft79	Install peripheral device
ft80	Other maintenance tasks
ft81	Preparation for Shipment
ft82	Transport
ft83	Uninstall peripheral device
ft84	Upgrade/patch
ft85	Configure
ft86	Debug
ft87 - ft99	Reserved for Army

5.52.1.23 Type of functional item reference - attribute functionalItemRefType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00491)

TABLE XXV. Attribute values - functionalItemRefType.

Allowable values	Army interpretation
fir01	Reference to the card functional item
fir02	Reference to soft functional item (for hard functional items)
fir03	Reference to LRI functional items (for LRU functional items)
fir04	Reference to the shunt functional item (for a Circuit breaker)
fir05	Reference to the mate equipment/connector functional item (for another equipment/connector functional item)
fir06	Reference to the equipment functional item, electrically protected by a given circuit breaker
fir07	Reference to the harness functional item, for an equipment functional item
fir08 - fir50	Not available for projects
fir51 - fir99	Reserved for Army

5.52.1.24 Type of functional item - attribute functionalItemType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00492)

TABLE XXVI. Attribute values - functionalItemType.

Allowable values	Army interpretation
fit01	Exact functional item = A functional item representing a component with only one position
fit02	Family functional item = A functional item with generic code representing a component which has more than one position (eg, seats, lights)
fit03 - fit50	Not available for projects
fit51 - fit99	Reserved for Army

5.52.1.25 Generic property type - attribute genericPropertyType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00493)

TABLE XXVII. Attribute values - **genericPropertyType**.

Allowable values	Army interpretation
gpt01	Passenger comfort affected
gpt02	Reliability affected
gpt03	Cost saving
gpt04	Structural life extension
gpt05	Cancels inspection Service bulletin
gpt06	Product operation affected
gpt07	LROPS affected
gpt08	ETOPS affected
gpt09	Potential Airworthiness Directive
gpt10	Disposition for removed spare that can be on customer shop
gpt11	Support code for removed spare
gpt12 - gpt50	Not available for projects
gpt51 - gpt99	Reserved for Army

5.52.1.26 Value of hazardous class - attribute **hazardousClassValue**.

Attribute values shall be used as defined in the following table. (BR-ARMY-00494)

TABLE XXVIII. Attribute values - **hazardousClassValue**.

Allowable values	Army interpretation
hz01	Explosive
hz0	Compressed gases
hz03	Flammable liquids
hz04 - hz50	Not available for projects
hz51 - hz99	Reserved for Army

5.52.1.27 Type of ICN metadata item - attribute **icnInfoItemType**.

Attribute values shall be used as defined in the following table. (BR-ARMY-00495)

TABLE XXIX. Attribute values - **icnInfoItemType**.

Allowable values	Army interpretation
iiit01	Unspecified
iiit02	Size in kb

TABLE XXIX.. Attribute values - `icnInfoItemType`. (continued)

Allowable values	Army interpretation
iiit03	Duration in s
iiit04	Default width in mm
iiit05	Default height in mm
iiit06	Transcript
iiit07 - iiit50	Not available for projects
iiit51 - iiit99	Reserved for Army

5.52.1.28 Type of source files associated with the ICN - attribute `icnSourceFileType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00496)

TABLE XXX. Attribute values - `icnSourceFileType`.

Allowable values	Army interpretation
isft01	Unspecified
isft02 - isft50	Not available for projects
isft51 - isft99	Reserved for Army

5.52.1.29 Type of resource files associated with the ICN - attribute `icnResourceFileType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00497)

TABLE XXXI. Attribute values - `icnResourceFileType`.

Allowable values	Army interpretation
irft01	Unspecified
irft02 - irft50	Not available for projects
irft51 - irft99	Reserved for Army

5.52.1.30 Type of equipment install location - `installationLocationType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00219)

TABLE XXXII. Attribute values - `installationLocationType`.

Allowable values	Army interpretation
instloctyp01	Not available for projects
instloctyp02	Section
instloctyp03	Station
instloctyp04	Water line

TABLE XXXII.. Attribute values - `installationLocationType`. (continued)

Allowable values	Army interpretation
instloctyp05	Buttock line
instloctyp06 - instloctyp50	Not available for projects
instloctyp51 - instloctyp55	Reserved for Army
instloctyp56 - instloctyp99	Available for projects

5.52.1.31 Item characteristic - attribute `itemCharacteristic`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00220)

TABLE XXXIII. Attribute values - `itemCharacteristic`.

Allowable values	Army interpretation
ic01	Used to indicate steps related to hardness critical process.
ico2	Used to indicate steps related to electrostatic discharge
ic03	Used to indicate steps with a quality assurance effect
ic04 - ic50	Not available for projects
ic51 - ic55	Reserved for Army
ic56 - ic99	Available for projects

5.52.1.32 Origin of an equipment or harness or wire - attribute `itemOriginator`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00221)

TABLE XXXIV. Attribute values - `itemOriginator`.

Allowable values	Army interpretation
orig01	Manufacturer
orig02	Vendor
orig03	Partner
orig04 - orig50	Not available for projects
orig51 - orig55	Reserved for Army
orig56 - orig99	Available for projects

5.52.1.33 Limit type - attribute `limitUnitType`.

The attribute `limitUnitType` shall not be used. (BR-ARMY-00222)

5.52.1.34 Prefix of <randomlist> items - attribute listItemPrefix.

Attribute values shall be used as defined in the following table. (BR-ARMY-00223)

TABLE XXXV. Attribute values - listItemPrefix.

Allowable values	Army interpretation
pf01	Simple (No prefix, only indent)
pf02	Unorder [-], [•], [-]
pf03	Dash [-] (short dash)
pf 04	Disc [⊙] (filled circle in circle)
pf05	Circle [○] (outline)
pf06	Square [□] (outline)
pf07	Bullet [•] (outline)
pf08 - pf50	Not available for projects
pf51 - pf55	Reserved for Army
pf56 - pf99	Available for projects

5.52.1.35 Lowest authorized level - attribute lowestLevel.

Attribute values shall be used as defined in the following table. (BR-ARMY-00224)

TABLE XXXVI. Attribute values - lowestLevel.

Allowable values	Army interpretation
la01	None
la02	Field (Service) level
la03	Field/Aviation Support Battalion (ASB) maintenance can remove, replace, and use the item
la04	Below depot sustainment maintenance can remove, replace, and use the item.
la05	Specialized Repair Activity (SRA)/Theater Aviation Support Maintenance Group (TASMG) can remove, replace, and use the item.
la06	Afloat and ashore intermediate maintenance can remove, replace, and use the item.
la07	Contractor facility can remove, replace, and use the item.

TABLE XXXVI.. Attribute values - lowestLevel. (continued)

Allowable values	Army interpretation
la08	Item is not authorized to be removed, replaced, or used at any maintenance level
la09	Depot can remove, replace, and use the item.
la10 - la50	Not available for projects
la51	Army Maintenance Company
la52 - la60	Reserved for Army
la61 - la99	Available for projects

5.52.1.36 Maintenance level code - attribute maintLevelCode.

Attribute values shall be used as defined in the following table. (BR-ARMY-00225)

TABLE XXXVII. Attribute values - maintLevelCode.

Allowable values	Army interpretation
ml01 - ml50	Not available for projects
ml51	Crew (C) (standard)
ml52	Maintainer (F) (standard)
ml53	SRA (L) (standard)
ml54	Below depot (H) (standard)
ml55	Depot (D) (standard)
ml56	AMC (O) (aviation)
ml57	ASB (F) (aviation)
ml58	TASMG (L) (aviation)
ml59	Depot (D) (aviation)
ml60 - ml99	Reserved for Army

5.52.1.37 Material usage - attribute materialUsage.

Attribute values shall be used as defined in the following table. (BR-ARMY-00498)

TABLE XXXVIII. Attribute values - materialUsage.

Allowable values	Army interpretation
mu01	Discarded
mu02	Retained
mu03	Modified from

TABLE XXXVIII.. Attribute values - materialUsage. (continued)

Allowable values	Army interpretation
mu04	Referenced
mu05	Material set
mu06	Modified to
mu07 - mu50	Not available for projects
mu51 - mu99	Reserved for Army

5.52.1.38 Operation type - attribute operationType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00499)

TABLE XXXIX. Attribute values - operationType.

Allowable values	Army interpretation
op01	ETOPS (Refer to Chap 9.2.2)
op02	RNP (Required Navigation Performance) system
op03	OMTS (On-board Mobile Telephony System)
op04 - op50	Not available for projects
op51 - op99	Reserved for Army

5.52.1.39 Part characteristic - attribute partCharacteristic.

Attribute values shall be used as defined in the following table. (BR-ARMY-00226)

TABLE XL. Attribute values - partCharacteristic.

Allowable values	Army interpretation
pc01	Harness critical item
pc02	Not available for projects
pc03	Mandatory replacement parts
pc04	Critical safety items
pc05	Test equipment
pc06	Parts with electrostatic discharge sensitivity
pc07 - pc50	Not available for projects
pc51 - pc55	Reserved for Army
pc56 - pc99	Available for projects

5.52.1.40 Part status for the item sequence number - attribute `partStatus`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00500)

TABLE XLI. Attribute values - `partStatus`.

Allowable values	Army interpretation
pst01	Basic part
pst02	Oversize/Undersize
pst03	Select from
pst04	Interchangeable
pst05	Alternative
pst06 - pst50	Not available for projects
pst51 - pst99	Reserved for Army

5.52.1.41 Part usage code - attribute `partUsageCode`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00501)

Table XLII. Attribute values - `partUsageCode`.

Allowable values	Army interpretation
pu01	Standard part
pu02	Expendable part
pu05	Item required to operate equipment
pu06	Tool item
pu07	Special tool
pu08	Standard mechanical hardware items
pu09	Hardware
pu10	Line replaceable item
pu11	Anesthetics/Medical chemicals
pu12	Module
pu13	Ammunition with dangerous substances
pu14	Modification leaflet
pu15	Medical supplies
pu16	Modification set
pu17	None of the other codes applies
pu18	Role equipment

Table XLII. Attribute values - `partUsageCode`. (continued)

Allowable values	Army interpretation
pu19	Raw materials
pu20	Split design module
pu21	Software remarks
pu22	Part
pu23	Basic issue item
pu24	Components of end item
pu25	Tool
pu26	Additional authorization list item
pu27 - pu50	Not available for projects
pu51 - pu99	Reserved for Army

5.52.1.42 Publication module entry type - attribute `pmEntryType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00227)

TABLE XLIII. Attribute values - `pmEntryType`.

Allowable values	Army interpretation
pmt01 - pmt50	Not available for projects
pmt51	Front matter
pmt52	Chapter
pmt53	Section
pmt54	Sub-section
pmt55	Appendix
pmt56	Checklist
pmt57	Rear Matter
pmt58	Emergency procedures for aircrew
pmt59 - pmt70	Reserved for Army
pmt71 - pmt99	Available for projects

5.52.1.43 Type of publication in a publication module - attribute `pmType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00502)

TABLE XLIV. Attribute values - **pmType**.

Allowable values	Army interpretation
pt01	Component maintenance publication
pt02	Illustrated parts data
pt03	Service bulletin
pt04 - pt50	Not available for projects
pt51 - pt99	Reserved for Army

5.52.1.44 Product category - attribute **productCategory**.

Attribute values shall be used as defined in the following table. (BR-ARMY-00503)

TABLE XLV. Attribute values - **productCategory**.

Allowable values	Army interpretation
pcg01	Adhesives sealant
pcg02 - pcg03	Not available for projects
pcg04	Anti freeze and de-icing products
pcg05 - pcg07	Not available for projects
pcg08	Biocide products
pcg09	Coating and paints, fillers, putties, thinners
pcg10 - pcg12	Not available for projects
pcg13	Fuels
pcg14	Metal surface treatment products
pcg15	Non-metal surface treatment products
pcg16	Heat transfers fluids
pcg17	Hydraulic fluids
pcg18 - pcg23	Not available for projects
pcg24	Lubricants, grease, release products
pcg25 - pcg31	Not available for projects
pcg32	Polymer preparation and compounds
pcg33 - pcg34	Not available for projects
pcg35	Washing and cleaning product

TABLE XLV.. Attribute values - `productCategory`. (continued)

Allowable values	Army interpretation
pcg36 - pcg50	Not available for projects
pcg51 - pcg99	Reserved for Army

5.52.1.45 Type of product item - attribute `productItemType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00504)

TABLE XLVI. Attribute values - `productItemType`.

Allowable values	Army interpretation
pi01	Frame
pi02	Rib
pi03	Stringer
pi04 - pi50	Not available for projects
pi51 - pi99	Reserved for Army

5.52.1.46 Quantity type - attribute `quantityType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00228)

TABLE XLVII. Attribute values - `quantityType`.

Allowable values	Army interpretation
qty01	Length
qty02	Price
qty03	Temperature
qty04	Time
qty05	Torque value
qty06	Voltage
qty07	Volume
qty08	Mass
qty09 - qty50	Not available for projects
qty51	Weight
qty52	Height
qty53	Pressure
qty54	Dimension
qty55	Clearance
qty56 - qty60	Reserved for Army
qty61 - qty99	Available for projects

5.52.1.47 Refer to type - attribute `refType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00505)

TABLE XLVIII. Attribute values - `refType`.

Allowable values	Army interpretation
rft01	Refer to next higher assembly
rft02	Refer to detail(s)
rft03	Equivalent part(s)
rft04	Substitute part(s)
rft05	Attaching part(s)
rft06	Removal/Installation part(s)
rft07	Select from part(s)
rft08	Oversize/Undersize
rft09	Connecting item(s)

TABLE XLVIII.. Attribute values - refType. (continued)

Allowable values	Army interpretation
rft10	Breakdown
rft11 - rft50	Not available for projects
rft51 - rft99	Reserved for Army

5.52.1.48 Required condition category - attribute reqCondCategory.

Attribute values shall be used as defined in the following table. (BR-ARMY-00229)

TABLE XLIX. Attribute values - reqCondCategory.

Allowable values	Army interpretation
rcc01	Normal
rcc02	Special environmental conditions such as reduced lighting, ventilation, and temperature
rcc03	Jacked
rcc04	Electric power
rcc05	Pneumatic power
rcc06	Hydraulic power
rcc07 - rcc50	Not available for projects
rcc51 - rcc55	Reserved for Army
rcc56 - rcc99	Available for projects

5.52.1.49 Required technical information category - attribute reqTechInfoCategory.

Attribute values shall be used as defined in the following table. (BR-ARMY-00230)

TABLE L. Attribute values - reqTechInfoCategory.

Allowable values	Army interpretation
ti01	Publication module
ti02	Data module
ti03	Drawing
ti04	Electrical diagram
ti05	Schematic diagram
ti06	Safety sheet
ti07 - ti50	Not available for projects
ti51	External publication

TABLE L.. Attribute values - reqTechInfoCategory. (continued)

Allowable values	Army interpretation
ti52 - ti 55	Reserved for Army
ti56 - ti99	Available for projects

5.52.1.50 Caption for Dialog reset function - attribute resetCaption.

Attribute values shall be used as defined in the following table. (BR-ARMY-00231)

TABLE LI. Attribute values - resetCaption.

Allowable values	Army interpretation
re01	Sets the caption to "RESET"
re02	Sets the caption to "CLEAR"
re03 - re50	Not available for projects
re51 - re99	Reserved for Army

5.52.1.51 Type of response to a comment - attribute responseType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00232)

TABLE LII. Attribute values - responseType.

Allowable values	Army interpretation
rt01	Accepted
rt02	Pending
rt03	Partly rejected
rt04	Rejected
rt05 - rt50	Not available for projects
rt51 - rt55	Reserved for Army
rt56 - rt99	Available for projects

5.52.1.52 Type of SCO entry - attribute scoEntryType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00506)

TABLE LIII. Attribute values - scoEntryType.

Allowable values	Army interpretation
scot01	IMS/SCORM manifest resources
scot02	IMS/SCORM manifest asset type resources

TABLE LIII.. Attribute values - `scoEntryType`. (continued)

Allowable values	Army interpretation
scot03 - scot50	Not available for projects
scot51 - scot99	Reserved for Army

5.52.1.53 Security classification - attribute `securityClassification`.

The following values for the attribute `securityClassification` shall be used (JS-043):

TABLE LIV. Attribute values - `securityClassification`.

Allowable values	Army interpretation
01	Unclassified
02	Not available for projects
03	Confidential
04	Secret
05	Top Secret
06 - 10	Not available for projects
11 - 50	Not available for projects
51 - 99	Not available for projects

5.52.1.54 Paragraph significant data type - attribute `significantParaDataType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00233)

TABLE LV. Attribute values - `significantParaDataType`.

Allowable values	Army interpretation
psd01	Ammunition
psd02	Instruction disposition
psd03	Lubricant
psd04	Maintenance level
psd05	Manufacturer code
psd06	Manufacturers recommendation
psd07	Modification code
psd08	Qualification code
psd09	Training level
psd10	Control or indicator value
psd11 - psd50	Not available for projects

TABLE LV.. Attribute values - **significantParaDataType**. (continued)

Allowable values	Army interpretation
psd51	Immediate emergency procedure checklist item
psd52	Placard
psd53	Test point
psd54	Critical safety item
psd55	Designator symbol
psd56	Graphical User Interface (GUI) item
psd57 - psd65	Reserved for Army
psd66 - psd99	Available for projects

5.52.1.55 Personnel skill level - attribute `skillLevelCode`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00234)

TABLE LVI. Attribute values - **skillLevelCode**.

Allowable values	Army interpretation
sk01	Basic
sk02	Intermediate
sk03	Advanced
sk04 - sk50	Not available for projects
sk51	Skill level 1
sk52	Skill level 2
sk53	Skill level 3
sk54	Skill level 4
sk55	Skill level 5
sk56 - sk99	Reserved for Army

5.52.1.56 Personnel skill category - attribute `skillType`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00235)

TABLE LVII. Attribute values - **skillType**.

Allowable values	Army interpretation
st01	Airframe
st02	Electrical
st03	Avionic
st04	Engine

TABLE LVII.. Attribute values - `skillType`. (continued)

Allowable values	Army interpretation
st05 - st50	Not available for projects
st51	Structural
st52	Armament
st53	Mechanical
st54 - st60	Reserved for Army
st61 - st99	Available for projects

5.52.1.57 Software classification - attribute `softwareClassificationValue`.

Use of the attribute `softwareClassificationValue` is prohibited. (BR-ARMY-00507)

5.52.1.58 Software customization status - attribute `softwareCustomizationStatusValue`.

Use of the attribute `softwareCustomizationStatusValue` is prohibited. (BR-ARMY-00508)

5.52.1.59 Source criticality - attribute `sourceCriticality`.

The attribute `sourceCriticality` shall not be used. (BR-ARMY-00236)

5.52.1.60 Source type code - attribute `sourceTypeCode`.

The attribute `sourceTypeCode` shall not be used. (BR-ARMY-00237)

5.52.1.61 Part sourcing type - attribute `sourcingTypeValue`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00509)

TABLE LVIII. Attribute values - `sourcingTypeValue`.

Allowable values	Army interpretation
stv01	BFE (Buyer furnished equipment) part
stv02	SFE (Seller furnished equipment) part
stv03 - stv50	Not available for projects
stv51 - stv99	Reserved for Army

5.52.1.62 Caption for dialog submit function - attribute `submitCaption`.

Attribute values shall be used as defined in the following table. (BR-ARMY-00238)

TABLE LIX. Attribute values - **submitCaption**.

Allowable values	Army interpretation
ok01	Sets the caption to "OK"
ok02	Sets the caption to "SUBMIT"
ok03	Not available for projects
ok04	Sets the caption to "CONTINUE"
ok05	Sets the caption to "EXIT"
ok06 - ok50	Not available for projects
ok51 - ok99	Reserved for Army

5.52.1.63 Supervisor level - attribute **supervisorLevelCode.**

The attribute **supervisorLevelCode** shall not be used. (BR-ARMY-00239)

5.52.1.64 Type of supply number - attribute **supplyNumberType.**

Attribute values shall be used as defined in the following table. (BR-ARMY-00510)

TABLE LX. Attribute values - **supplyNumberType**.

Allowable values	Army interpretation
sp01	Commercial reference
sp02	Specification
sp03	Mixture
sp04	Set
sp05	Article
sp06 - sp50	Not available for projects
sp51 - sp99	Reserved for Army

5.52.1.65 Task code - attribute **taskCode.**

The attribute **taskCode** shall not be used. (BR-ARMY-00240)

5.52.1.66 Unit of measurement for the threshold interval - attribute **thresholdUnitOfMeasure.**

Attribute values shall be used as defined in the following table. (BR-ARMY-00241)

TABLE LXI. Attribute values - thresholdUnitOfMeasure.

Allowable values	Army interpretation
th01	Flight hours
th02	Flight cycles
th03	Months
th04	Weeks
th05	Years
th06	Days
th07	Supersonic cycles
th08	Pressure cycles
th09	Engine cycles
th10	Engine change
th11	Shop visits
th12	Auxiliary Power Unit (APU) charge
th13	Landing gear change
th14	Wheel change
th15	Engine start
th16	APU hours
th17	Engine hours
th18	Elapsed hours
th19	Landings
th20	Operating cycles
th21	Operating hours
th22	Supersonic hours
th23	A check
th24	B check
th25	C check
th26	D check
th27	Daily
th28	E check
th29	Overnight
th30	Preflight
th31	Routine check
th32	Structural "C" check

TABLE LXI.. Attribute values - thresholdUnitOfMeasure. (continued)

Allowable values	Army interpretation
th33	Service check
th34	Transit
th35	Kilometers
th36	Consumption in cubic meter
th37	Consumption in liter
th38	Number of shots - each
th39	Number of shots - equivalent full charge (EFC)
th40 - th50	Not available for projects
th51	Rounds
th52	Underway/Steaming hours
th53	Arrestments
th54	Catapults
th55	Message units
th56	Cycles
th57	Minutes
th58	Hours
th59	Reserved for Army
th60	Miles
th61	Starts
th62	Intermediate
th63	Periodic
th64	Before
th65	During
th66	After
th67	Weekly
th68	Monthly
th69	Quarterly
th70	Semiannually
th71	Annually
th72	Man-hour/day
th73	Phased
th74	Other

TABLE LXI.. Attribute values - thresholdUnitOfMeasure. (continued)

Allowable values	Army interpretation
th75 - th79	Reserved for Army
th80 - th99	Available for projects

5.52.1.67 Update reason type for reason for update - attribute updateReasonType.

Attribute values shall be used as defined in the following table. (BR-ARMY-00242)

Table LXII. Attribute values - updateReasonType.

Allowable values	Army interpretation
urt01	Editorial change (authored/technical content changed, but technically changes are deemed insignificant.
urt02	Technical change (authored/technical content has changed, changes are significant and should be reviewed).
urt03	Markup change (changes are solely related to XML markup)
urt04	Applicability change (only the applicability has changed).
urt05	Unique identifier of the referencing structure has changed
urt06 - urt50	Not available for projects
urt51 - urt52	Reserved for Army
urt53	Approved deviation
urt54 - urt55	Reserved for Army
urt56 - urt99	Available for projects

5.52.1.68 Style/class of verbatim text - attribute verbatimStyle.

Attribute values shall be used as defined in the following table. (BR-ARMY-00243)

TABLE LXIII. Attribute values - verbatimStyle.

Allowable values	Army interpretation
vs01	Generic verbatim
vs02	Filename
vs03 - vs10	Not available for projects
vs11	XML/SGML markup

TABLE LXIII.. Attribute values - *verbatimStyle*. (continued)

Allowable values	Army interpretation
vs12	XML/SGML element name
vs13	XML/SGML attribute name
vs14	XML/SGML attribute value
vs15	XML/SGML entity name
vs16	SML/SGML processing instruction
vs17 - vs20	Not available for projects
vs21	Program prompt
vs22	User input
vs23	Computer output
vs24	Program listing
vs25	Program variable name
vs26	Program variable value
vs27	Constant
vs28	Class name
vs29	Parameter name
vs30 - vs50	Not available for projects
vs51 - vs55	Reserved for Army
vs56 - vs99	Available for projects

5.52.2 Project decisions.

5.52.2.1 Application of project specific values for configurable attributes.

BRDP-S1-00329: Decide whether to use any project specific attribute values, which values to use and allocate suitable definitions and interpretations.

NOTE

There are specific business rule decision points for some of the configurable attributes given in the authoring chapters. Refer to Chap 3.9.5 and its subchapters.

5.53 S1000D Chapter 3.9.6.2 - Attributes - Fixed Values.

5.53.1 Army business rules.

None.

5.53.2 Project decisions.

5.53.2.1 Application of project specific values for the attribute `quantityUnitOfMeasure`.

BRDP-S1-00330: Decide whether any project specific attribute values are needed for the attribute `quantityUnitOfMeasure`. If needed, decide which project specific values to use for the attribute `quantityUnitOfMeasure` and allocate suitable project interpretations.

5.54 S1000D Chapter 3.9.7 - Authoring - Human performance technology and training.

5.54.1 Army business rules.

None.

5.54.2 Project decisions.

5.54.2.1 Scope of training information.

BRDP-ARMY-00041: The project shall decide on the scope of training information provided.

5.54.2.2 Presentation of training information.

BRDP-ARMY-00042: The project shall make decisions concerning issues related to presentation of training information.

5.54.2.3 Scope of pre-planning.

BRDP-ARMY-00043: The project shall determine the scope of the pre-planning guidance.

5.55 S1000D Chapter 4.2 - Information management - Common Source Data Base (CSDB).

5.55.1 Army business rules.

5.55.1.1 Data module size.

To facilitate usability or the revision process, data modules should not exceed the printed equivalent of 30 pages. A series of maintenance tasks can be divided into two or more data modules unless it is determined that separating the task information would degrade usability. (BR-ARMY-00244)

5.55.2 Project decisions.

None.

5.56 S1000D Chapter 4.2.1 - Common source database - Information objects.

5.56.1 Army business rules.

5.56.1.1 Use of Extensible Markup Language (XML).

Data modules shall be coded in XML. (JS-045)

5.56.2 Project decisions.

None.

5.57 S1000D Chapter 4.3 - Information management - Data module code.

5.57.1 Army business rules.

None.

5.57.2 Project decisions.

5.57.2.1 Data module coding strategy.

BRDP-S1-00331: Decide on the data module coding strategy to use for the Product and/or the project.

5.58 S1000D Chapter 4.3.1 - Data module code - Model identification code.

5.58.1 Army business rules.

5.58.1.1 Model identification code.

The model identification code shall be composed of the system designator (Mission Design Series (MDS) designator or equivalent) and an optional end item UOC. (BR-ARMY-00245)

5.58.1.2 Model identification code for general purpose data.

General purpose data modules shall use the model ID "USARMY." General purpose data modules may include administrative and general information data modules (e.g., reporting errors and improvements, signature pages, etc.) that are not equipment-specific. Programs shall coordinate general purpose data modules with LDAC to ensure consistent use across the Army. (BR-ARMY-00246)

5.58.1.3 Model identification registration with NATO (North Atlantic Treaty Organization) Support and Procurement Agency (NSPA).

The project shall register all new model identification code(s) with the NSPA and the project shall use AMC Form 1217 to coordinate the model identification code(s) with LDAC. (BR-ARMY-00247)

5.58.2 Project decisions.

5.58.2.1 Allocation of Product model identification code.

BRDP-S1-00332: Decide which model identification codes to use for the Product and/or project.

5.58.2.2 Allow the use of one or several model identification codes.

BRDP-S1-00333: Decide whether to allow the use of one or several model identification codes.

5.59 S1000D Chapter 4.3.2 - Data module code - System difference code.

5.59.1 Army business rules.

None.

5.59.2 Project decisions.

5.59.2.1 Allocation of system difference code.

BRDP-S1-00334: Decide which system difference code values to be used for the Product.

5.59.2.2 UOC as system difference code.

BRDP-S1-00335: Decide whether to use UOC as the system difference code.

5.60 S1000D Chapter 4.3.3 - Data module code - Standard numbering system.

5.60.1 Army business rules.

5.60.1.1 Standard Numbering System (SNS).

If Functional Group Code (FGC) data is available at the time of SNS development, the project SNS shall be derived from FGC. When FGC is used, the SNS breakdown shall follow the hardware breakdown as identified in the MAC and Parts List (refer to [3.3.57](#)); and identified by the SAE-GEIA-STD-0007 data element technical_manual_functional_group_code_Type (5260), if available. If FGC data does not exist at the time of SNS development, the project shall decide on the application of the SNS rule in S1000D Chapter 8.2 using another maintained standardized numbering system. If practicable, the project should convert SNS data to be consistent with FGC when FGC data is available. Refer to the Engineering Bulletin Logistics Product Data Handbook (SAE GEIA-HB-0007) as necessary. (BR-ARMY-00248)

5.60.1.2 Use of Functional Group Code (FGC).

The project shall use a consistent method of FGC assignment established by the acquiring authority. The FGC shall depict a top-down hardware breakdown structure (refer to [3.3.57](#)). The maximum length of an FGC is 11 characters. However, projects are encouraged to limit FGCs to ten characters to allow for a straightforward mapping to SNS. (BR-ARMY-00249)

5.60.1.3 Illustrated parts data SNS.

The SNS used to identify parts data shall be consistent with the SNS assigned to other data modules (e.g. maintenance procedures) associated with the same end item. (BR-ARMY-00250)

5.60.1.4 Documentation of Standard Numbering System (SNS).

The SNS shall be documented in the project business rules and included in the BREX data module to the extent possible. (JS-047)

5.60.1.5 Documentation of Standard Numbering System (SNS) and technical names.

The project shall compile a list which defines the SNS and all technical names. (JS-048)

5.60.1.6 Use of technical names and Standard Numbering System (SNS).

Technical names used in content shall match the technical names used in the SNS. (BR-ARMY-00251)

5.60.1.7 Initial Provisioning Project Number (IPPN).

Use of the element `<initialProvisioningProjectRef>` is prohibited. (BR-ARMY-00253)

5.60.2 Project decisions.

5.60.2.1 Responsible partner company codes for non-chapterized illustrated parts data modules.

BRDP-S1-00339: Decide which responsible partner company codes to use for non-chapterized illustrated parts data modules.

5.60.2.2 Responsible partner company codes for non-chapterized, non-S2000M illustrated parts data modules.

BRDP-S1-00340: Decide which responsible partner company codes to use for non-chapterized, non-S2000M illustrated parts data modules

5.60.2.3 Unique identifier for non-chapterized, non-S2000M illustrated parts data modules.

BRDP-S1-00341: Decide which unique identifiers to use for non-chapterized, non-S2000M illustrated parts data modules.

5.60.2.4 Product SNS structure.

BRDP-S1-00336: Decide which SNS structure to use for the Product.

5.60.2.5 Use of the material item category code.

BRDP-S1-00337: Decide whether to use the material item category code.

5.60.2.6 Number of characters in assembly code.

BRDP-S1-00338: Decide whether to use two or four characters for unit or assembly.

5.61 S1000D Chapter 4.3.4 - Data module code - Disassembly code.**5.61.1 Army business rules.****5.61.1.1 Alternate use of the disassembly code.**

When multiple data modules are required to address a single content need (i.e., when the content is voluminous), the disassembly code may be used to establish data module code uniqueness. This use of the disassembly code is intended to be used to segment an otherwise too long data module (that covers a single topic) into multiple data modules. The use of this method shall be compliant with the following rules:

- a. This method shall only be used when all other components of the DMC (model identification, SDC, SNS, and IC) are the same.
- b. The disassembly codes shall be a sequential number starting from "01" for each otherwise identical DMC.
- c. This method shall only be used with descriptive data modules.
- d. The data modules shall be segmented at logical content sections (e.g., sub-topics). Artificial breaks (e.g., after every 10 pages) shall not be used.
- e. This method shall not be used when multiple topics are involved that have applicable topic-specific information codes. Information codes shall be the preferred method for identifying the topic of a data module.
- f. This method shall not be used when the planned data module content is less than the equivalent of 30 printed pages.
- g. This does not prohibit the use of disassembly code for other purposes in other data modules as defined by S1000D and these business rules.
- h. For each DM where this method for coding the DC is used, the project shall assign an information name that corresponds to the specific content contained therein and extends the information name normally associated with the ICV. The information name, in these cases, shall be a sub topic of the information name (e.g., "Normal operation, Landing clearance"). (JS-050)

5.61.2 Project decisions.

None.

5.62 S1000D Chapter 4.3.5 - Data module code - Disassembly code variant.**5.62.1 Army business rules.**

None.

5.62.2 Project decisions.**5.62.2.1 Use of the disassembly code variant.**

BRDP-S1-00342: Decide whether to use one, two or three characters for the disassembly code variant and how to populate.

5.63 S1000D Chapter 4.3.6 - Data module code - Information codes.**5.63.1 Army business rules.****5.63.1.1 "Available for projects" information codes.**

When allocating project specific information codes ("Available for projects"), the hierarchy that is implied in Chapter 8.4 shall be followed. The project shall coordinate all project specific information codes with LDAC and submit proposed information codes to S1000D via the CPF process described in [5.3.1.1](#). See [JS-090](#). (BR-ARMY-00257)

5.63.2 Project decisions.

None.

5.64 S1000D Chapter 4.3.7 - Data module code - Information code variant.**5.64.1 Army business rules.****5.64.1.1 Information code variants.**

The project shall coordinate all information code variants with LDAC. Efforts will be made to consistently use information code variants across Army projects. For truly project-unique variants, the digits 1 through 9 are reserved for project use. (BR-ARMY-00258)

5.64.2 Project decisions.

None.

5.65 S1000D Chapter 4.3.8 - Data module code - Item location code.**5.65.1 Army business rules.**

None.

5.65.2 Project decisions.**5.65.2.1 Allocation of the item location code "T."**

BRDP-ARMY-00045: The project shall decide to use the item location code "T" and the use of learn type information.

5.66 S1000D Chapter 4.4 - Information management - Information Control Number.

5.66.1 Army business rules.

5.66.1.1 Information Control Number (ICN).

ICN shall be consistent with the rules in S1000D except in cases where legacy graphics are used which already contain an illustration number and the project would encounter expense to remove it. (BR-ARMY-00259)

5.66.1.2 Inclusion of the ICN in the illustration.

ICN shall be placed outside the graphic. The information control numbers are normally derived from the XML attribute **infoEntityIdent** and put in place by the publishing system. An ICN shall only be presented once with each illustration. In cases where legacy graphics already contain an identifier within the graphic and the project would encounter expense to remove it, this BR does not apply. (JS-052)

5.66.1.3 Information Control Number (ICN) based on Model Identification Code (MIC), System Difference Code (SDC), and Standard Numbering System (SNS).

For projects using the MIC based ICN method, the MIC, SDC and SNS for ICN shall be populated in a manner consistent with the project data module coding strategies. (JS-051)

5.66.1.4 Population of the unique identifier.

The illustration originator shall determine how to populate the unique identifier of the ICN. (BR-ARMY-00260)

5.66.1.5 Security classifications to be used for CAGE code based and model identification based Information Control Number (ICN).

See [JS-120](#). (JS-119)

5.66.1.6 Security classifications to be used for model identification based Information Control Number (ICN).

Only the following values for ICN security classifications shall be used:

- a. 01 - unclassified.
- b. 02 - not allowed.
- c. 03 - confidential.
- d. 04 - secret.
- e. 05 - top secret.
- f. 06 - 50 - not allowed.
- g. 51 - 99 - not allowed. (JS-120)

5.66.2 Project decisions.

5.66.2.1 Use of CAGE code and/or model identification code based ICN.

BRDP-S1-00344: Decide which method to be used for the ICN.

5.66.2.2 Allocation of responsible partner company codes for model identification code based ICN.

BRDP-S1-00348: Decide which values on responsible partner company codes to be used.

5.66.2.3 Commercial and Government Entity Codes (CAGECs) for originator.

BRDP-ARMY-00046: The project shall define a list of valid CAGECs for originator in ICN.

5.67 S1000D Chapter 4.5 - Information management - Data management lists.

5.67.1 Army business rules.

5.67.1.1 Use of data management requirement list.

BRDP-S1-00350: Decide whether to use the data management requirement list for specification and exchange of CSDB planning information.

A DMRL shall identify the required data modules for a project. The DMRL shall be maintained throughout the project enabling a mechanism to ensure that only data modules that support the maintenance philosophy are produced. The update schedule for the DMRL shall be documented in the project business rules. (BR-ARMY-00261)

5.67.1.2 DML entry type.

When used to report status, changed data modules shall be identified in the data module list. (BR-ARMY-00262)

5.67.1.3 Data module title.

Data module title shall be included in the DMRL. (BR-ARMY-00263)

5.67.1.4 Issue date.

Issue date shall be included in the DMRL. (BR-ARMY-00264)

5.67.1.5 Security classification.

Security classification shall be included in the DMRL. (BR-ARMY-00265)

5.67.1.6 Use of CSDB status list.

BRDP-S1-00352: Decide whether to use the CSDB status list for exchange of CSDB status information.

The CSL shall be provided, at minimum, with each data delivery. (BR-ARMY-00266)

5.67.2 Project decisions.

5.67.2.1 Object types to be listed in the data management requirement list.

BRDP-S1-00351: Decide whether to list publication modules and/or IPD illustrations in the data management requirement list.

5.67.2.2 Objects types to be tracked by the CSDB status list.

BRDP-S1-00353: Decide what CSDB objects types are to be tracked in the CSDB status list, and at a minimum these must be data modules, illustrations/multimedia objects and publication modules.

5.67.2.3 Data Management Requirements List (DMRL) format.

BRDP-ARMY-00047: The project shall decide if the DMRL will be prepared and delivered using the S1000D DMRL schema or if some alternative, such as a spreadsheet, will be used.

5.67.2.4 Data management requirement list issue date.

BRDP-S1-00355: Decide whether the issue date of a data management requirement list must be the input date (the release to CSDB date), the cut-off date for the information, the planning date or some other more appropriate date.

5.67.2.5 Deleted data modules.

BRDP-ARMY-00048: The project shall specify whether deleted data modules should appear in the data management list (value "d" of attribute **dmEntryType** in element **<dmEntry>**) or if the entries should be deleted from the data management list entirely.

5.67.2.6 CSDB object issues to be included in the CSDB (Common Source DataBase) Status List (CSL).

BRDP-S1-00354: Decide whether to include only the latest issues of CSDB objects or all issues in the CSDB status list.

5.67.2.7 CSL delivery.

BRDP-ARMY-00049: The project shall decide if CSL deliveries are required at intervals in addition to when data is delivered (e.g., weekly, monthly, etc.).

5.68 S1000D Chapter 4.6 - Information management - Comment.

5.68.1 Army business rules.

5.68.1.1 Use of the comment form.

BRDP-S1-00356: Decide whether to use the comment form.

DA Form 2028 shall be used for commenting in page-based manuals. (BR-ARMY-00267)

5.68.1.2 Use of comment schema.

If the S1000D comment schema is used with IETPs, data equivalent to DA Form 2028 shall be collected. (BR-ARMY-00268)

5.68.1.3 Use of comment.

The project shall specify whether comments should be used. (BR-ARMY-00269)

5.68.2 Project decisions.

5.68.2.1 Allowed file types for attachments to comment forms.

BRDP-S1-00359: Decide which file types are allowed for attachments to comment forms.

5.69 S1000D Chapter 4.7 - Information management - Version control of data modules.

5.69.1 Army business rules.

5.69.1.1 Authentication information.

Authentication information shall be included on the change transmittal sheet(s). The authentication information shall be placed after all of the other information on the change transmittal sheet(s). (BR-ARMY-00270)

5.69.1.2 Interactive Electronic Technical Publication (IETP) updates.

Updates to IETP shall consist of a release of the complete IETP with latest change marks visible. (BR-ARMY-00271)

5.69.1.3 Printed publication changes.

Printed publications shall be revised when a proposed change (or the accumulation of existing and proposed changes) would alter 75 percent or more of its printed pages. If the printed output of an entire publication is eight or fewer pages, it shall always be revised when changed. (BR-ARMY-00272)

5.69.1.4 Printed publication revisions.

A complete revision of a page-based publication requires rewrite and reorganization of the technical content of the data. All existing changes to the publication will be merged. Change marks shall not be presented, and page numbering will be revised. (BR-ARMY-00273)

5.69.2 Project decisions.

None.

5.70 S1000D Chapter 4.8 - Information management - Interchange of data modules.

5.70.1 Army business rules.

5.70.1.1 Data Dispatch Notes (DDNs).

The use of DDNs is required. In addition to affected XML, graphic, and multimedia files, DDNs shall include the authentication data module. (BR-ARMY-00274)

5.70.2 Project decisions.

5.70.2.1 File formats for information objects.

BRDP-S1-00545: Decide which file formats to use.

5.70.2.2 Inclusion of graphics.

BRDP-ARMY-00050: The project shall specify whether all graphics referenced have to be included in the exchange package.

5.70.2.3 Use of photographs.

BRDP-S1-00361: Decide whether photographs will be used. If used, for what purposes.

5.70.2.4 Use of multimedia formats.

BRDP-ARMY-00051: The project shall decide which multimedia formats will be used, if any at all.

5.70.2.5 Raster graphic resolution.

BRDP-S1-00360: Decide which resolution to use for raster graphics.

5.71 S1000D Chapter 4.9.1 - Publication management - Publication module.

5.71.1 Army business rules.

5.71.1.1 Publication module definitions.

Two uses of publication modules are relevant to S1000D:

- a.** Parent publication modules are the publication modules used to produce complete manuals and IETPs.
- b.** Nested publication modules are the publication modules used to produce subsets of complete manuals and IETPs (e.g., chapters, sections, etc.). (JS-054)

5.71.1.2 Use of publication modules.

Publication modules shall be used to sequence data modules for the preparation of all page-oriented and interactive electronic publications. (JS-055)

5.71.1.3 Use of the element `<language>`.

Within the element `<language>`, the country code shall specify United States and the language code shall specify English (`<language countryIsoCode="US" languageIsoCode="en"/>`) or Simplified Technical English (`<language countryIsoCode="US" languageIsoCode="sx"/>`). (BR-ARMY-00275)

5.71.1.4 Use of the element `<enterpriseName>` in parent publication modules.

For parent publication modules, the element `<enterpriseName>` (within the element `<responsiblePartnerCompany>`) shall be used. It shall contain "Headquarters, Department of the Army" for all Department of the Army (DA) authenticated publications. The attribute `enterpriseCode` (in the element `<responsiblePartnerCompany>`) shall not be used in DA authenticated parent publication modules. For all command authenticated publications (parent publication modules), the element `<enterpriseName>` and attribute `enterpriseCode` shall be respectively populated with the command name and appropriate command CAGEC. (BR-ARMY-00276)

5.71.1.5 Use of the element `<originator>` with the element `<enterpriseName>` and/or the attribute `enterpriseCode`.

The originator for data modules and publication modules shall be the company or organization that originally authored the object. For conversion projects, the organization shall decide whether to make the originator the conversion company or the organization which originally authored the object. The attribute `enterpriseCode` for the element `<originator>` shall be mandatory and include the Cage Code representing the originator. (JS-114)

5.71.1.6 Use of the element `<pubMedia>`.

The element `<pubMedia>` shall be used for parent publication modules. It shall not be used for nested publication modules (refer to [5.71.1.1](#)). (BR-ARMY-00277)

5.71.1.7 Use of the attribute `pubMediaType`.

Use of the attribute `pubMediaType` is optional. When used, only the following values are allowed:

- a. "Not specified"
- b. "Paper"
- c. "IETM"
- d. "PDF"
- e. "PDF & Paper"
- f. "IETM & Page-based"
- g. "Applications" (BR-ARMY-00278)

5.71.1.8 Publication media code.

The attribute value for **pubMediaCode** shall be set at "00" because the metadata it is intended for has no use in the Army and could potentially harm the ability to reuse the publication module. (BR-ARMY-00279)

5.71.1.9 Use of the attribute mediaLocation.

The attribute **mediaLocation** shall not be used. (BR-ARMY-00280)

5.71.1.10 System breakdown code and functional item code.

Neither the system breakdown code nor the functional item code shall be used in the publication module status. (BR-ARMY-00281)

5.71.1.11 Use of the element <remarks>.

The element **<remarks>** shall be used only for critical information about the publication module that cannot be recorded in a specific element. For example: "The content of this publication module is intended to be produced only on double standard size pages. Correct formatting cannot be guaranteed on other page sizes." The contents of the element **<remarks>** shall not be presented to the user. (BR-ARMY-00282)

5.71.1.12 Titles for multi-volume publications.

The information in the publication title area shall be the same for all volumes of a multivolume set. (BR-ARMY-00283)

5.71.1.13 Nomenclature presentation location.

The nomenclature of the equipment, type, model, part number, or subject (blocks, serial numbers, or registration numbers, if appropriate) shall be positioned below the words identifying the publication type or maintenance level, if applicable. (BR-ARMY-00284)

5.71.1.14 Use of the element <issueDate>.

For classified documents, the element **<issueDate>** shall contain the date of the document as specified in DOD information security program instructions/directives. The project or organization business rules shall identify the latest instructions/directives at time of contract award. For unclassified documents, the process for determining the dates of issue for publications and data modules shall be decided by the project. (JS-057)

5.71.2 Project decisions.**5.71.2.1 Short publication module title.**

BRDP-ARMY-00052: The project shall determine the use and population of the element **<shortPmTitle>**.

5.71.2.2 Use of element <issueDate> for unclassified publications.

BRDP-ARMY-00053: Decide the process for determining the dates of issue for publications and data modules.

5.72 S1000D Chapter 4.9.2 - Publication management - Coding of publications.

5.72.1 Army business rules.

5.72.1.1 Publication numbering.

Publication module codes for publications (parent publication modules) shall consist of the following components:

- a. Model identification code. The values for the attribute **modelIdentCode** in the element **<pmCode>** shall be populated in a manner consistent with the rules for the attribute **modelIdentCode** in the data module code.
- b. Issuing authority. The attribute **pmIssuer** shall be populated with a value that combines a single character issuing authority code assigned at the service level by a business rule and a four character category code.

Note

Service Level ranges are: Army (0-9, A), Navy (including USMC) (B-N), Coast Guard (O-Q), Air Force (R-Z).

Note

For category codes, the Army will use the Federal Supply Codes (FSC) and the Navy will use the Standard Subject Classification Codes (SSCC) .

- c. Publication number. The attribute **pmNumber** shall be populated with a value that combines a three character Joint Service Publication Code found in column one of the Joint Service Publication Codes and a 2 character sequence number assigned by the project.
- d. Volume. The value of the attribute **pmVolume** shall be populated with a two digit volume number. If no volume identification is needed, the default value shall be "00." (JS-058)

Table LXIV. Joint Service Publication Codes.

Publication Code	Definition	Legacy publication type
OPI	Operator's Manual	10
MM3	Operator and Field Maintenance Manual	12
M3B	Operator and Field Maintenance Manual including Parts List	12&P
MM2	Field Maintenance Manual	20
M2B	Field Maintenance Manual including Parts List	20&P
M2P	Field Maintenance Parts List	20P
BDR	Battle Damage Assessment and Repair	BDAR
DWR	Depot Maintenance Work Requirement	DMWR
DWP	DMWR including Parts List	DMWR w/Parts
DWO	DMWR containing National Maintenance Repair Standards	DMWR Containing Overhaul Standards
DOR	DMWR containing National Maintenance Repair Standards including Parts List	DMWR Containing Overhaul Standards w/ Parts

Table LXIV. Joint Service Publication Codes. (continued)

Publication Code	Definition	Legacy publication type
NWR	National Maintenance Work Requirement	NMWR
NWP	NMWR including Parts List	NMWR w/Parts
TTM	Test/Troubleshooting Manual	Aircraft Troubleshooting
PMD	Preventive Maintenance Daily Manual	Aircraft PMD
MSM	Preventive Maintenance Services Manual	Aircraft PMS
PMI	Phased Maintenance Inspection Checklist	Aircraft PM
DTM	Destruction of Equipment to Prevent Enemy Use	Destruction TMs
LAP	List of Applicable Publications	L
CLG	Cargo Loading Manual	S (Prep for Shipment)
CCL	Pilot/Crew checklist (aircraft)	CL
HDR	Hand Receipt	HR
FMM	Flight Maintenance Test Flight (aircraft)	MTF
PCL	Operating procedures (communication security equipment) precombat checklist	OPPCL
PMC	Preventive Maintenance Checklist	PMC
MWO	Modification Work Order	MWO
WTB	Warranty Technical Bulletin	WTB
LBO	Lubrication Order	LO
TEB	Technical Bulletin	TB
SUB	Supply Bulletin	SB
DRL	Depot Maintenance Reference List	DMRL

5.72.1.2 Use of the attribute **pmIssuer**.

BRDP-S1-00365: Decide on the use of the attribute **pmIssuer**.

See [JS-058](#). (JS-115)

5.72.1.3 Numbering nested publication modules.

Publication module codes for nested publication modules that are not also used as stand-alone publications shall consist of the following components:

- a. Model identification code. The values for the attribute **modelIdentCode** in the element **<pmCode>** shall be populated in a manner consistent with the rules for the attribute **modelIdentCode** in the data module code.

- b. Issuing authority. The attribute **pmIssuer** shall be populated with a value that combines a single character issuing authority code selected from [TABLE LXV](#), and a four-digit category code. The four-digit category code is equal to the applicable FSC available from <https://www.drms.dla.mil/asset/fsclist.html>. (BR-ARMY-00285)

TABLE LXV. Issuing Authority Codes.

Code	Proponent
0	Tank-automotive and Armaments Command (TACOM)
1	Army Materiel Command (AMC)
2	Aviation and Missile Command (AMCOM)
3	DEVCOM Armaments Center (DEVCOM AC)
4	Communications-Electronics/Life Cycle Management Command (CECOM)
5	CECOM Communications Security Logistics Activity (CSLA)
6	U.S. Army Soldier and Biological Chemical Command (SBCCOM)
7	U.S. Army Soldier and Biological Chemical Command (DEVCOM CBC)
8	Joint Munitions Command (JMC)
9	Reserved
A	Army Special Operations Aviation Command (ARSOAC)
B	Surface Deployment and Distribution Command (SDDC)
C	U.S. Army Sustainment Command (ASC)
D	U.S. Army Medical Logistics Command (USAMLC)
E	U.S. Army Medical Material Development Activity (USAMMDA)

5.72.2 Project decisions.

5.72.2.1 Publication number.

BRDP-ARMY-00054: The project shall document the method used for populating the two character sequence number in the attribute **pmNumber**.

5.72.2.2 Nested publication module volume.

BRDP-ARMY-00122: The project shall determine the use of the attribute **pmVolume** for nested publication modules.

5.72.2.3 Chapter and sections identification.

BRDP-ARMY-00123: Projects shall decide whether to use nested publication modules, **<pmEntry>**, or combination to identify chapter and section content in publication modules.

5.72.2.4 Use of the element **<pmEntryTitle>**.

BRDP-ARMY-00136: Decide on the population for the element **<pmEntryTitle>** for each publication type in use.

5.73 S1000D Chapter 4.10 - Information management - Business rules exchange.

5.73.1 Army business rules.

5.73.1.1 Layered project BREX.

Projects shall create and use a project-BREX. The project BREX shall use the layered BREX concept to include all higher level BREX. (JS-059)

5.73.2 Project decisions.

None.

5.74 S1000D Chapter 4.10.1 - Business rules exchange - Business rules document data module.

5.74.1 Army business rules.

None.

5.74.2 Project decisions.

5.74.2.1 Single or multiple business rules document.

BRDP-S1-00564: Decide whether to use a single or multiple business rules document data module to capture business rules. If multiple data modules are needed, identify which rules will go into which data module. Refer to Para 3.1.

5.74.2.2 Level of depth of business rules document data modules.

BRDP-S1-00565: Decide whether to exceed five levels of depth for new data.

5.74.2.3 Identification numbering.

BRDP-S1-00566: Decide on the numbering scheme for the attribute **brDecisionIdentNumber** and the attribute **id** as applicable.

5.74.2.4 Standardized responses to describe business rules decision values.

BRDP-S1-00567: Decide whether to use standardized sentences to describe business rules decision values or not. If the decision is to use standardized responses, decide which responses must be taken from text describing BRDP values defined in the specification or by the project/organization. It is also necessary to identify which responses must be defined beyond what is already defined within the specification. If standardized responses for business rules decision values are defined, decide whether all possible business rules decision values are covered or whether there will be cases when a business rules author will need to define text for business rules decision values during business rules production.

5.75 S1000D Chapter 4.10.2 - Business rules exchange - BREX data module.

5.75.1 Army business rules.

5.75.1.1 Use of layered BREX data modules.

BRDP-S1-00367: Decide whether to apply a layered BREX data module structure. This decision is related to, but not entirely dependent on, whether a layered business rules structure applies.

See [JS-059](#). (JS-116)

5.75.2 Project decisions.

5.75.2.1 Use of the BREX data module to exchange SNS.

BRDP-S1-00369: Decide whether to use the BREX data module for exchange of information on the applied SNS.

5.75.2.2 Notations.

BRDP-ARMY-00055: The project may decide to exclude one or several of the notations (element **<notation-Rule>**) allowable by S1000D. These restrictions are to be included in the BREX data module.

5.75.2.3 Include restrictions in using various illustration, multimedia object or other data information formats.

BRDP-S1-00370: Decide whether to use the BREX data module to impose any restrictions in the use of various formats for illustrations, multimedia objects or other data.

5.75.2.4 Applicable sets of business rules.

BRDP-S1-00368: Decide which set or sets of business rules are allowed within the given project or the organization. Accordingly, decide which BREX data modules will be used to reflect those business rules.

5.76 S1000D Chapter 4.11 - Information management - Process data module.**5.76.1 Army business rules.****5.76.1.1 Process data module.**

The project shall determine the use of the process data module and describe that approach in the business rules. (BR-ARMY-00511)

5.76.2 Project decisions.**5.76.2.1 Use of the process data module.**

BRDP-ARMY-00124: The project shall decide whether to use the process data module or not.

5.76.2.2 Variable naming conventions.

BRDP-ARMY-00125: The project shall decide on a variable naming convention which will eliminate or lessen confusion surrounding process data module variables as different authors at possibly different sites create process data modules which will work together.

5.77 S1000D Chapter 4.12 - Information management - Multiple instances of CSDB objects.**5.77.1 Army business rules.**

None.

5.77.2 Project decisions.**5.77.2.1 Use of multiple instances of CSDB object.**

BRDP-S1-00373: Decide whether to generate multiple instances of CSDB objects to generate several customized instances of any one object issue. If so, decide how the attributes **extensionProducer** and **extensionCode** must be used.

5.78 S1000D Chapter 4.13.1 - Optimizing and reuse - Common information repository concept.**5.78.1 Army business rules.****5.78.1.1 Common information repositories.**

BRDP-S1-00378: Decide whether CIR-dependent data modules are delivered to customer, as it implies a specific process to retrieve the self-standing data modules from the CIR-dependent data module and the CIR data module.

All delivered data shall include self-contained instances of the data modules (that do not have unresolved common information repository dependencies). This does not prohibit any of the following:

- a. common information repositories used in the development process, or
- b. procurement of common information repository data modules from the development process as additional (unpublished) data.
- c. References to common information repository data modules provided that the referencing data module is self-contained and the reference is to a published common information repository accessible to the user. (JS-044)

5.78.2 Project decisions.

5.78.2.1 Use of the CIR concept (internal databases for common information).

BRDP-S1-00374: Decide whether to use the CIR concept.

5.78.2.2 Internal/External use of CIR data modules.

BRDP-S1-00376: Decide whether the CIR data modules are to be used only internally to the manufacturer or integrator, as part of the production/integration environment ("internal repositories") or if the CIR data modules are also a deliverable to the customer.

5.78.2.3 Types of CIR data modules to be used.

BRDP-S1-00377: Decide which CIR data module types to be used. In order to avoid any redundancy and inconsistency, care must be paid on some types, depending on other project specific decisions, for example tailoring of the S2000M (IPD data modules vs Part CIR data module).

5.78.2.4 Publishing of CIR data modules.

BRDP-S1-00379: Decide whether and which CIR data module types to be published.

5.78.2.5 Use of one or several data modules for a CIR type.

BRDP-S1-00380: Decide whether there is one single or several data modules for a dedicated type of CIR data module within a project or an organization, or for a specific model identification code.

5.78.2.6 Use of implicit or explicit reference method to CIR data module.

BRDP-S1-00381: Decide whether to use implicit or explicit references, or both, between content specific data elements and the CIR data modules.

NOTE

It is recommended to use only one method to avoid difficulties which might appear during the publishing process.

5.79 S1000D Chapter 4.13.3 - Optimizing and reuse - Alternates concept.

5.79.1 Army business rules.

None.

5.79.2 Project decisions.

5.79.2.1 Use of alternates groups in data module content.

BRDP-S1-00382: Decide whether to use alternates group elements. If used, specify which groups and in which data modules types.

5.79.2.2 Mix of alternates groups and elements.

BRDP-S1-00383: Decide whether alternates groups and elements can be mixed in a given structure.

5.80 S1000D Chapter 4.13.4 - Optimizing and reuse - Container data module.

5.80.1 Army business rules.

None.

5.80.2 Project decisions.

5.80.2.1 Use of container data module.

BRDP-ARMY-00056: The project shall decide if container data modules are used.

5.80.2.2 Identification of container data module.

BRDP-S1-00385: Decide which identification method to use for container data modules. The chosen method must be used systematically.

5.80.2.3 Use of applicability within container data module content.

BRDP-S1-00386: Decide whether applicability annotations are duplicated from the referenced data modules to the container data module.

5.81 S1000D Chapter 4.14 - Information management - Applicability.

5.81.1 Army business rules.

None.

5.81.2 Project decisions.

5.81.2.1 Providing the human-readable part of applicability.

BRDP-S1-00392: Decide whether to also provide the human-readable part of applicability or rely on the viewer to build the human-readable part, when providing the computer processing part of applicability.

5.81.2.2 Use of applicability.

BRDP-S1-00387: Decide if the project or the organization will use applicability.

5.81.2.3 Product attribute and conditions naming and identification scheme.

BRDP-S1-00390: Define a consistent naming and identification scheme for product attributes and conditions, when ACT and CCT data modules are implemented.

5.81.2.4 Presentation of content that is not applicable.

BRDP-S1-00391: Specify the method that content is presented which is not valid for the current maintenance context. The content can be removed, hidden or de-emphasized in some manner.

5.81.2.5 Number of ACT, CCT and PCT data module instances.

BRDP-S1-00393: Decide whether to provide one instance of each data module types (ACT, CCT and PCT) or to segregate the project or the organization into multiple instances of each data module type, and the method for segregation.

5.81.2.6 Applicability functionality.

BRDP-S1-00388: Define the required functionality for applicability.

5.81.2.7 Use of applicability data module types (ACT, CCT, and PCT).

BRDP-S1-00389: If functionality is limited to print and static display, decide if applicability data module types (ACT, CCT, and PCT) will be used.

5.82 S1000D Chapter 4.14.1 - Applicability - Applicability cross-reference table.

5.82.1 Army business rules.

None.

5.82.2 Project decisions.

5.82.2.1 Classifying product attributes and conditions in an ACT data module.

BRDP-S1-00394: Decide how to divide the properties of the Product into product attributes or condition types.

5.82.2.2 Configuration management of product attributes in an ACT data module.

BRDP-S1-00395: Decide on the extent of configuration management and editing access to be applied to product attributes within an ACT data module.

5.83 S1000D Chapter 4.14.2 - Applicability - Conditions cross-reference table.

5.83.1 Army business rules.

None.

5.83.2 Project decisions.

5.83.2.1 Use of product attributes versus conditions.

BRDP-ARMY-00057: The project shall decide what types of properties about the Product become product attributes (in the ACT data module) versus conditions (in the CCT data module).

5.83.2.2 Use of the pattern.

BRDP-ARMY-00058: The project shall decide if enumeration provides enough information specifying the allowable values for a condition or whether the pattern is also needed.

5.83.2.3 Configuration management of the conditions.

BRDP-ARMY-00059: The project shall decide to what extent they configuration manage and limit editing access to the conditions. The modification of an existing condition may have a very extensive affect to existing data.

5.83.2.4 Use of the incorporation status list in a CCT data module.

BRDP-S1-00396: Decide whether to use the incorporation status list in the CCT data module.

5.84 S1000D Chapter 4.14.3 - Applicability - Products cross-reference table.

5.84.1 Army business rules.

None.

5.84.2 Project decisions.

5.84.2.1 Use of a published or a temporary PCT data module.

BRDP-S1-00398: Decide whether to publish a static issue of the PCT data module or use the data module as a temporary input between an external system and a viewer.

5.84.2.2 Scope of the product instances in a PCT data module.

BRDP-S1-00397: Decide which product instances are contained in a PCT data module. Options include listing all product instances in-service or listing only the product instances within an organization.

5.84.2.3 Management of the product instance configurations in PCT data modules.

BRDP-S1-00399: Decide how to maintain the list of product instance configuration specifications and the associated values for product attributes and conditions.

5.85 S1000D Chapter 4.14.4 - Applicability - Applicability cross-reference table catalog.

5.85.1 Army business rules.

None.

5.85.2 Project decisions.

5.85.2.1 Use of the ACT catalog data module.

BRDP-S1-00400: Decide whether to use the ACT catalog data module.

5.85.2.2 Internal or external definition of supplier applicability attributes.

BRDP-S1-00401: Decide whether the supplier applicability attributes are defined in the ACT data module or if the supplier definition is used.

5.86 S1000D Chapter 4.16 - Information management - Content specific data.

5.86.1 Army business rules.

None.

5.86.2 Project decisions.

5.86.2.1 Technical information object properties to be included in the data module at delivery.

BRDP-S1-00403: Decide which properties associated to the technical information objects (eg, names, short names) to store within the data module when delivered.

5.87 S1000D Chapter 5.2.1 - Information sets - Common information sets.

5.87.1 Army content requirements.

5.87.1.1 Content depth and breadth.

When combined with content selection, information sets define the depth and breadth of technical content. An information set can describe the content of an entire manual (or IETP), or an information set can define a subset of content. An information set is the author's view that is realized by the production of data modules.

5.87.1.2 Maintenance concepts.

Technical manual data developed in accordance with S1000D shall be task oriented and fully consistent with the maintenance concepts derived from the baseline documents described below.

- a. LPD. The technical data and instructions developed by the requirements of LPD and DoD Requirements for LPD, (including the MAC) shall be used as the baseline to prepare TMs/IETPs.
- b. MAC. For equipment that does not have LPD data available, either a Preliminary Maintenance Allocation Chart (PMAC) or the MAC shall be used as the baseline to prepare TMs/IETPs.
- c. Additional source data. Available engineering drawings shall be used with the other required data. Sound engineering principles and techniques, available engineering analyses, service experience, performance data on the item and on similar items, and all other Reliability, Maintainability, Supportability (RMS) and Operational Availability (Ao) data available shall be used in the preparation of specific instructions.

5.87.1.3 Standard information.

Standard information specified data shall have no deviation to the content requirements including the use of standard headings, number of columns, the titles in the column headings, and required format. The standard information shall be presented (i.e., table, form, etc.) as prescribed by the acquiring activity. The list below is the standard information types (refer to each standard information type for the data requirements).

- a. Controls and Indicators
- b. Checking Unpacked Equipment
- c. Preventive Maintenance Checks and Services (PMCS)
- d. Classification of Material Defects
- e. Overhaul and Retirement Schedule
- f. Depot Mobilization Requirements
- g. Repair Parts List
- h. Special Tools List
- i. Repair Parts Cross-Reference Index
- j. Standard Maintenance Allocation Chart (MAC)
- k. Aviation Maintenance Allocation Chart (AMAC)
- l. Tools and Test Equipment Requirements for (MAC/AMAC)
- m. Remarks (MAC/AMAC)
- n. Expendable and Durable Items List
- o. Mandatory Replacement Parts List
- p. Component of End Items (COEI) List
- q. (MC) Supply System Responsibility (SSR)
- r. Basic Issue Items (BII) List
- s. Additional Authorization List (AAL)
- t. (MC) Using Unit Responsibility Items (UURI)
- u. (MC) Collateral Material (CM) list
- v. Tools Identification List

w. Critical Safety Items (CSI)

5.88 S1000D Chapter 5.2.1.1 - Common information sets - Crew/Operator information.

5.88.1 Army content requirements.

5.88.1.1 Scope.

This section contains content requirements for the following information sets.

- a. Description and use of controls and indicators (refer to [5.88.1.4](#))
- b. Operation under usual conditions (refer to [5.88.1.4.4](#))
- c. Operation under unusual conditions (refer to [5.88.1.4.5](#))
- d. Operation under emergency conditions (refer to [5.88.1.4.6](#))
- e. Stowage and decal/data plate guide (refer to [5.88.1.4.7](#))

5.88.1.2 General.

Operator instructions shall be prepared for weapon systems, major equipment, components, and applicable support and interface equipment. Operating instructions shall describe the operation authorized for the operator/crew. Procedures and supporting illustrations shall be prepared so that personnel can prepare the weapon system/equipment for operation, identify and locate operational controls and indicators, and operate the weapon system/equipment safely and efficiently in both normal and emergency conditions. Unless otherwise specified, an operator instructions chapter shall be used for operator data. Multiple chapters should only be used for equipment that is very complex or that has multiple configurations.

5.88.1.3 Preparation of operator instructions.

Operator instructions shall be prepared and subdivided into individual data modules that provide the operator of the weapon system/equipment with descriptions and use of controls and indicators and operation of the weapon system/equipment under usual, unusual, and emergency conditions.

5.88.1.4 Controls and indicators.

Data Module Type: Descriptive Information Code: 111A

5.88.1.4.1 General.

Information shall be prepared for the description and use of all system or equipment controls and indicators. A description and use of controls and indicators shall be prepared for each equipment, assembly, or control panel having controls and indicators. Controls and indicators shall be described using either the tabular or narrative option and shall be used consistently throughout the operator instructions.

5.88.1.4.2 Controls and indicators description tabular option.

This option shall describe each control and indicator in a tabular format. The information set shall start with a short introduction that identifies the basic system, area, or other breakdown. The introduction shall be followed by one or

more controls and indicators with an associated illustration for each control and indicator. For each control and indicator, the following entries shall be provided.

- a. An index number is used on the illustration to locate and identify the control or indicator on the illustration.
- b. The name (nomenclature) of the control or indicator as it appears on the equipment. Controls and indicators that are not labeled, such as the accelerator or brake pedals, shall be identified. Each control and indicator shall be clearly labeled as it appears on the equipment.
- c. The function of the control or indicator shall be described.

5.88.1.4.3 Controls and indicators description narrative option.

This option provides a narrative approach to describe each control and indicator. This textual approach shall begin with a figure illustrating the control or indicator that is being described. The figure shall be followed by paragraphs describing each control or indicator shown in the figure. The narrative option for controls and indicators shall contain the same items as given in the tabular option described above. More than one figure and controls and indicators description may be used to improve user understanding.

5.88.1.4.4 Operation under usual conditions.

5.88.1.4.4.1 General.

Instructions to operate the weapon system/equipment and auxiliary equipment in all modes of operation shall be prepared. Any combination of control settings that will create a hazard to personnel or cause damage to equipment shall be preceded by a warning or caution. Instructions to ensure proper grounding of equipment shall be prepared.

5.88.1.4.4.2 Security measures for electronic data.

Data Module Type: Descriptive Information Code: 990D

Instructions for handling, loading, purging, overwriting, or unloading classified electronic data under usual conditions shall be developed when the systems are classified or have non-volatile on-board memory that requires to be cleared prior to transportation or other action that allows the data to be accessed by unauthorized personnel. Instructions shall meet the requirements of current regulations as they pertain to automation security.

5.88.1.4.4.3 Siting.

Data Module Type: Procedural Information Code: 122A

Siting instructions peculiar to the equipment shall be prepared, as applicable. In preparing the instructions, operational and maintenance features shall be considered, such as the following:

- a. Location.
- b. Proximity to power sources.
- c. Effective ranges.
- d. Terrain requirements to avoid screening reflections, ground clutter, and other poor operational conditions due to terrain.
- e. Technical requirements.

- f. Shelter locations.
- g. Compensation for adverse siting conditions.
- h. When the equipment contains large components such as towers and antennas that require orientation to a baseline during siting.
- i. Orientation of mobile equipment during installation.

5.88.1.4.4.4 Shelter.

Data Module Type: Procedural Information Code: 123A

For equipment normally housed in a permanent or semi-permanent shelter (other than a military truck, van, or transportable shelter) during use, the following information shall be prepared.

- a. Amount of floor, wall, and height space required.
- b. A plan for a typical layout.
- c. Required weight capacity of the building floor.
- d. Dimensions required for installed equipment.
- e. Total weight that the floor shall support and the area in square feet over which the total weight will be distributed.
- f. Environmental conditions (e.g., venting).
- g. Power requirements.
- h. Unusual requirements specific to equipment, such as air-conditioning.
- i. Architectural and engineering data on beams sizes, lengths, bending moments, and required supports shall not be included.

5.88.1.4.4.5 Assembly and preparation for use (Procedure to prepare item for use after storage).

Data Module Type: Procedural Information Code: 870A

Procedures shall be prepared for unpacking, assembly, and installation. When the equipment is shipped or delivered in specially designed containers, unpacking instructions shall be prepared. If the containers are to be used again, kept for future use, turned in to supply, or if any special disposition is required, the necessary procedures shall be prepared. Assembly and installation procedures shall be prepared when needed. These instructions shall be supported by illustrations. As applicable, power requirements, connections, and initial control settings needed for installation purposes shall be included.

5.88.1.4.4.6 Initial adjustments, before use, and self-test.

Data Module Type: Procedural Information Code: 121B

Procedures shall be prepared for any routine checks, self-test, or adjustments that the operator shall make before putting the equipment in operation is required.

5.88.1.4.4.7 Normal operation procedures.

Data Module Type: Procedural Information Code: 131A

The following operating instructions shall be prepared, as applicable.

- a. All steps necessary to bring the equipment from OFF through STANDBY condition to full operation, including all necessary warnings and cautions.
- b. Procedures for each mode of operation, e.g., manual, automatic, local, remote, etc. The use and relative advantage of each mode shall also be described.
- c. Description of the equipment anti-jamming and interference reduction features (if installed), the advantage of each feature, and the operating procedures to be followed. Supporting illustrations (such as indicator displays, waveforms, etc.) shall be included which provide typical observations of jamming and interference for evaluation by the operator.
- d. Operator turn-off procedures, including all steps necessary to bring the equipment from full operation through STANDBY to OFF condition.
- e. Operating instructions for misfire, hang fire, and other procedures applicable to ammunition.
- f. Operating procedures explaining how the equipment is operated in conjunction with auxiliary equipment or how it operates when integrated with other equipment.
- g. If equipment requires operator to install, initialize or download software, procedures containing the appropriate instructions shall be prepared. Identification of the software shall include the purpose, configuration applicability, and version information. Procedures that verify that the proper software has been loaded and is operating properly shall also be included. Examples of specific types of data that may be applicable to these information sets are:
 - (1) Descriptions of screen data and interpretation of message formats.
 - (2) Operator actions based on screen display.
 - (3) Data entry by the Operator.
 - (4) Saving or purging data.
 - (5) Processing of messages.
 - (6) Software transfer procedures.
 - (7) Reviewing message and entry formats.

5.88.1.4.4.8 Operating procedure considerations.

The following considerations should be taken into account when preparing operating procedures.

- a. Initial safety requirements (actions, inspections, and emergency turn-off procedures).
- b. If a particular operating procedure or step is assigned to a specific crew-served position (e.g., gunner), the assignment shall be indicated.
- c. Connection of any accessory equipment not permanently connected.
- d. Instructions for obtaining or confirming the presence of all critical inputs such as power, coolant, air, signal, air-conditioning, etc. Specific values for critical inputs (power, coolant, air, etc.) shall also be included.
- e. Procedures for setting controls and making adjustments which shall be accomplished by the operator prior to equipment turn-on.
- f. Procedures for determining operational readiness and the acceptable indications expected from built-in indicators, such as meters, lamps, gauges, displays, and recorder readouts.

- g. Milestones in the operational status of the equipment, indicated by brief statements, such as "The generator is now in STANDBY."
- h. Visual or audible observations which occur as a result of an operator action, such as boom lowering, sweep rotation, blower motor running, etc.

5.88.1.4.4.9 Normal operation procedures (Operating auxiliary equipment).

Data Module Type: Procedural Information Code: 131A

If applicable, procedures shall be prepared for putting the auxiliary equipment into operation, operating it, and putting it in standby or shutdown status. If these procedures are published in another TM/IETP covering the auxiliary equipment, reference shall be made to that TM/IETP.

5.88.1.4.4.10 Preparation for movement.

Data Module Type: Procedural Information Code: 131S

Preparation for movement procedures shall be prepared if the equipment is designed for movement and it can be readied for movement by the operator. Procedures shall be prepared for actions such as disassembly, folding, and telescoping. Illustrations shall be prepared, as required, to support the text. This information shall not duplicate the "assembly and preparation for use" requirements.

5.88.1.4.4.11 Decals and instruction plates.

Data Module Type: Descriptive Information Code: 067A

Decals and operating instruction plates located on the equipment, which are essential for operation, shall be clearly illustrated, so that all information is legible. Related warning and caution decals and plates shall be included. An illustration(s) shall be prepared to show the location of all applicable decals and plates including Item Unique Identification (IUID) markings.

5.88.1.4.5 Operation under unusual conditions.

5.88.1.4.5.1 Security measures for electronic data (Unusual conditions).

Data Module Type: Descriptive Information Code: 990C

Instructions for handling, loading, purging, overwriting, or unloading classified electronic data under unusual conditions. These instructions shall be developed when the systems are classified or have non-volatile on-board memory that requires to be cleared prior to transportation or other action that allows the data to be accessed by unauthorized personnel. Instructions shall meet the requirements of current regulations as they pertain to automation security. If the security measures for electronic data for unusual conditions are the same as security measures for electronic data for usual conditions (refer to [5.88.1.4.4.2](#)), the data module(s) for security measures for electronic data (IC 990D) shall be used in this section.

5.88.1.4.5.2 Unusual environment/weather.

Data Module Type: Procedural Information Code: 142B

Procedures shall be prepared for operation under conditions of extreme moist heat, extreme dry heat, extreme cold, salt air, sea spray, dust storms, sand storms, high altitudes, snow, mud, and other similar conditions. Ranges of environmental/weather operating conditions considered for the system addressed shall be defined. Preventive or protective measures to be taken beyond the operator's capabilities shall be identified. Instructions to ensure proper grounding of equipment shall be prepared, as applicable.

5.88.1.4.5.3 Fording and swimming.

Data Module Type: Procedural Information Code: 131R

If applicable, procedures for fording and swimming the equipment shall be provided.

5.88.1.4.5.4 Interim Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) decontamination procedures.

Data Module Type: Procedural Information Code: 139B

As applicable and specified by the acquiring activity, interim general Biological, Radiological, Nuclear, and Explosives (CBRNE) decontamination procedures to be performed until CBRNE decontamination facilities are available shall be prepared. Other decontamination TMs/IETPs shall be referenced only when necessary.

5.88.1.4.5.5 Jamming and Electronic Countermeasures (ECM) procedures.

Data Module Type: Procedural Information Code: 144A

As applicable, procedures shall be prepared for operation of the equipment in a Jamming and Electronic Countermeasures (ECM) environment through transmitted and reflected deception signals and through transmitted and reflected jamming.

5.88.1.4.5.6 Degraded operation procedures.

Data Module Type: Procedural Information Code: 142C

When operation of the equipment in a degraded condition is required, procedures shall be prepared for temporarily adapting the equipment and the operating procedures to meet the reduction of power, partial failure, failure of a portion of the equipment, or similar conditions.

5.88.1.4.6 Operation under emergency conditions.

Data Module Type: Procedural Information Code: 140B

5.88.1.4.6.1 General.

As applicable, emergency procedures using, but not limited to, the operating and shutdown shall be prepared.

5.88.1.4.6.2 Operation of the equipment during emergency conditions.

Emergency operating instructions (control failure, air failure, lube oil failure, loss of cooling water, etc.) shall be included. Warning or caution to return the equipment to proper operation when the emergency is over shall also be included.

5.88.1.4.6.3 Shut down procedures.

Procedures to turn the equipment off during an emergency (fire, water, smoke, hazard to personnel, loss of coolant, normal power, etc.) shall be included.

5.88.1.4.6.4 Vehicle recovery.

For vehicle manuals, information related to vehicle recovery and towing shall be included in the operation under emergency conditions data module.

5.88.1.4.7 Decal/data plate guide data module.

Data Module Type: Procedural Information Code: 067B

5.88.1.4.7.1 General.

Decal/data plate guide data modules shall be prepared as directed by the acquiring activity. The guide plan shall include information provided by the acquiring activity.

5.88.1.4.7.2 Scope.

A brief scope statement shall be prepared explaining the purpose of the decal/data plate guide.

5.88.1.4.7.3 Location of decals.

Data on the location of all decals and data plates shall be prepared. As applicable, illustrations detailing the locations of the decals and data plates including IUID markings shall be included.

5.88.2 Army business rules.

None.

5.88.3 Project decisions.**5.88.3.1 Operator instruction types.**

BRDP-ARMY-00060: The project shall determine which optional operator instruction information sets apply.

5.88.3.2 Use of the tabular format.

BRDP-ARMY-00061: If the descriptive data module method is selected, the project shall determine whether controls and indicators are prepared in a tabular format or in a narrative format (paragraphs and figures).

5.88.3.3 Optional siting features.

BRDP-ARMY-00062: The project shall determine optional siting features.

5.88.3.4 Optional operating procedures.

BRDP-ARMY-00063: The project shall decide if operating procedures containing the identification, loading, initializing, and downloading of applicable operational and diagnostic software shall be included.

5.88.3.5 Preparation instructions and information.

BRDP-ARMY-00064: The project shall determine preparation instructions and information for stowage and decal/data plate guide(s).

5.89 S1000D Chapter 5.2.1.2 - Common information sets - Description and operation.**5.89.1 Army content requirements.****5.89.1.1 Scope.**

General information, equipment description, and theory of operation data shall be developed and divided into the following types of information sets. Nomenclature used to identify the weapon system, major equipment, components, and applicable support and interface equipment shall remain consistent throughout and between all data modules.

- a. General data (refer to [5.89.1.4](#)).
- b. General information (refer to [5.89.1.5](#)).
- c. Equipment description and data (refer to [5.89.1.6](#)).
- d. Theory of operation (refer to [5.89.1.7](#)).
- e. General information (**Preventive Maintenance Service Manual only**) (refer to [5.89.1.8](#)).
- f. General information (**Phased Maintenance Inspection Manual only**) (refer to [5.89.1.9](#)).

5.89.1.2 General.

Descriptive information with theory of operation shall be prepared for weapon systems, major equipment, components, and applicable support and interface equipment. Information required to provide the user with a physical description and functionally explain how the weapon system or equipment operates shall be included.

5.89.1.3 Preparation of general information, equipment description, and theory of operation.

General information, equipment description and theory of operation chapter shall be prepared and subdivided into individual information sets to provide the user with information for general requirements, descriptive data about the

weapon system or equipment, and an explanation of how the weapon system or equipment works. Weapon system and equipment description and theory of operation data shall be developed in narrative or tabular form, or by whatever method is most simple or effective to convey the specific TM/IETP application. Descriptive information shall not contain any procedural data or warnings, cautions or notes. When necessary for clarity or improved understanding, illustrations shall be used to support the narrative or tabular information.

5.89.1.4 General data.

Data Module Type: Descriptive Information Code: 010A

5.89.1.4.1 General.

A single descriptive data module shall be used to prepare the following general data:

5.89.1.4.2 Scope.

A brief statement shall be prepared to tell what is covered in the TM/IETP. As applicable, the following information shall also be included.

- a. Type of manual.
- b. Model number(s) and equipment name(s).
- c. Purpose of equipment.
- d. Special inclusions in the manual, such as drill procedures or on-vehicle loading plans.

5.89.1.4.3 Ozone Depleting Substances (ODS).

The use of Class 1 ozone depleting substances (ODS) for new acquisitions has been curtailed by Section 326 of the National Defense Authorization Act of Fiscal Year 1993 (Public Law 102, 484) and related Army policy. Ozone depleting substances are listed in Title VI of the Clean Air Act. For systems procured and fielded prior to the effectiveness of the above law (June 1993) that use a Class 1 ODS, a listing of those substances required to operate and maintain the system shall be included in the manual. This requirement applies to any system procured or fielded after June 1993 that requires the use of a Class 1 ODS, where the use of the ODS has been properly documented and waived. The procuring activity will provide a list of Class 1 ODS on request.

5.89.1.4.4 Destruction of Army materiel to prevent enemy use.

Reference shall be made to the appropriate data modules covering the destruction of Army materiel to prevent enemy use as provided by the proponent activity.

5.89.1.4.5 Preparation for storage or shipment.

Reference shall be made to the preparation for storage and preparation for shipment data modules found in the TM, if they exist. If the relevant data modules are in another DA-authenticated publication, reference shall be made to that publication. Reference shall not be made to any Surface Deployment and Distribution Center/ Transportation Engineering Agency (SDDC/TEA) (formerly Military Traffic Management Command Transportation Engineering Agency (MTMC/TEA) publications. If there are no requirements related to storage or shipment, the following statement shall be inserted in this paragraph: "There are no requirements related to storage or shipment for (insert equipment name).

5.89.1.4.6 Transportability guidance.

Reference shall be made to the transportability guidance data modules in the manual and/or to applicable DA-authenticated publications containing this guidance. Reference shall not be made to any Surface Deployment and Distribution Command (formerly Military Traffic Management Command)/Transportation Engineering Agency (SDDC/TEA) (formerly MTMC/TEA) publications.

5.89.1.4.7 Nomenclature cross-reference list.

A cross-reference list shall be prepared when unofficial nomenclature (common name) is approved by the proponent activity. A statement on how to access the nomenclature cross-reference list shall be included.

5.89.1.4.8 List of abbreviations/acronyms.

A list of abbreviations, acronyms, signs, or symbols used in the manual shall be prepared. Warning icons are defined in the Warning Summary. For **aircraft only**, a statement shall be prepared that abbreviations are in accordance with abbreviations contained in the Abbreviations, Brevity Codes, and Acronyms (ABCA) directory at <https://armypubs.army.mil/>, except when the abbreviation stands for a marking actually found in the aircraft.

5.89.1.4.9 Safety, care, and handling.

The following general precautions and safety regulations shall be prepared.

- a. **(Ammunition TMs)** Information shall be prepared to comply with DA PAM 385-63. References to applicable ARs for range safety danger zones during training and combat shall be included. A reference to AR 385-10, AR 385-63, and DA PAM 385-64 shall be made for general ammunition care, handling, and safety.
- b. For TMs covering equipment with radioactive parts or components, information shall be prepared to comply with Nuclear Regulatory Commission provisions, and references to applicable ARs and safety TMs on radioactive materials shall be included. If additional coverage on radioactive materials is needed, but is not included in applicable TMs, instructions shall be prepared as required. In addition, the following information shall be prepared for inclusion throughout the TM.
 - (1) Nuclear warning notices. These shall be placed at the beginning of any instruction covering procedures that will expose personnel to a nuclear radiation hazard.
 - (2) Procedures to be followed before maintenance actions or in the event of breakage of radioactive parts or components. These include safety, care, and handling instructions.
 - (3) Radioactive parts or components. These shall be shown and identified on a parts location diagram or illustration. Warning notices shall be included.
 - (4) A list of radioactive parts or components and the type and quantity of radioactive material involved. These shall be included as part of equipment data.
 - (5) Instructions for the disposal of radioactive material, such as the requirement to double bag all broken tritium sources in plastic.
- c. ESD control standards for the protection of electrical and electronic parts, assemblies, and equipment shall be prepared. The ESD classes shall be identified. For classifications of ESD marking procedures, refer to [5.10.1.13](#).
- d. **(DMWRs/NMWRs only)** When applicable, reference shall be made to the electromagnetic compatibility standards (e.g., MIL-STD-461) that apply to the equipment covered in the DMWR/NMWR.

5.89.1.4.10 Calibration.

Equipment requiring calibration shall be identified, and reference shall be made to the publication containing the applicable calibration procedure.

5.89.1.4.11 Supporting information for repair parts, special tools, Test Measurement and Diagnostic Equipment (TMDE), and support equipment (Field level only).

When applicable, the following information shall include a reference to the common tools and equipment; special tools, TMDE, and support equipment; and the repair parts as shown below. (Applies only to maintainer/AMC maintenance.)

5.89.1.4.11.1 Common tools and equipment.

The following statement shall be included:

"COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970, Expendable/Durable Items (Except: Medical, Class V, Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items, as applicable to your unit."

5.89.1.4.11.2 Special tools, Test Measurement and Diagnostic Equipment (TMDE), and support equipment.

A reference to the Illustrated Parts List information set and MAC shall be included. When no special tools or equipment are required, it shall be so stated. If tools are to be fabricated, reference to the Illustrated List of Manufactured Items information set shall be made.

5.89.1.4.11.3 Repair parts.

The following statement shall be included.

"Repair parts are listed and illustrated in the parts information (*insert appropriate data module title*) of this (TM/IETP)."

5.89.1.4.12 Copyright credit line.

TMs/IETPs should not contain copyrighted material except as specified in the FAR and DFAR Supplement. When copyrighted material is included in a TM/IETP, the author shall obtain prior written permission from the copyright owner or authorized agent for its use. The written permission shall contain a statement declaring whether or not a copyright credit line is required. When a copyright credit line is required, the information shall appear as the last paragraph of the general information data module.

5.89.1.4.13 Item Unique Identification (IUID).

If the equipment covered by the manual or any of its components/parts has IUID markings, a statement similar to the following shall be included:

"ITEM UNIQUE IDENTIFICATION

This equipment and/or its components/parts are marked with Item Unique Identification (IUID) markings such as data plates, decals, or etchings. These markings must be scanned during performance of procedures to remove and replace the items marked or when turning in items or receiving them from supply or another unit. For information on location of the IUID marking for the equipment, refer to the decal/data plate guide contained in the operator manual for the equipment."

5.89.1.5 General information.

Data Module Type: Descriptive Information Code: 010B

5.89.1.5.1 General.

A single descriptive data module shall be used to prepare the following general information:

5.89.1.5.2 Maintenance forms, records, and reports.

- a. The following statement shall be included in Army-only TMs/IETPs:

"MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 750-8, Functional Users Manual for the Army Maintenance Management System (TAMMS); DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability."

- b. The following statement shall be included in Marine only TMs/IETPs:

"MAINTENANCE FORMS, RECORDS, AND REPORTS

Maintenance forms and records used by Marine Corps personnel are prescribed by DA Pam 750-8."

- c. The following statements shall be included only for multi-service technical publication and use only applicable services (e.g., if the Navy does not use the publication, do not include a statement for that Service):

"MAINTENANCE FORMS, RECORDS, AND REPORTS

(Army) Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 750-8 Functional Users Manual for the Army Maintenance Management System (TAMMS); DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability.

(Marine Corps) Maintenance forms and records used by Marine Corps personnel are prescribed by DA Pam 750-8.

(Air Force) Maintenance forms and records used by Air Force personnel are prescribed in AFI 21-101 and the applicable TO 00-20 Series Technical Orders.

(Navy) Navy users should refer to their service peculiar directives to determine applicable maintenance forms and records to be used."

- d. The following statement shall be added for Army ammunition:

"Accidents involving injury to personnel or damage to material will be reported on DA Form 285, U.S. Army Accident Report in accordance with AR 385-10. Explosives and ammunition malfunctions will be reported in accordance with AR 75-1."

- e. When applicable, add references to SB 742-1, Inspection of Supplies and Equipment Ammunition Surveillance Procedures.

5.89.1.5.3 Reporting equipment improvement recommendations.

The following statement shall be included (italicized text within parentheses shall be replaced with the appropriate information):

"REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

"REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR) If your (*insert equipment short item name*) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you do not like about your equipment. Let us know why you do not like the design or performance."

- (A) For aviation and missiles systems add the following:

"All AMCOM (Aviation and Missile Command) Deficiency Reports (DRs), (Warranty, EIR, and PQDRs) must be submitted through the Joint Deficiency Reporting System (JDRS) at <https://jdrs.mil/>."

- (A) For all equipment other than missile or aviation systems add the following:

"All non-Aviation/Missile EIRs and PQDRs must be submitted through the Product Data Reporting and Evaluation Program (PDREP) website. The PDREP site is: <https://www.pdrep.csd.disa.mil/>."

- (MC) The following statement shall be added for Marine Corps TMs:

"SF Form 368, Product Quality Deficiency Report must be submitted through the Product Data Reporting and Evaluation Program (PDREP) website. The PDREP site is: <https://www.pdrep.csd.disa.mil/>."

- (A) Add the following at the end after the above information:

"If you do not have Internet access, you may submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 using email, regular mail, or fax using the addresses/fax numbers specified in (*DA Pam 750-8, The Army Maintenance Management System (TAMMS) Users Manual OR DA Pam 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A) for aviation systems*). We will send you a reply."

5.89.1.5.4 Hand Receipt (HR) manuals (Field).

If the equipment supported by the TM uses resources that require a hand receipt and a hand receipt manual has been prepared, the following statement shall be included in the maintainer maintenance or AMC manual's and below general information data module.

"HAND RECEIPT (HR) MANUALS

This manual has a companion document with a TM number followed by "-HR" (which stands for Hand Receipt). TM X-XXXX-XXX-10-HR consists of preprinted hand receipts that list end item related equipment (e.g., Components of End Item (COEI), Basic Issue Items (BIIs), and Additional Authorization List (AAL) that must be accounted for. As an aid to property accountability, additional HR manuals may be requisitioned through normal publication channels."

5.89.1.5.5 Corrosion Prevention and Control (CPC).

5.89.1.5.5.1 CPC structure.

CPC information shall be included in the general information data module. Refer to AR 750-59 and AR 750-1 for further information on CPC. CPC information shall consist of the following:

- a. CPC boiler plate statement.
- b. SF 368 boiler plate statement
- c. References to relevant maintenance tasks, data modules, or DA publications.

5.89.1.5.5.2 CPC boiler plate statement.

A statement similar to the following shall be prepared:

"CORROSION PREVENTION AND CONTROL (CPC)

Corrosion of Army materiel is a continuing concern and issue. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. The term "corrosion" means the deterioration of a material or its properties due to a reaction of that material with its chemical environment. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as, tarnishing, pitting, fogging, white or red surface residue or staining, splitting, flaking, and/or cracking. Degradation of plastics, composites, and rubbers is also considered corrosion based on the DoD definition above. Degradation is caused by thermal cycling (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically ultraviolet) processes. The most common causes of corrosion of non-metallic materials are excessive exposure to heat or light. Damage from these processes will appear as cracking, discoloration, increased stiffness, softening, swelling, and/or breaking. See TB 43-0213 for further information on corrosion inspection, visually identifying the forms and severity of corrosion, and reporting corrosion issues. Where an item is not ready/available or fails when any form of corrosion was a contributing factor, or corrosion repair, spot painting, or CIC application is needed, it shall be recorded as corrosion in the inspection record and GCSS-A Cause Code for corrosion (170 - Rusted/Corroded) shall be used when requesting/performing maintenance."

5.89.1.5.5.3 SF 368 boiler plate information.

One of the following statements shall be included verbatim in the CPC information after the CPC boiler plate information:

- a. For non-aviation systems:

"If a corrosion problem is identified, it can be reported as an EIR or PQDR. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. SF 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual."

- b. For aviation systems:

"If a corrosion problem is identified, it can be reported as an EIR or PQDR. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. SF 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 738-751, Functional Users Manual for The Army Maintenance Management System-Aviation (TAMMS-A)."

5.89.1.5.5.4 References to relevant tasks, data modules, and DA publications.

References may be included to relevant tasks, modules and DA publications. For aviation systems reference shall be included to TM 1-1500-344-23, volumes 1-4 (Cleaning and Corrosion Control). For wheeled vehicle TMs, reference shall be included to TB 43-0213 (Corrosion Prevention and Control (CPC) for Wheeled Vehicles). If applicable, reference to TM 43-0139 shall be included.

5.89.1.5.6 Warranty information.

When the TM/IETP covers equipment that is under warranty and a Warranty Technical Bulletin (WTB) is published, the applicable WTB shall be referenced. When a WTB is not published, the following statement shall be included.

"WARRANTY INFORMATION

The (*insert name of equipment*) is warranted for (*insert miles or other timeframe as appropriate*). The warranty starts on the date found in block 23 of DA Form 2408-9, Equipment Control Record. Report all defects to your supervisor, who will take appropriate action."

5.89.1.5.7 Quality of material (not required for operator's manuals).

A statement(s) similar to the following shall be included.

"Material used for replacement, repair, or modification shall meet the requirements of this (*insert TM/IETP*). If quality of material requirements are not stated in this (*insert TM/IETP*), the material shall meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the subject equipment."

5.89.1.5.8 Nuclear hardness.

If equipment covered in the TM/IETP has nuclear survivability requirements (i.e., overpressure and burst, thermal radiation, electromagnetic pulse, or transient radiation effects on electronics), it shall be so stated. The following statement shall be included.

"NUCLEAR HARDNESS

All hardness critical procedures in this manual are marked with the acronym HCP as follows:

1. When an entire task, including all paragraphs and procedures, is considered hardness critical, only the task title will be marked by the acronym HCP, placed before the title.
2. When only certain processes and steps within the data module are hardness critical, only the applicable processes and steps will be marked by placement of the acronym HCP between each applicable step number and the text."

5.89.1.5.9 Quality Assurance (QA) (DMWR/NMWR and aviation only).

When specified by the acquiring activity, reference shall be made to the pertinent QA or include the appropriate general QA information. If QA information is not referenced but is included in the manual/IETP, it shall be stated that the text of each quality assurance procedure or step in the manual is preceded (and highlighted) by the addition of "QA check." The abbreviation "QA" shall be defined either in a note or in the text.

5.89.1.5.10 Critical Safety Items (CSIs).

As specified by the acquiring activity, the following statement shall be included, if applicable:

"CRITICAL SAFETY ITEMS (CSI) PROGRAM

Parts, assemblies, or installations identified under the CSI program require special handling during Maintenance and Overhaul (M&O). Throughout the M&O procedures, warnings are included emphasizing critical instructions to be followed. These warnings are identified as CSI warnings.

A critical safety item is defined as:

A part, assembly, installation or production system with one or more critical or critical safety characteristics that, if missing or not conforming to the design data, quality requirements or overhaul and maintenance documentation, would result in an unsafe condition that could cause loss or serious damage to the end item or major components, loss of control, uncommanded engine shutdown, or serious injury or death to personnel. Unsafe conditions relate to hazard severity categories I and II of MIL-STD-882 and include items determined to be "life-limited," "fracture critical," "fatigue-sensitive," etc. The determining factor in Aviation CSI is the consequence of failure, not the probability that the failure or consequence would occur.

All CSIs shall be handled and managed as prescribed in DOD 4140.1R and DA PAM 95-9.

Throughout the maintenance tasks, "CRITICAL SAFETY ITEM" alerts will precede the procedural step that includes a CSI, emphasizing that this part or parts requires special handling during maintenance."

If there are no CSIs for equipment covered by the manual, insert the following statement in this paragraph: "There are no critical safety items for (*insert equipment name*)."

5.89.1.5.11 Engineering Change Proposals (ECPs) (DMWR/NMWR only).

The following statement shall be included (DMWR/NMWR only):

"ENGINEERING CHANGE PROPOSALS

Engineering Change Proposals (ECPs) will be submitted in accordance with AR 70-1 directly to (*insert the name and address of the responsible command or activity*) A reply will be furnished to you."

5.89.1.5.12 Modification list (DMWR/NMWR only).

Modification Work Orders (MWOs) and ECPs shall be identified for all modifications which have been incorporated into the work required by the DMWR/NMWR. MWOs shall be reported as outlined in AR 750- 10. The applicable MWOs and the ECPs shall be listed (by title and number). This listing shall be supplied by the major subordinate command. Alternatively, a statement shall be made stating that the modifications must be applied during the overhaul of the item. For example (*italicized text within parentheses shall be replaced with the appropriate information*):

"MODIFICATIONS

All Modification Work Orders (MWOs), all minor alteration procedures (MAPs) specified in the contract/work directive, and all Engineering Change Proposals (ECPs) listed in the (*insert DMWR or NMWR*) must be applied during the overhaul of the item."

5.89.1.5.13 Deviations and exceptions (DMWR/NMWR only).

The following statement shall be included (DMWR/NMWR only):

"DEVIATIONS AND EXCEPTIONS

Requests for deviations or exceptions to this (*insert Depot Maintenance Work Requirement (DMWR) or National Maintenance Work Requirement (NMWR)*) will be processed in accordance with ISO 9000 Series standards, or equivalent."

5.89.1.5.14 Mobilization requirements (DMWR/NMWR only).

The following statement shall be included (**DMWR/NMWR only**):

"MOBILIZATION REQUIREMENTS

All requirements of this (*insert DMWR or NMWR*) will be exempted or revised in the event of mobilization. Only those procedures necessary to return the (*insert equipment name*) to a serviceable condition will be performed. The exemptions and revisions are explained in supporting information set (*insert appropriate data module title*)."

5.89.1.5.15 Cost considerations (DMWR/NMWR only).

The following statement shall be included (**DMWR/NMWR only**):

"COST CONSIDERATIONS

This work requirement shall be the basis for establishing the extent of overhaul while taking into consideration cost factors. A determination shall be made on all subassemblies/assemblies to replace worn or damaged components which are available in supply, if acquisition cost is less than the cost to repair and restore to the (*insert DMWR or NMWR*) standard. The cost to repair/restore any individual item with an established Maintenance Expenditure Limit (MEL) to the (*insert DMWR or NMWR*) standard shall not exceed the MEL, unless a waiver has been approved in accordance with AR 750-1. This requirement does not apply to items exempted from MEL in accordance with AR 750-1."

5.89.1.6 Equipment description and data.

Data Module Type: Descriptive Information Code: 000B

5.89.1.6.1 General.

If the descriptive data is provided in a separate operator's manual, a paragraph referencing the equipment description and data in the operator's manual shall suffice. Additional equipment description and data required for a higher maintenance level, but not included in the operator's manual, shall be included. This information set shall not contain any operator or maintenance procedures.

5.89.1.6.2 Equipment characteristics, capabilities, and features.

An overall description of the equipment shall be prepared, including general capabilities, special features, and other like information (e.g., applications, limitations) which will be helpful in the operation and maintenance of the equipment. Unless otherwise directed, the information may be in narrative or tabular format. Additional description requirements are outlined by the following:

- a. The equipment type shall be stated, as shall the following equipment features: portability or mobility, operational and special environment, and remote control.

- b. Components and their functions shall not be described unless essential to continuity. For functional data, reference shall be made to theory of operation.
- c. When equipment covered varies in scope and application or has several applications within an end item, a brief explanation of the multiple usages and a simple diagram showing all aspects of a typical application shall be prepared.

5.89.1.6.3 Location and description of major components (except Conventional Ammunition and Chemical Manuals only).

Equipment location information shall be prepared including external and internal views of the equipment used to show general features and all major components. This information shall not duplicate information contained in the equipment data requirements and the equipment characteristics, capabilities, and features.

- a. The equipment and weapon systems configuration shall be described as follows:
 - (1) A description of system areas and compartments shall be prepared, and the system equipment and components contained in the areas shall be identified. To identify and locate the listed system equipment the configuration description shall be supported by separate illustrations of each compartment and area. For aircraft only, a station diagram showing fuselage station, water line, and butt line, etc. shall be included.
 - (2) The subsystems or equipment comprising the system shall be identified and described. Other equipment which is installed in the subject system compartments and areas need not be listed in the text or called out in the illustrations if they do not directly affect the operation or maintenance of the subject system. Descriptions of operator-attended equipment shall include general statements about the nature and purpose of the controls and indicators. The text shall be supported by illustrations
 - (3) Descriptions and illustrations of associated-system equipment shall be limited to the major units of that equipment. The descriptions shall be more concise than those of the subject system equipment; otherwise, the same requirements shall apply. In the descriptions, emphasis shall be placed on associated systems equipment that constitutes operational or functional interfaces with the subject system. Such units shall be included in the system illustrations.
- b. Illustrate the use of the equipment. Only information pertaining to the user shall be prepared.
- c. Location and contents of end item and major component identification plates shall be illustrated. Modification information, and warranty plates, stencils, or location of serial numbers shall be illustrated.

5.89.1.6.4 Equipment differences.

Equipment differences shall be prepared and shall include the following:

- a. Differences between models that affect operation, maintenance or interchangeability shall be described to allow for easy identification by the user.
- b. Differences within the same model e.g., options, upgrades, etc., shall be related explicitly to equipment part number, or serial number ranges to allow for easy identification of the specific equipment configuration involved.

Non-specific terms such as "on later equipment," or "on later models," and "on early serial numbers" shall not be used. References to other data modules such as "Decals and instruction plates" and content filtering through applicability may be used to supplement the above requirements. If there are no differences in the equipment the following statement shall be included:

"There are no equipment variations within (*insert system name*).".

5.89.1.6.5 Equipment data.

- a. Performance data shall be prepared, including numerical and other standard-related data applying to operational and maintenance functions. The equipment data shall summarize the specific capabilities and limitations of the equipment and other critical data needed by the TM/IETP user for maintenance of the equipment. Vehicle and cargo space dimensions and metric and other equivalents shall be included.
- b. For systems, a list of the environmental control requirements, such as limited temperature, humidity, or other limited conditions shall be prepared. Reference shall be made to the data module(s) containing information on damage to be expected from exceeding these limits and procedures for minimizing the damage.
- c. A summary shall be prepared that lists the effects of weather conditions on equipment affecting system capability or causing equipment damage. This summary shall include references to any special servicing procedures that shall be accomplished because of climatic changes, such as adding antifreeze to coolants.
- d. Instructions for the use, transportation, handling, storage, or disposal of such substances as fuels, toxic and hazardous substances, chemicals, and ammunition shall be prepared. These instructions shall meet the applicable requirements of the Federal Environmental Protection Standards (standards to be provided by the acquiring activity).
- e. The energy efficiency rating shall be included for products that directly consume energy in normal operations and that commonly have a method of expressing energy efficiency.

5.89.1.6.6 Instructions for the use, transportation, handling, storage, or disposal.

Data Module Type: Procedural Information Code: 800L

Instructions for the use, transportation, handling, storage, or disposal of such substances as fuels, toxic and hazardous substances, chemicals, ordnance, and munitions shall be prepared. These instructions shall meet the applicable requirements of the Federal Environmental Protection Standards (standards to be provided by the acquiring activity).

5.89.1.7 Theory of operation (except Conventional and Chemical Ammunition only).

Data Module Type: Descriptive Information Code: 042F

5.89.1.7.1 General.

Theory of operation shall be prepared to provide the user with adequate background information to support and perform maintenance tasks and troubleshooting on the weapon system, equipment, or components. DMWR/NMWR shall include this information set as required by the acquiring activity. The amount of detail and complexity of the theory of operation presentation shall be in accordance with the LPD maintenance concept, the MAC, or an approved maintenance plan. This information set shall not contain any operator or maintenance procedures.

- a. When necessary, introductory general information may precede the theory of operation narrative.
- b. For simple systems or equipment/components, all theory may be included in a single data module.
- c. If the relative complexity of the weapon system/equipment is such that it is reasonable to first present the theory of the end item as a unit and then present the theory of its major system, subsystems, and component, it shall be presented in a series of data modules. A separate theory of operation data module shall be developed for each system. The data module may contain the functional operation for the system, its subsystems and its components (Line Replacement Units (LRUs) and Shop Replacement Units (SRUs)), or when necessary for usability or clarity, subsystem and component theory of operation may be provided in separate data modules. Subsystem component theory of operation may be included in either the subsystem theory of operation data module or in a

separate component theory of operation data module. Detailed component functional operation, common circuitry and wiring diagrams shall not be included unless necessary to understand system/subsystem function.

- d. Theory narrative shall be to a depth necessary to support the technician in fault isolation to the level directed by the LMI and/or maintenance plan. The operation of the weapon system and related systems/components shall be presented in a logical flow. Significant input, output, and control signals, supply voltages, and power supply output voltages shall be identified. If the equipment operates in more than one mode, each mode shall be explained and supported by functional block diagrams. Theory of operation shall describe detailed circuitry of all repairable components as directed by the LMI/maintenance plan. Internal circuits, their relationship to each other, input and output signals, waveforms, and time-phase relationship to significant waveforms shall be included when required to understand detailed equipment operation. Theory shall not be prepared for nonrepairable, throw-away components.

5.89.1.7.2 Scope.

Theory of operation shall consist of a functional narrative to explain the weapon system, equipment, and component operation (electrical/electronic, hydraulic, pneumatic, and mechanical). Block diagrams, functional flow diagrams, schematics, and other illustrations shall be included to support the text. Basic theory, normally found in textbooks, shall not be included. If the TM/IETP covers more than one model of equipment, or more than one configuration of weapon system, differences shall be explained or separate data modules may be used.

- a. When necessary, introductory general information may precede the theory of operation narrative.
- b. For simple systems or equipment/components, all theory may be included in a single data module.
- c. If the relative complexity of the weapon system/equipment is such that it is reasonable to first present the theory of the end item as a unit and then present the theory of its major system, subsystems, and component, it shall be presented in a series of data modules. A separate theory of operation data module shall be developed for each system. The data module may contain the functional operation for the system, its subsystems and its components (line replaceable units (LRUs) and shop replaceable units (SRUs)), or when necessary for usability or clarity, subsystem and component theory of operation may be provided in separate data modules. Subsystem component theory of operation may be included in either the subsystem theory of operation data module or in a separate component theory of operation data module. Detailed component functional operation, common circuitry and wiring diagrams shall not be included unless necessary to understand system/subsystem function.
- d. Theory narrative shall be to a depth necessary to support the technician in fault isolation to the level directed by the LPD and/or maintenance plan. The operation of the weapon system and related systems/components shall be presented in a logical flow. Significant input, output, and control signals, supply voltages, and power supply output voltages shall be identified. If the equipment operates in more than one mode, each mode shall be explained and supported by functional block diagrams. Theory of operation shall describe detailed circuitry of all repairable components as directed by the LPD/maintenance plan. Internal circuits, their relationship to each other, input and output signals, waveforms, and time-phase relationship to significant waveforms shall be included when required to understand detailed equipment operation. Theory shall not be prepared for nonrepairable, throw-away components.

5.89.1.8 General information (Preventive Maintenance Services Manual only).

Data Module Type: Descriptive Information Code: 010D

5.89.1.8.1 General.

Preventive Maintenance Services manuals and Preventive Maintenance Daily manuals shall contain the content requirements provided in [5.89.1.8.3](#). The italicized text shall be deleted, and as applicable, replaced with the appropriate information. A single descriptive data module shall be used.

5.89.1.8.2 Maintenance activities.

The general information data module shall include the following verbatim scope information:

"SCOPE

The Preventive Maintenance Services Inspection Checklist contains complete requirements for a *(insert specific inspection interval(s) here)* for the *(insert specific equipment here)*. It does not contain instructions for repair, adjustment, or other means of rectifying conditions, nor does it contain instruction for troubleshooting to find causes for malfunctioning. Specific tolerances, limits, etc., can be found in the applicable maintenance manuals. Use of the alphabetical index in the applicable manuals will facilitate locating the required information."

5.89.1.8.3 General information.

The general information data module shall include the following verbatim information:

"INSPECTION REQUIREMENTS.

The inspection requirements contained in here are stated in such a manner as to establish when certain equipment is to be inspected and what conditions are desired/undesired. Compliance with the provisions outlined herein is required in order to ensure that latent defects are discovered and corrected before malfunctioning or serious trouble results. Inspection requirements are arranged, as nearly as possible, according to the manner in which they will be performed. The requirements are divided into groups and listed under area heading in the "How To Use This Manual" portion of this manual and Figure *(insert figure number here)*.

INSPECTION INTERVALS

The *(insert inspection interval here)* inspection will be performed every *(insert the specific aircraft hours here)* flight hours or *(insert specific calendar days here)* days, whichever comes first. The *(insert the specific aircraft hours here)* will not be extended except in actual operational emergencies. In no case shall the aircraft intentionally be scheduled for a flight that will cause it to exceed the *(insert the specific aircraft hours here)* inspection due time. The *(insert specific calendar days here)* interval is a full *(insert the number of weeks here if applicable)* weeks. That is, if a *(insert specific calendar days here)* is done on Tuesday, the next *(insert specific calendar days here)* days inspection will not be due until *(insert the specific day here)* *(insert the specific number of weeks here)* later.

SPECIFIC NON-INSTALLED EQUIPMENT ON AIRCRAFT

This data module may contain inspection requirements applicable to specific equipment not installed on your aircraft. Those requirements should be disregarded.

DA FORMS

DA Form 2408-13-1 will be used to record all deficiencies or shortcomings discovered during the *(insert specific inspection interval here)*. Use DA PAM 738-751 to properly complete this form.

SPECIAL INSTRUCTIONS

The *(insert inspection interval here)* will not be exceeded except in actual operational emergencies. When operational emergencies require aircraft operation beyond the normal inspection due-time, a circled red X status symbol and an appropriate statement (to include authority) shall be entered in Part I, Fault Information block of DA Form 2408-13-1 (Aircraft Inspection and Maintenance Record) until such time as the inspection is complete. When inspections are delayed to meet emergency requirements, commanders will assure that the aircraft status symbol reverts to a red "X" and that delayed inspections are accomplished immediately upon termination of the actual emergency. When unusual local conditions of environment, utilization, mission, experience of flight crew and maintenance personnel, periods of inactivity, etc., are encountered, the maintenance officer will, at his discretion, increase the scope and/or frequency of maintenance of inspections as necessary to ensure safe flight.

Aircraft that are down, Not Mission Capable due to Supply (NCMS), or Not Mission Capable due to Maintenance (NMCM), are deferred from the (*insert inspection interval here*) inspection until the aircraft is return to flyable status. When the NMCS and/or NMCM condition is cleared from the aircraft that has been deferred, the (*insert inspection interval here*) shall be done before the first flight. It is the maintenance office's responsibility to determine those inspections necessary during NMCS and/or NMCM to preserve the aircraft. Maintenance situations and climates vary too much to permit a definition of an adequate inspection of the aircraft in NMCS and/or NMCM status.

Accessing procedures and detailed inspection criteria can be found in the applicable maintenance manuals. Use the alphabetical index in the applicable manuals. Unless otherwise directed, removed panels and opened doors will be reinstalled and closed upon completion of each area inspection.

The total man-hour (M/H) requirements for a complete (*insert inspection interval here*) inspection is (*insert total number of man-hours here*) M/H.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail the DA Form 2028 directly to: (*insert mailing address*). You may also send in your recommended changes via e-mail, by fax, or by the World Wide Web. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert e-mail address of proponent*). Instructions for sending an electronic DA Form 2028 may be found at the back of the applicable technical manual. For World Wide Web use <https://amcom2028.redstone.army.mil>. A reply will be furnished to you.

OZONE DEPLETING CHEMICALS

(*insert appropriate ODC statement here*)

HAZARDOUS MATERIALS (HAZMAT)

(*insert appropriate HAZMAT statement here*)

INSPECTION AREAS

Inspection areas are shown in (*insert data module(s) title and figure number*)."

5.89.1.9 General information (Phased Maintenance Inspection Manual only).

Data Module Type: Descriptive Information Code: 010E

5.89.1.9.1 General.

A single descriptive data module shall be used. The verbatim the text below, within the quotation marks except for the information indicated by italicized text, shall be included. Italicized text shall be replaced with the appropriate information.

"PHASED SCHEDULE

The phased maintenance inspection checklist contains requirements for inspection of the (*insert aircraft model*) aircraft on a phased schedule having a (*insert flight hour cycle*) hour (*flight hours*) cycle with (*insert phase hours*) hour phases. Each requirement included herein is designated for accomplishment at least once, but not more than (*insert number of phases*) times during the (*insert flight hour cycle*) hour cycle."

OR

"PROGRESSIVE PHASED MAINTENANCE SCHEDULE

The progressive phased maintenance inspection checklist contains requirements for inspection of the (*insert aircraft model*) aircraft on a phased schedule of (*insert inspection interval*) hours intervals."

5.89.1.9.2 Additional general information.

The following additional text shall be included verbatim (italicized text within parentheses shall be replaced with the appropriate information):

"EXCEEDING THE PHASED SCHEDULE

The phased maintenance inspection intervals designated are the maximum and shall not be exceeded except in actual operational emergencies as explained herein. It is the Commander's responsibility to determine (on an individual aircraft basis) when inspection intervals may be exceeded. For this purpose, operational emergencies are conditions of combat, or conditions of disaster which necessitate flight to evacuate aircraft or personnel. When aircraft are operated beyond the normal inspection due time because of such emergency situations, a circled red X status symbol and an appropriate statement (to include authority) shall be entered on the appropriate aircraft form as specified in DA PAM 738-751 until such time as the inspection is complete. When inspections are delayed to meet emergency requirements, Commanders will assure that the aircraft status symbol reverts to a red X and that delayed inspections are accomplished immediately upon termination of the actual emergency. When unusual local conditions (utilization, type of mission, personnel, periods of inactivity, environmental conditions, etc.) dictate, it is the prerogative and responsibility of the Maintenance Officer to increase the scope and/or frequency of maintenance or inspection as necessary to ensure safe operation (TM 1-1500-328-23).

MAINTENANCE ACTIVITIES

The inspections prescribed by this checklist will be accomplished at specified phases by Aviation Maintenance Company (AMC) activities with assistance of Aviation Support Battalion (ASB) and Depot Maintenance activities when required. The inspection of the part/component is visual unless stated otherwise.

LIMITATIONS

The checklist does not contain instructions for repair, adjustment or other means of rectifying conditions. Neither does it contain special tolerances, limits, or instructions for special troubleshooting to find causes for malfunctions. Such data will be obtained from the latest issue of the aircraft (*insert applicable aircraft technical manuals*) series Maintenance Manuals.

CHANGEOVER TO THE PHASED MAINTENANCE SYSTEM

Changeover shall be accomplished in accordance with instructions provided in (*insert appropriate TM/TB*) entitled, "*Insert title*." The requirements of this TM/TB shall be accomplished prior to implementation of Phase 1 inspection requirements specified in this checklist.

PRE-INSPECTION MAINTENANCE TEST FLIGHT (MTF)

A pre-inspection MTF to duplicate non-hazardous equipment problems, determine unsatisfactory conditions, determine equipment operation problems, etc., is recommended prior to start of aircraft disassembly for phased maintenance inspection. The decision to perform the pre-inspection MTF, however, shall be the responsibility of the unit Maintenance Officer.

SPECIAL INSPECTIONS, CALENDAR INSPECTIONS, AND LUBRICATION REQUIREMENTS

Special inspections, calendar inspections, and lubrication requirements contained in (*insert applicable aircraft technical manual*) and those listed on the aircraft's DA Form 2408-18 shall be reviewed and accomplished in accordance with the "inspection due" requirements specified in those documents.

TIME BETWEEN OVERHAUL (TBO) AND RETIREMENT LIFE ITEMS CHECK

Prior to start of the applicable phased maintenance inspection, a check will be made of components and their remaining operating hours prior to removal. The latest issue of the aircraft's (*insert applicable aircraft technical manual*) and DA Form 2408-16 shall be referred to for a complete listing of components and their TBO and retirement life.

USING THE PHASED INSPECTION CHECKLIST

A new checklist shall be used each time phased maintenance is due on the aircraft. This checklist is arranged such that it can be separated by area and distributed to the maintenance crew. For use of the checklist refer to DA PAM 738-751.

FINAL RECORDS CHECK

After all corrective actions have been completed and following completion of the phased inspection, the Technical Inspector, or designated supervisor shall verify that all applicable forms and records have been properly updated. All uncorrected faults shall be entered on applicable aircraft forms in accordance with DA PAM 738-751. A Final Records Checklist shall be used to ensure forms and records have been inspected for completeness and accuracy prior to release of the aircraft from the phased maintenance inspection. The PID of the inspector verifying the final records check shall be entered adjacent to the indicated form or record on the Final Records Checklist. The PID entered shall be registered on the Signature Sheet adjacent to that person's signature.

MAINTENANCE OPERATIONAL CHECKS

After the completion of any required corrective actions to any of the components of a functional system of the aircraft, Maintenance Operational Checks (MOC) shall be performed on that system to determine the effectiveness of the maintenance actions performed and to verify the proper operation of that system. These MOC shall be performed in accordance with TM 1-1500-328-23. DA Form 2408-13-1 may be used to record and sign off the Maintenance Operational Checks performed.

MAINTENANCE TEST FLIGHT

When all required inspections have been accomplished and initialed in accordance with the above procedure, the MTF shall be performed in accordance with the requirements of (*insert applicable aircraft technical manuals*) and TM 1-1500-328-23 using the MTF form in the MTF technical manual.

CHECKLIST DISTRIBUTION

The completion of each phased maintenance inspection shall be recorded on applicable forms as prescribed by DA PAM 738-751. The signed checklist, together with all forms prescribed by DA PAM 738-751, will be filed. Disposition will be in accordance with DA PAM 738-751 or specific instructions in the applicable aircraft technical manual.

INSPECTION AREAS

(Insert data module title and figure number) reflects the inspection areas of the *(insert applicable aircraft model)* aircraft. Those areas are titled as shown. Figure *(insert number)* shows the location of access doors and panels which require removal at various phased maintenance inspections.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS.

(insert appropriate reporting errors statement here)"

5.89.2 Army business rules.

None.

5.89.3 Project decisions.

5.89.3.1 References to Quality Assurance (QA).

BRDP-ARMY-00065: The project shall determine if a reference shall be made to the pertinent QA or included directly (refer to [5.89.1.5.9](#)).

5.89.3.2 DMWR/NMWR.

BRDP-ARMY-00067: The project shall decide if DMWR/NMWR will include theory of operation data modules.

5.89.3.3 Introductory general information.

BRDP-ARMY-00068: The project shall decide if introductory general information will precede the theory of operation narrative.

5.90 S1000D Chapter 5.2.1.3.1 - Maintenance information - Maintenance procedures.

5.90.1 Army content requirements.

5.90.1.1 Scope.

This section contains content requirements for the following information sets:

- a. Service upon receipt (refer to [5.90.1.3](#))
- b. PMCS including lubrication instructions (refer to [5.90.1.4](#))
- c. Preventive maintenance checklist (refer to [5.90.1.26](#))
- d. Maintenance tasks (refer to [5.90.1.10](#))
- e. Follow-on maintenance (refer to [5.90.1.11](#))
- f. General maintenance (refer to [5.90.1.12](#))
- g. Lubrication instructions (refer to [5.90.1.13](#))
- h. Preservation, packaging, and marking (refer to [5.90.1.14](#))

- i. Facilities (refer to [5.90.1.15](#))
- j. Overhaul and retirement schedule (refer to [5.90.1.16](#))
- k. Overhaul inspection procedures (refer to [5.90.1.17](#))
- l. Depot mobilization requirements (refer to [5.90.1.18](#))
- m. QA requirements (refer to [5.90.1.19](#))
- n. Illustrated list of manufactured items (refer to [5.90.1.20](#))
- o. Torque limits (refer to [5.90.1.21](#))
- p. Ammunition maintenance (refer to [5.90.1.22](#))
- q. Ammunition marking information (refer to [5.90.1.23](#))
- r. Foreign ammunition (refer to [5.90.1.24](#))
- s. Maintenance/Demilitarization of conventional and chemical ammunition (refer to [5.90.1.25](#))
- t. Daily preventive maintenance checklist (refer to [5.90.1.26](#))

5.90.1.2 General.

5.90.1.2.1 General.

Maintenance instructions shall be prepared for all items comprising the weapon system/equipment, such as assemblies, subassemblies, components, wiring, junction boxes, and accessories. Tasks shall be presented in the order in which they are performed. Sound engineering principles and techniques, approved LPD, service experience, performance data on similar equipment, and all other RMS and Ao data available shall be used in the preparation of specific maintenance instructions. Maintenance data modules shall be arranged to coincide with the FGC sequence followed in the MAC or parts information.

5.90.1.2.2 Maintenance information sets.

Individual maintenance information sets shall be developed for the overall weapon system/equipment and each maintainable system, subsystem, shop replaceable unit (SRU), line replaceable unit (LRU), or component for each applicable maintenance level as indicated in the approved MAC or maintenance plan.

5.90.1.2.3 Preliminary requirements.

When preliminary requirements information differs for specific maintenance tasks, additional data modules shall be developed.

5.90.1.2.4 Procedural data modules.

Procedural data modules shall stand-alone and contain a single start-to-finish maintenance procedure. A link to the applicable data module shall be provided for any follow-on maintenance that shall be performed after maintenance procedures are completed.

5.90.1.3 Service upon receipt (Maintainer Level Only).

5.90.1.3.1 General.

One or more service upon receipt data modules shall be prepared. Each shall contain a single service upon receipt task. The service upon receipt data modules shall contain information required for the user to ensure that the equipment will be adequately inspected, serviced, and operationally tested before it is subjected to use.

5.90.1.3.2 Service upon receipt of materiel.

For equipment that requires extensive service upon receipt, the following tasks described in [5.90.1.3.2.1](#) through [5.90.3.1](#) shall be prepared and shall be placed in individual data modules. Instructions for ammunition service upon receipt are contained in [5.90.1.3.8](#). If these tasks reside in an existing data module/manual, reference may be made to them.

5.90.1.3.2.1 Unpacking.

Data Module Type: Procedural Information Code: 840B

Instructions for unpacking materiel or equipment shall be prepared.

- a. Instructions shall be prepared detailing how to remove an item from a storage or shipping container or other shipping device prior to service or other maintenance operations. If the containers are to be used again, kept for future use, turned into supply, or require a special disposition method, the necessary procedures for reassembly of the container shall be prepared. These instructions shall be supported by illustrations.
- b. For ammunition, any special sequence of action necessary to protect the ammunition.
- c. For ammunition, if a specially designed reusable container is involved for either the end item or components that are authorized for replacement, instructions shall be prepared to report or re-enter the empty container through supply channels.

5.90.1.3.2.2 Checking unpacked equipment.

Data Module Type: Checklist Information Code: 870B

Instructions shall be prepared for a condition check of the shipment (including that of pallets, containers, boxes, and legibility of markings). These instructions may be contained in a table (standard information per [5.87.1.3](#)). The following data shall be included.

- a. Packaging material. For each item of a component requiring inspection, the following conditions shall be provided: acceptable, repairable, and non-repairable.
- b. Equipment components. A table shall be provided that lists, by location, each item of a component requiring inspection. For each of these items an action shall be provided and, if applicable, a reference made to another data module.

In addition, the following shall be inserted:

"Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 361, Transportation Discrepancy Report. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with DTR 4500.9-R, Part II. Check to see whether the equipment has been modified."

5.90.1.3.2.3 Processing unpacked equipment.

Data Module Type: Procedural Information Code: 870C

Instructions shall be prepared for processing the unpacked equipment (e.g., removing excess lubricant from a new rifle), as long as they do not conflict with any warranty provisions. The following information shall be prepared, as applicable:

- a. Any special skills required by processing personnel.
- b. All caustic, corrosive, and/or toxic material used during processing shall be identified and applicable warnings and cautions given.
- c. Instructions on safe disposal of waste products generated during processing actions.
- d. Man-hour requirements and total man-hours required for processing the equipment.

5.90.1.3.3 Installation instructions.

Instructions shall be prepared to install the equipment properly. These instructions shall include which tools are to be used to make the necessary interconnections, to lubricate, calibrate, and adjust the equipment. Instructions for cabling and wiring shall include the following:

- a. Cable diagrams shall be included or referenced as necessary. When cable assemblies are not supplied but are required for bench test setup, instructions shall be prepared in the manufactured items data module for fabricating interconnecting cable assemblies.
 - (1) Instructions shall be prepared for any mating connectors that call for a special procedure either to make the proper connection or to prevent damage to the connector. Warnings and cautions shall be included where necessary.
 - (2) A wiring diagram shall be prepared that fully identifies, by either color code or wire number (if applicable), each wire to be connected. This diagram shall show the location of each pertinent terminal. The terminal(s) shall be identified by number or other marking, if available, or by position if neither is available. Where appropriate, voltage readings shall be annotated.
 - (3) All alternate connection patterns required for various modes of operation shall be shown and explained.
 - (4) Only one diagram shall be used to illustrate interconnection patterns which appear more than once within the same equipment.
- b. For installation of plug-in items, diagrams shall be prepared or referenced showing the location of items that are not installed in the equipment when received. Instructions shall be prepared whenever special techniques or connections are required.

5.90.1.3.3.1 Installation of equipment.

Data Module Type: Procedural Information Code: 720A

- a. Installation instructions shall be prepared for all of the following actions (including placing, mounting, and attaching).
 - (1) Cable and wiring interconnections.
 - (2) Proper use of special tools.
- b. Installation instructions shall identify all dimensions that shall be maintained in placing, mounting, or attaching items.

- c. When initial adjustments can be made efficiently during installation, such adjustments shall be included.
- d. For equipment designed and intended for use in more than one type of installation (e.g., field, fixed station, and mobile), instructions shall be prepared for each type of installation involved.
- e. Performance of any step in the installation instructions that requires the assistance of personnel from a higher level of maintenance shall be detailed. This shall be stated in a note similar to that in the following (italicized text within parentheses shall be replaced with the appropriate information):

"NOTE

The following installation procedure shall be made with the assistance of (*insert level*) maintenance personnel (include Military Occupational Specialty, if applicable)."

- f. Installation instructions shall include instructions for (as applicable):
 - (1) All required installation options (e.g., ESD control requirements).
 - (2) Accessory items.
 - (3) Auxiliary items (those that extend or increase equipment capability).
 - (4) Grounding of the equipment for both safety and proper operation.
 - (5) Torque requirements.

5.90.1.3.3.2 Special application installation instructions.

Data Module Type: Procedural Information Code: 720B

Installation instructions that are common to all special applications of a system shall be prepared. Details resulting from the installation shall be omitted if they are specific only to the equipment into which the system is being installed (e.g., special treatment required when the system is installed in a vehicle or aircraft).

5.90.1.3.3.3 Van and shelter procedure.

Data Module Type: Procedural Information Code: 123C

When the equipment is permanently installed in vans or shelters, installations instructions will not need to be prepared. The following information shall be prepared only to the extent required for the applicable level of maintenance:

- a. Instructions shall be prepared for the removal, installation and/or replacement of each nonpermanent unit.
- b. Installation instructions are not prepared when the equipment is permanently installed in vans or shelters.
- c. Diagrams and instructions shall be prepared which pertain to electrical and interconnection wiring, exclusive of wiring peculiar to the equipment on which the installation is being made (e.g., headlight, ignition wiring).
- d. Instructions shall be prepared for cable run locations, equipment locations, circuit breaker panels, and other similar details.

5.90.1.3.3.4 Assembly of equipment.

- a. Instructions shall be prepared for assembling equipment that has been shipped unassembled. When the equipment is to be shelf or rack mounted, instructions shall also be prepared for assembly of the rack, if necessary, and for

installation of the equipment in the rack. As applicable, power requirements, connections, and initial control settings needed for installation purposes shall be included.

- b. When the equipment is shipped or delivered in specially designed containers, unpacking instructions shall be prepared as detailed in [5.90.1.3.2.1](#).
- c. For security measures for electronic data, instructions shall be prepared for handling, loading, purging, overwriting, or unloading classified electronic data under usual conditions. Instructions shall meet current security regulations as they pertain to automation security.

5.90.1.3.4 Preliminary servicing of equipment.

Data Module Type: Procedural Information Code: 200F

Instructions shall be prepared for all preliminary services required on newly installed equipment. This should include but not be limited to the following: lubrication, wiring, and fueling, etc.

5.90.1.3.5 Preliminary checks and adjustment of equipment.

Data Module Type: Procedural Information Code: 271B

Instructions shall be prepared for all checks and adjustments to be made on newly installed equipment. Information on the location of items such as controls and check points shall be prepared or referenced. Instructions shall be prepared for checks and adjustments that must be made before the equipment is put into operation and for all other checks required to ensure proper operation of the equipment. These instructions shall include but not be limited to the following (as applicable):

- a. Checks for interconnections.
- b. Checks for grounding, including earth ground connections, earth conditioning for conduction, as well as a check of the grounding circuit for negligible resistance.
- c. Checks for adequate clearance for rotating or moving devices.
- d. Checks of initial settings of all controls that shall be preset before power is to be applied.
- e. All other checks needed to determine that power can be applied without injuring personnel or damaging the equipment.
- f. Firm seating and connection of all plug-in parts, mating connectors, jacks, and plugs.
- g. Cable and wire harness routing, dressing, and fastening.
- h. ESD control standards and cautions against damaging transistors, diodes, and other electrically sensitive items.
- i. Replacement of all covers, inspection and access doors, and plates.
- j. Operation of safety interlocks and switches.
- k. Operation of ventilating louvers and intake and exhaust ports.
- l. Operation and content of liquid cooling systems.
- m. Lubricants and Corrosion Prevention Control (CPC) procedures.
- n. Switch and control settings that are preset at installation (installer's adjustments).
- o. Presetting and adjustment of automatic controls.
- p. Terminal connections.

- q. Required terminal or capacitor strapping.
- r. Preliminary test measurements.
- s. Presetting operator's controls.
- t. Normal operating checks.
- u. After-installation orientation.
- v. Burn-in of parts.
- w. ESD control standards.
- x. After-operations shutdown, checks, and inspections.

5.90.1.3.6 Preliminary calibration of equipment.

Data Module Type: Procedural Information Code: 273D

Instructions shall be prepared for all calibration to be made on newly installed equipment.

5.90.1.3.7 Circuit alignment.

Data Module Type: Procedural Information Code: 272B

Instructions shall be prepared for circuit alignment procedures. Applicable instructions shall be prepared in the following order.

- a. External connections. Connections to external lines that are required for each installation option shall be included. Connection instructions shall conform to the requirements for installing wiring and cabling interconnections.
- b. Switch settings, patch panel connections, and internal control settings. Instructions shall be prepared for all switch settings, patch panel connections, and internal control settings required for each installation option and mode of operation.
- c. Alignment procedures. Instructions shall be prepared for all alignment procedures, including any variations required for different installation options and modes of operation.

5.90.1.3.8 Ammunition service upon receipt tasks.

Procedures shall be prepared for performing the tasks needed to perform upon receipt of ammunition. Instructions and information shall be provided that can include receipt of correct items, deficiencies, safety precautions, identification, and packaging and ammunition defects.

5.90.1.3.9 Other service upon receipt tasks.

Additional service upon receipt tasks may be developed when the specific type of service upon receipt tasks are not covered in these business rules. If additional service upon receipt tasks are used, the proponent shall submit to LDAC the requirements for this service upon receipt task type (including proposed information codes) for possible incorporation within future revisions to this standard.

5.90.1.3.10 Follow-on maintenance (aka requirements after job completion).

As applicable, instructions shall be prepared or references to the applicable data module(s) for any follow-on maintenance required and shall be the last information in the data module. Follow-on is a maintenance condition that must be accomplished following the completion of a task to clean up or undo actions performed during the task. For example, in order to fix a component a task might require that an access panel be removed. The panel would then need to be installed as a follow-on action. This task might be performed sometime after the repair task is completed but not immediately after the repair task. Other maintenance tasks might be performed in the same area before the follow-on task is accomplished.

5.90.1.4 Preventive Maintenance Checks and Services (PMCS) (except for aircraft TMs, DMWRs, and NMWRs).

The PMCS shall be prepared for operator publications and as required for other maintenance levels. PMCS shall be based upon the principles of Reliability Centered Maintenance (RCM) logic. It shall include PMCS information and applicable scheduled corrosion inspections. Lubrication instructions may be included in the PMCS information or a separate lubrication order may be prepared. An introduction data module for PMCS shall also be prepared.

5.90.1.5 Preventive Maintenance Checks and Services (PMCS) introduction.

Data Module Type: Descriptive Information Code: 018F

5.90.1.5.1 General.

PMCS introduction data module shall explain the purpose and use of the PMCS data. A single descriptive data module shall be used. The PMCS introduction data module may contain reference/links to the PMCS data by interval but shall not contain reference/links to any other maintenance tasks.

5.90.1.5.2 Preventive Maintenance Checks and Services (PMCS) data.

- a. An explanation shall be prepared for each PMCS entry. The explanation for the item numbers shall detail how the item numbers are used when recording results of PMCS on DA Form 2404, Equipment Inspection and Maintenance Worksheet.
- b. If lubrication instructions are included in the PMCS data, the requirements contained in [5.96.1.4.1.1](#) shall be used. Only lubrication information such as intervals, lubricant types, etc. shall be included in the introduction. Lubrication procedures shall be included in the PMCS data module(s). No lubrication procedures shall be contained in the PMCS introduction data module.
- c. Information concerning CPC shall be prepared. This information shall contain a reference to the CPC information in the general information work package. In addition this information shall contain inspection requirements for corrosion. When items are determined to be not ready or available as a result of one (or more) forms of corrosion being present, these items shall be recorded as corrosion failures in the inspection record and the appropriate code as given in DA Pam 750-8 or DA Pam 738-751 will be used when requesting/performing maintenance activities. In addition, if the inclusion of such instructions is applicable, a statement shall be prepared that states that the instructions are mandatory.
- d. When the equipment contains fluids, such as lubrication oil or hydraulic fluid, leakage criteria shall be prepared for the PMCS introduction as follows and referred to in the NOT MISSION CAPABLE IF: column (italicized text within parentheses shall be replaced with the appropriate information).

"FLUID LEAKAGE

It is necessary for you to know how fluid leakage affects the status of the (*enter component/equipment name*). Following are types/classes of leakage you need to know to be able to determine the status of the (*enter component/equipment name*). Learn these leakage definitions and remember-when in doubt, notify your supervisor. Equipment operation is allowed with minor leakage (Class I or II). Consideration shall be given to fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor.

When operating with Class I or II leaks, continue to check fluid levels as required in the PMCS.

Class III leaks should be reported immediately to your supervisor.

- (1) Class I. Seepage of fluid (as indicated by wetness or discoloration) but not great enough to form drops.
- (2) Class II. Leakage of fluid great enough to form drops, but not enough to cause drops to drip from the item being checked/inspected.
- (3) Class III. Leakage of fluid great enough to form drops that fall from item being checked/inspected."

5.90.1.6 Preventive Maintenance Checks and Services (PMCS).

Data Module Type: Checklist

Information Code: 200B

5.90.1.6.1 General.

The PMCS procedures shall include the checks and services data described below. Illustrations shall be included as needed to support the PMCS procedures. For complex equipment or equipment that consists of components whose PMCS is covered by other TMs, a routing diagram may be developed to illustrate the order in which the PMCS shall be performed. PMCS procedures shall be grouped by interval and a separate PMCS data module may be prepared for each interval. If everything is identical (e.g., preliminary requirements, procedures, not mission capable column, etc), intervals may be combined. If time for each interval needs to be included, separate data modules shall be prepared for each interval with the time to complete the interval included in the preliminary requirements.

5.90.1.6.2 Preventive Maintenance Checks and Services (PMCS) data preparation.

PMCS data shall consist of the entries described below.

- a. Item number. Item numbers (ITEM NO) shall be assigned to the PMCS procedures. The PMCS procedures shall be arranged in a logical sequence requiring minimum time and motion on the part of the person(s) performing them and shall be so arranged that there will be minimum interference between persons performing the checks simultaneously on the same end item. Item numbers shall be Arabic numbers starting with 1 and continuing sequentially and shall not use decimals or letters.
- b. Intervals. The designated interval (INTERVAL) (e.g., "before," "during," "after," "weekly," etc.) when each check is to be performed shall be included. Procedures done first or most frequently (e.g., "before" checks and services) shall appear before "during" and "after" checks and services. Each item (row) of the PMCS shall have one interval and like intervals shall be grouped (e.g., all before's together, all after's together, etc.). The PMCS intervals that can be used are as follows:

- (1) Before

- (2) During
 - (3) After
 - (4) Daily
 - (5) Weekly
 - (6) Monthly
 - (7) Quarterly
 - (8) Semiannually
 - (9) Annually
 - (10) Biennially
 - (11) Periodic
 - (12) Intermediate (**Aviation only**)
 - (13) Man-hour/day (**Aviation only**)
 - (14) Phased (**Aviation only**)
 - (15) Other
- c. Man-hours. When specified by the acquiring activity man-hours (MAN-HOUR) required to complete all prescribed services shall be included. Man-hours shall be stated to the nearest 10th of an hour.
- d. Item to be checked or serviced. The items listed (ITEM TO BE CHECKED OR SERVICED) shall be identified in as few words as possible to clearly identify the item. Usually the common name (e.g., bumper, gas can and mounting bracket, front axle, etc.) will be enough.
- e. Procedure. The PMCS procedures shall include step-by-step instructions, supporting illustrations and references to any other information required to perform each check or service. This may include lubrication, appropriate tolerances, adjustment limits, and instrument gauge readings. When specified by the acquiring activity, illustrations shall be prepared to identify the location or the process of the task being performed and shall be integrated with the procedures. Whenever replacement or repair is recommended, the maintenance task shall be referenced.
- f. Not mission capable if. If a PMCS item has not mission capable criteria , a brief statement shall be provided to detail the condition (NOT MISSION CAPABLE IF:)(e.g., malfunction, shortage) that would cause the equipment to be less than fully ready to perform its assigned mission. If the procedure contains detailed steps, the statement shall be placed opposite the applicable step.

5.90.1.6.3 Mandatory replacement parts.

All items that shall be replaced during PMCS whether they have failed or not shall be identified in the preliminary requirements of the PMCS data modules and shall be referenced/linked to the mandatory replacement parts list in the supporting information.

5.90.1.7 Preventive Maintenance Services (PMS)/Preventive Maintenance Daily (PMD) inspection (aircraft preventive maintenance services only).

Data Module Type: Checklist Information Code: 310E (PMS inspection)

Data Module Type: Checklist Information Code: 310P (PMD inspection)

5.90.1.7.1 General.

PMS inspection data modules shall be developed for each specific inspection interval (e.g., daily, intermediate, periodic, 10 hour/14 day, 30 hr/42 day, etc.), as applicable to the aircraft. Inspection checklists shall be divided by areas of the aircraft (e.g., nose, fuselage, tail, etc.). All items requiring inspection shall be listed in the logical sequence of inspection that would require a minimum of time and motion on the part of the individual performing the inspection. The checklist data shall be formatted and delivered to support the inspection requirements in DA Pam 738-751.

5.90.1.7.2 Actuation warning.

The following warning shall appear before the first step of the procedure (italicized text within parentheses shall be replaced with the appropriate information):

"WARNING

Accidental actuation of the aircraft power plant or hydraulic system, or (*insert aircraft specific equipment as applicable, e.g., firing of armament, jettison ballistics*) may cause severe injury or death. Before starting inspection, the aircraft safety check must be performed, if applicable IAW (*insert specific technical manual here*) (*if applicable the following statement may be inserted here "and all armament must be safetied, deactivated, and cleared (insert technical manuals here)."*)"

5.90.1.7.3 Mandatory safety-of-flight inspection items.

Mandatory safety-of-flight inspection items shall be highlighted using the element **<inlineSignificantData>** (refer to [5.52.1.54](#)). Mandatory safety of flight inspection items shall have WARNING on the WARNING SUMMARY page at the front of the manual. The WARNING shall be verbatim as follows:

"CSI WARNING

Certain inspections are mandatory Safety of Flight requirements, and the inspection intervals cannot be exceeded. In the event these inspections cannot be accomplished at the specified interval, the aircraft condition status symbol will be immediately changed to a red X."

5.90.1.7.4 Area diagram.

An area diagram of the aircraft, showing sequences for inspection by area shall be included. The area identified shall include all surfaces, material, components, and equipment pertaining to that specific location.

5.90.1.7.5 Standard checklists.

If applicable, the standard inspection checklist shall be further divided into Power Off checks and Power On checks.

a. The following statement shall be the first item for each aircraft and shall read:

"Inspect aircraft forms and records for recorded discrepancies (DA PAM 738-751, Functional Users Manual for the Army Maintenance Management System Aviation (TAMMS-A))."

b. It shall be divided into the proper sequence of steps as outlined in the area diagrams. For PMD manuals, there shall be one data module for each inspection area.

c. The following statement will be the final procedure of the checklist:

"Inspect for foreign object damage and ensure all access panels or doors opened or removed for this inspection are closed or reinstalled."

5.90.1.8 Phased Maintenance (PM) inspection (aircraft phased maintenance checklist only).

Data Module Type: Checklist

Information Code: 310F

5.90.1.8.1 General.

PM inspection information set shall be prepared.

5.90.1.8.2 Inspection area diagrams.

Diagrams locating the inspection areas and the access doors and panels which require removal at various phased maintenance inspections of the aircraft shall be included.

5.90.1.8.3 Phased maintenance checklist.

The phased maintenance checklist shall include all the inspection steps required to complete the given inspection. It may contain illustrations to aid in the performance of the inspection. Inspection steps shall be organized in a logical flow to minimize inspector movement. The inspection data shall be formatted and presented to support the inspection requirements in DA Pam 738-751. The data module shall begin with the following note:

"NOTE

Before start of the Phased Maintenance Inspection, it is recommended that a pre-inspection maintenance test flight (MTF) be conducted. Accomplishment of the MTF shall be determined by the unit maintenance officer. The pre-inspection MTF should be conducted by a maintenance test pilot following a review of the aircraft forms and records and a briefing from the crew of the aircraft. The MTF is recommended to assess the aircraft performance and identify deficiencies that should be corrected while the aircraft is undergoing phased maintenance inspections."

5.90.1.9 Preventive maintenance inspection (aircraft only).

Data Module Type: Checklist

Information Code: 200D

5.90.1.9.1 General.

Preventive maintenance inspections data module (aircraft only) shall be prepared as directed by acquiring activity.

5.90.1.9.2 General information and introduction.

The following paragraph shall be inserted (italicized text within parentheses shall be replaced with the appropriate information):

"GENERAL INFORMATION

This data module contains complete requirements for special inspections, overhaul and retirement schedule, and standards of serviceability applicable to the aircraft. The inspections prescribed in this data module shall be accomplished at specified periods by aviation maintenance companies, with the assistance of aviation support battalions when required. Complete Daily, Intermediate, Periodic, or Phased inspections are contained in the (*insert applicable aircraft inspection checklist TM*)."

5.90.1.9.3 Standards of serviceability.

The following paragraph shall be inserted.

"Standards of serviceability to be utilized in the day-to-day inspection and maintenance of the aircraft can be found as fits, tolerances, wear limits, and specifications in the aircraft maintenance manuals. Standards of serviceability for transfer to aircraft are contained in TM 1-1500-328-23."

5.90.1.9.4 Special inspections.

a. Definition and general information. The following paragraph shall be inserted.

"This information supplements scheduled inspections as outlined in the applicable aircraft inspection checklists. Inspection of items that are required to be inspected at intervals not compatible with airframe operating time or airframe inspection intervals is also included. Refer to DA PAM 738-751 (Functional Users Manual for the Army Maintenance Management System-Aviation (TAMMS-A)) for applicable forms, records, and worksheets required for these inspection intervals. Typical examples of this type of inspection are as follows.

- (1) Inspections which are solely contingent upon specific conditions or incidents that occur (e.g., hard landings, over speed, or sudden stoppage), wherein immediate inspection is required to ensure safe flight.
- (2) Inspection of components or airframe on a calendar basis: e.g., first aid kits, weight and balance check, aircraft inventory."

b. Requirements. Components and other items which qualify under the criteria for special inspections, e.g., hard landings, sudden stoppage, over speed shall be included. These inspections shall be grouped under specific aircraft areas. A line drawing of the aircraft or accessory showing sequence for inspection by area shall be included. The area identified shall include all surfaces, materials, components, and equipment pertaining to that specific location. The following inspection data entries shall be included, as applicable.

- (1) Aircraft serial or tail number.
- (2) Date of inspection.
- (3) Area number.
- (4) Inspection number.
- (5) Inspection interval.
- (6) Name of component being inspected.
- (7) Inspection procedure.

5.90.1.10 Maintenance information sets (Not required for aircraft PM and PMS manuals).**5.90.1.10.1 General.**

Maintenance information shall be prepared and functionally divided into individual maintenance information sets containing one or more complete, start-to-finish maintenance tasks. These maintenance data modules should be in the order listed in the MAC and shall use the same titles as shown in the MAC. Every entry in the MAC shall be contained in a maintenance task within the maintenance publications (TMs, NMWR, DMWR, SUM, SAM, etc.) for the system. The associated maintenance data module may be in a higher level publication than the MAC is in. The technical content structure for these data modules shall be consistent. Illustrations shall be prepared to identify the location or the process of the task being performed and shall be integrated with the procedures.

- a. Maintenance instructions shall reference all data modules required for any unusual or critical steps such as specifying QA checks (depot and aviation only), care and handling of ESD sensitive items and all hazardous material (e.g., ammunition, radioactive components or materials, including prevention of deterioration due to rough handling, exposure to adverse weather conditions, or other hazards). Visual inspection and safety criteria shall be prepared to determine item serviceability. When applicable, instructions shall contain references to the data modules for disposition of defective ammunition. Data modules shall be prepared for use of cleaning materials and paint authorized for use in the specified maintenance operations. When a tool is unusual or abnormal, it shall be described. Other tools, except for tools in a kit, may be described.
- b. When specific to the equipment, applicable CPC procedural steps shall be included, or the data module shall reference applicable CPC publications.
- c. NSNs shall not be used in procedural steps, illustrations, or legends of maintenance information sets.
- d. Part numbers shall not be used in procedural steps, illustrations, or legends, except when essential for identification.
- e. Aviation maintenance TMs/IETPs shall reference TM 1-1500-204-23 volumes 1 through 11, as applicable.
- f. The maintenance instructions shall be prepared to include required environmental control data and information. Instructions shall be prepared for information on any special maintenance required under extreme temperature, altitude, and humidity conditions within the limits established by the design specification for the equipment.
- g. **(DMWRs/NMWRs only)** A Reliability, Availability, and Maintainability (RAM) table shall be prepared listing the pertinent measurable RAM ranges for the major overhauled components. The RAM requirements shall be prescribed by maintenance engineering of the acquiring activity. When established by maintenance engineering, the requirements shall include critical measurement factors such as Meantime Between Failures (MTBFs), Mean Time to Repair (MTTR), availability, and maintenance ratio. The reliability and availability portion of the table shall give the minimum acceptable values, while the maintainability portion shall provide the maximum allowable rates. Availability may be expressed as a probability versus a qualified number. When specified by the acquiring activity, the RAM information may be prepared in a narrative.
- h. When maintenance tasks are updated during a change/revision cycle, the MAC shall be updated to reflect any changes made in the maintenance procedures (e.g., new tasks, deleted tasks, changes in times, etc.).

5.90.1.10.2 Maintenance tasks.

Every entry in the MAC shall be contained in a maintenance task within the maintenance publications (TMs, NMWR, DMWR, SUM, SAM, etc.) for the system. The associated maintenance data module may be in a higher level or separate publication than the MAC. For each maintenance task, illustrations may be used to support or clarify the text, including schematics, wiring diagrams, parts location drawings, and other visual aids. The general maintenance information set is not a single task but is a series of procedures that may be referenced in the tasks below. The following is a list of the maintenance tasks that shall be used and are reserved for task titles except for "follow-on" and "other." These titles shall not be used for procedures within the tasks.

- a. Inspection (refer to [5.90.1.10.4](#))
 - (1) Test and inspection
 - (2) Inspection of conventional and chemical ammunition or components containing radioactive materials
 - (3) Pre-embarkation inspection of material in units alerted for overseas movement
 - (4) Inspection of installed items
 - (5) Inspection-acceptance and rejection criteria
- b. Testing (refer to [5.90.1.10.5](#))
- c. Servicing (refer to [5.90.1.10.6](#))
- d. Adjust (refer to [5.90.1.10.7](#))
- e. Align (refer to [5.90.1.10.8](#))
- f. Calibrate (refer to [5.90.1.10.9](#))
- g. Removal procedure (refer to [5.90.1.10.10](#))
- h. Install procedure (refer to [5.90.1.10.11](#))
- i. Replace (refer to [5.90.1.10.12](#))
- j. Repair (refer to [5.90.1.10.13](#))
- k. Painting (refer to [5.90.1.10.14](#))
 - l. Overhaul procedure (refer to [5.90.1.10.15](#))
- m. Rebuild (refer to [5.90.1.10.16](#))
- n. Lubrication (refer to [5.90.1.10.17](#))
- o. Mark (refer to [5.90.1.10.18](#))
- p. Pack procedure (refer to [5.90.1.10.19](#))
- q. Unpacking (refer to [5.90.1.10.20](#))
- r. Preservation procedure (refer to [5.90.1.10.21](#))
- s. Preparation for use (refer to [5.90.1.10.22](#))
- t. Assemble procedure (refer to [5.90.1.10.23](#))
- u. Disassembly procedure (refer to [5.90.1.10.24](#))
- v. Cleaning (refer to [5.90.1.10.25](#))
- w. Nondestructive Inspection (NDI) (refer to [5.90.1.10.26](#))
- x. Radio interference suppression (refer to [5.90.1.10.27](#))
- y. Placing in service (refer to [5.90.1.10.28](#))
- z. Ground handling (refer to [5.90.1.10.29](#))
 - (1) Towing
 - (2) Jacking
 - (3) Parking
 - (4) Mooring
 - (5) Covering

- (6) Hoisting
- (7) Sling loading
- (8) External power

- aa. Preparation for storage (refer to [5.90.1.10.30](#)).
- ab. Preparation for shipment (refer to [5.90.1.10.30](#)).
- ac. Arm (refer to [5.90.1.10.33](#)).
- ad. Load (refer to [5.90.1.10.34](#)).
- ae. Unload (refer to [5.90.1.10.35](#)).
- af. Install peripheral device (refer to [5.90.1.10.36](#)).
- ag. Uninstall peripheral device (refer to [5.90.1.10.31](#)).
- ah. Upgrade/patch (refer to [5.90.1.10.32](#)).
- ai. Configure (refer to [5.90.1.10.37](#)).
- aj. Debug (refer to [5.90.1.10.38](#)).
- ak. Additional maintenance task (refer to [5.90.1.10.41](#)).
- al. Follow-on maintenance (refer to [5.90.1.3.10](#)).

5.90.1.10.3 Maintenance task requirements.

Additional mandatory or unique technical information or additional explanations may be required to be included in maintenance tasks listed above. The following general requirements apply to most maintenance tasks.

- a. Specific instructions shall be prepared for lockwiring, installing cotter pins, use of sealing compounds, lubricants or CPCs, and similar operations with applicable references to the expendable and durable items list.
- b. Procedures shall not be prepared for separation of bonded, press-fitted, soldered, welded, or riveted parts, or the removal of electronic circuitry parts, unless such removal is necessary to clean, inspect, or test separately.
- c. If servicing (e.g., pressurizing and charging with gas, lubrication, etc.) is required upon completion of a maintenance task, include this information as part of the task.
- d. Warnings and cautions shall be included whenever chemicals or cleaning compounds are used or combined that may result in a dangerous or hazardous mixture. Whether the danger is to personnel or equipment, it shall be identified and the effect (e.g., gases, fumes, caustic, and fire) shall be stated.
- e. Any mandatory replacement parts required shall be indicated in the maintenance data module procedural step(s) and reference made in the preliminary requirements to the mandatory replacement parts data module in supporting information for those parts.
- f. Torque requirements, values, and sequences shall be indicated. Only critical torques shall be indicated in task steps. All noncritical torques will be covered by the Torque Limits data module and a reference to the Torque Limits data module shall be provided. Torque values shall be given for all structural attaching hardware, fluid couplings (fuel, oil, hydraulic, pneumatic, etc.), and connections. Torque values shall include torque correction factors when crowfoot extensions, thread lubricants, and cadmium-plated screws or nuts are used. Torque values identified in the tasks must reflect torque wrenches authorized to personnel targeted to perform tasks. Upon completion of torque action, instructions shall be prepared on use of an orientation mark (striping).
- g. Such terms as "reverse the disassembly procedures" or "installation is the reverse of removal" shall not be used in any maintenance task.

- h. (Depot and aviation maintenance only)** Maintenance procedures or steps that have a major QA effect shall be preceded by a statement (such as "QA check") to identify them.
- i. (DMWRs/NMWRs only)** For items that have parts with specific characteristics, wear limits, specified performance requirements, or fatigue characteristics or tolerances, OIPs shall be included in any applicable maintenance task.

5.90.1.10.4 Inspect.

Instructions detailing all required inspections to determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound or feel) shall be prepared. Special inspection requirements cited below shall be included as necessary.

5.90.1.10.4.1 Test and inspection.

Data Module Type: Procedural Information Code: 300B

Instructions shall be prepared for testing and inspection during or after assembly to ensure proper assembly of the item.

Correct methods of testing, instructions for making tolerance checks, and instructions for inspection of distance measurements (e.g., clearance, end play, backlash) shall be prepared. Measurement criteria and tolerances shall reflect the Test Measurement and Diagnostic Equipment (TMDE) available to the user.

5.90.1.10.4.2 Inspection of conventional and chemical ammunition or components containing radioactive materials (Maintainer, below depot sustainment, or ASB only).

Data Module Type: Procedural Information Code: 310A

The following information shall be prepared for conventional and chemical munitions or components that contain radioactive material:

- a.** A statement shall be included that inspection criteria are provided to ensure that performed maintenance will restore items to an acceptable level. At a minimum, the types of inspection procedures shall include a pre-maintenance inspection to be conducted during unpacking, in-process inspections, and final acceptance inspection. Regulations and technical publications relating to policy responsibility and procedures applicable to ammunition stockpile reliability, ammunition surveillance, radioactive materials procedures, and quality evaluation programs shall be referenced. When approved by the acquiring activity, these procedures contained in other publications shall be included in the task.
- b.** Visual inspection criteria shall be prepared for the packing of the items in conformance with the inspection criteria noted in a above.
- c.** Detailed instructions and criteria shall be prepared for function testing. When test fixtures must be fabricated, diagrams and instructions for the fabrication shall be prepared. Where ammunition is required for function testing weapons, it shall be identified by Department of Defense Ammunition Code (DoDAC), NSN, and nomenclature. This shall also include dummy rounds.

5.90.1.10.4.2.1 Specific instructions for inspection of radioactive ammunition, chemical ammunition, or components.

- a.** Regulation and technical publications relating to policy responsibility and procedures applicable to radioactive materials procedures shall be referenced.

- b. Instructions shall be prepared for inspection methods or techniques used to detect defective components or end items being processed. Classification of Materiel Defects tables shall be prepared for ammunition components and packaging material. A classification of defects (e.g. minor, major, or critical) for both functioning and non-functioning categories shall be included. The tabulated data shall include the following entries:
 - (1) A list of categories of defect (critical, major, minor) by the defects attributable to each component.
 - (2) The corrective action to be taken or a reference to the corrective action.
 - (3) The inspection methods used to determine if corrective action was accomplished.
 - (4) The acceptable quality level established for each defect.
- c. Instructions shall be prepared to establish a uniform system of examination for deterioration or damage. Definitions shall be prepared to explain minor, major, and critical defects. When appropriate, lower maintenance levels/classes shall be included.
- d. Instructions for disposition of lots shall be prepared and shall be as specified by the acquiring activity. The following statements shall be included in the TM verbatim (italicized text in parenthesis shall be replaced with the appropriate information):
 - (1) "Each lot of material shall be inspected and screened 100 percent if one critical non-functioning defect is observed. If a critical functioning defect occurs, save the remaining pieces and components; suspend the lot from local issue and use. Submit malfunction reports as prescribed in AR 75-1. Disposition instructions will be furnished by the U.S. Army Materiel Command.
 - (2) A lot of materiel is acceptable for issue if the acceptable criteria as indicated in (*insert applicable table number*) are met.
 - (3) Report all lots of materiel rejected under applicable serviceability table for disposition instructions to: Commander, U.S. Army TACOM Life Cycle Management Command, Chemical/Biological Defense, ATTN: AMSTA-LCW-C, 6501 E. 11 Mile Road, Warren, MI 48397-5000. Include a statement describing the capability and workload situation of your organization as to whether you are capable of reworking/demilitarizing the item."

5.90.1.10.4.2.2 Specific instructions for inspection of non-radioactive ammunition, chemical ammunition or components.

- a. Criteria shall be prepared for inspection methods used to detect defective components or end items that have corrective action (every corrective action will have a corresponding data module). An Acceptable, Repairable, Irreparable Criteria table shall be prepared for ammunition components and packaging material. The default method for inspection is visual. If a method other than visual is required, it will be annotated in the defects column with a superscript. The tabulated data shall include the following entries:
 - (1) A list of components that have a correction action data module associated with it.
 - (2) The condition that is acceptable.
 - (3) The condition that requires repair.
 - (4) Reference to the corrective action.
 - (5) The conditions that is irreparable.
- b. The following statement shall be included in the TM verbatim: "The Munitions History Program (MHP) or DA Pam 742-1, Ammunition Surveillance Procedures, criteria shall be used with this data module in order to properly inspect all ammunition and components."
- c. Instructions for disposition of ammunition or components shall be prepared and shall be as specified by the acquiring activity. The following statement shall be included in the TM verbatim: "Disposition of each ammunition or component, including reporting, shall be in accordance with DA Pam 742-1."

5.90.1.10.4.3 Pre-embarkation inspection of materiel in units alerted for overseas movement.

Data Module Type: Procedural Information Code: 310N

If applicable, pre-embarkation inspection instructions shall be prepared. They shall be as specified by the acquiring activity.

5.90.1.10.4.4 Inspection of installed items.

Data Module Type: Procedural Information Code: 310J

Instructions shall be prepared for inspection of components, assemblies, or parts installed on the equipment. Instructions shall indicate that inspection will be performed with the item in its normally installed position or condition. The instructions shall consider accessibility and visibility of the item being inspected. The purpose of the inspection shall be stated (e.g., to determine if the item is damaged, deteriorated, or incomplete to the extent that it should be replaced or repaired). Instructions shall be prepared for inspecting solder joints on an electronic item, welds on an armored vehicle, fluid leakage on vehicles, connectors on electronic devices, and other items to identify defects that must be corrected.

5.90.1.10.4.5 Inspection-acceptance and rejection criteria.

Data Module Type: Procedural Information Code: 310D

Inspection requirements shall be prepared to include acceptance and rejection information sufficient to determine that new, repaired, and used components, assemblies, and subassemblies conform to wear limits, fits, and tolerances established.

5.90.1.10.5 Testing.

Data Module Type: Procedural Information Code: 340C

- a. Instructions shall be prepared, as applicable, to verify serviceability by measuring the mechanical, pneumatic, hydraulic, chemical, electrical, or electronic characteristics of components, assemblies, and subassemblies and comparing those characteristics with prescribed standards. For software, instructions shall be prepared as applicable to verify usability/operability/functionality of the software.
- b. **(DMWR/NMWR only)** Information shall be prepared for final testing of the highest assembly or equipment/end item involved to ensure the parameters of RAM and durability are met. The following procedures shall be prepared:
 - (1) Inspection. Inspection procedures (refer to [5.90.1.10.4](#)) shall be prepared that are required before final testing to ensure the item is complete and ready for final testing. Instructions shall be prepared for any minor preparation tasks needed before final testing.
 - (2) Lubrication. Any final lubrication procedures (refer to [5.90.1.10.17](#)) that need to be done before final testing shall be prepared.
 - (3) Final test procedures. Test procedures, performance standards, and tolerances shall be prepared to establish that the equipment is adequately overhauled and ready for issue without qualifications. The procedures shall list all tools, TMDE, jigs, fixtures, and other support items required for the test in the preliminary requirements information. Operating instructions shall be prepared for special test equipment where

necessary. Procedures shall be prepared for minor adjustments that can be done without disassembling equipment. Complete procedures shall be prepared for burn-in or run-in tests.

- (4) **Final painting, refinishing, and marking.** Procedures shall be prepared for any final painting (refer to [5.90.1.10.14](#)), refinishing, and marking (refer to [5.90.1.10.18](#)) that could not be done during the overhaul procedures. The materials and tools required to do the job shall be identified. Depot-level maintenance shall include data plate replacement data. For data plates that require replacement, the type of material shall be indicated. Detailed preparation and attachment instructions shall be prepared. The instructions for stamping data plates shall include the initials of the facility performing the overhaul or modification, the contract number (if applicable), the date of overhaul or modification, the part number, and the total operating time since new (if applicable). The instructions shall specify the letter and figure sizes and indicate their placement (adjustment to manufacturer's data). The following statement shall be inserted:

"When sufficient space is not available on the existing data plate to add information, the plate shall be replaced and all pertinent data transferred to the new plate. Data shall not be stamped directly on any part, assembly, or item of equipment except when approved by the Government."

5.90.1.10.6 Servicing.

Data Module Type: Procedural Information Code: 200A

- a. Instructions shall be prepared for replenishment of fuel; oil; hydraulic and other fluids; oxygen, nitrogen, other gases; and tire pressure, plus any other such items and materials (except for lubricants) required for complete servicing of the equipment.
- b. Servicing instructions shall be supplemented with a diagram showing locations of regular and emergency servicing points. Items located on each side of the equipment which require servicing will be illustrated and identified as right and left side. NO STEP areas on walkways leading to any tank (in an aircraft) shall be indicated and necessary cautions included.
- c. All expendable and durable items used in the servicing instructions shall be referenced and contained in the expendable and durable items list (refer to [5.93.1.20](#)) by standard nomenclature, P/N, and CAGEC. A servicing diagram shall be referenced or included to support the procedures when required.
- d. The warnings and cautions to observe in servicing a particular tank or reservoir (e.g., grounding and prevention of fire hazards) shall be stated clearly.
- e. Instructions shall be prepared regarding access to any out-of-the-way or unusual places requiring service.

5.90.1.10.7 Adjust.

Data Module Type: Procedural Information Code: 271A

Adjustment instructions shall be prepared for the item to maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters before operating the part, system, or end item.

5.90.1.10.8 Align.

Data Module Type: Procedural Information Code: 272A

Detailed alignment instructions shall be prepared to adjust specified variable elements of an item to bring about optimum or desired performance.

5.90.1.10.9 Calibrate.

Data Module Type: Procedural Information Code: 273A

Instructions to determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. It consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared. Equipment that requires calibration after assembly or installation shall be indicated. If the calibration may be performed by the user (i.e., the equipment does not need to be sent to a certified calibration facility), a reference shall be made to the publication containing the applicable calibration procedure.

5.90.1.10.10 Remove procedure.

Data Module Type: Procedural Information Code: 520A

Instructions shall be prepared to take a component off an asset to facilitate other maintenance on a different component or on the same component (except for replace and repair.) If a component is removed only to repair or replace it, the removal procedure shall be incorporated into the "repair" or "replace" task, rather than using a separate "remove" task. A "remove" task typically requires an "install" task. The "remove" task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code.

- a. Instructions shall be prepared in the logical removal sequence. Instructions shall be prepared for checking and recording gear wear patterns, backlash, ESD protective control measures, measurements and tolerances for determining thickness of shims and purpose for shims, and separating and indexing parts for the assembly. Procedures shall identify items that must be matched or precision-mated when installed at a later time.
- b. **(DMWR/NMWR only)** Instructions shall be prepared for recording the condition of the item/assembly, marking, handling, and storing the item.
- c. **(Software only)** The "remove" task shall be used for removing software from work station/viewing hardware.

5.90.1.10.11 Install.

Data Module Type: Procedural Information Code: 720A

Instructions shall be prepared for the placing, positioning, or otherwise locating a component to make it part of a higher level end item. If a component is only installed after repair or to replace it, a separate "install" task shall not be prepared. The install procedure shall be incorporated into the "repair" or "replace" task. The "install" task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code. Illustrations shall be used to support and clarify the text.

- a. Instructions shall be referenced for painting, refinishing, and marking the item before its installation in the next higher assembly of the equipment.
- b. Inspection instructions shall be prepared for checking alignment and adjustment of the item during the installation sequence. These instructions shall include a statement that adjustment, servicing, testing, and/or an operational check is required.
- c. Instructions such as "reverse the removal procedure" shall not be used.

- d. Specific instructions shall be prepared for lockwiring, installing cotter pins, use of sealing compounds, lubricants, or CPCs and similar operations with applicable references to the expendable and durable items list.
- e. Instructions shall identify any mandatory replacement parts or items that are required during the course of the installation. Reference shall be made in the maintenance data module preliminary requirements to the Mandatory Replacement Parts List. Refer to [5.93.1.21](#).
- f. (Software only) The "install" task shall be used for installing software to work station/viewing hardware.

5.90.1.10.12 Replace.

Data Module Type: Procedural Information Code: 685C

Instructions to take off an unserviceable component and put a serviceable component in its place. "Replace" may contain references to separate "remove" and "install" tasks if the component is removed/installed for purposes other than to replace it with a new component. The "replace" task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code. "Replace" shall not be used for software to remove an old version and replace with new version. "Remove"/ "install" and/or "upgrade" shall be used for this purpose.

5.90.1.10.13 Repair.

Data Module Type: Procedural Information Code: 685A

Instructions for repair actions required to restore an item to a completely serviceable or fully mission capable status. "Repair" may contain references to separate "remove" and "install" tasks if the component is removed/installed for purposes other than to repair it. "Repair" shall not be used for replacement action. The "repair" task is authorized by the LPD/MAC and the assigned maintenance level is shown as the fourth position code of the SMR code.

5.90.1.10.14 Painting.

Data Module Type: Procedural Information Code: 257B

Instructions shall be prepared for required painting, refinishing, and marking of assembled components, assemblies, subassemblies, or end item. Reference may be made to TM 1-1500-345-23, TB 43-0118, TM 43-0139, or others as appropriate. Instructions shall also be prepared for any final painting, refinishing, and marking that could not be done during the overhaul procedures.

5.90.1.10.15 Overhaul procedure.

Data Module Type: Procedural Information Code: 664B

Instructions shall be prepared to restore an item to a completely serviceable/operational condition as required by maintenance standards in the appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to a like new condition.

5.90.1.10.16 Rebuild.

Data Module Type: Procedural Information Code: 664C

Instructions shall be prepared for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

5.90.1.10.17 Lubrication.

Data Module Type: Procedural Information Code: 240A

Pertinent mandatory lubrication instructions, CPC procedures, and general lubrication instructions not contained elsewhere shall be prepared and appear in this section. (Refer to [5.96.1.4.1.1.](#))

5.90.1.10.18 Mark.

Data Module Type: Procedural Information Code: 067D

- a. For non-ammunition, instructions shall be prepared placing identifying information on the equipment or item. This may be done after repair or when required due to normal wear.
- b. For ammunition, the following information shall be prepared as a minimum:
 - (1) Any special sequence of actions necessary to protect the ammunition, packaging, or components being marked.
 - (2) Detailed step-by-step instructions shall be provided on the proper method to mark the ammunition and/or packaging.
 - (3) The appropriate references, i.e., drawings, specifications, etc., shall be provided to ensure correct color, location, and size of markings.
- c. For DMWRs/NMWRs, a reference to the preservation, packaging, and marking general information data module shall be included.
- d. For DMWR/NMWRs, this data module shall be used if instructions for marking IUID are required.

5.90.1.10.19 Pack procedure.

Data Module Type: Procedural Information Code: 713A

- a. Instructions shall be prepared detailing how to place an item into a container for either storage or shipment after service and other maintenance operations have been completed.
- b. For ammunition, the following information shall be prepared as a minimum:
 - (1) Any special sequence of action necessary to protect the ammunition.
 - (2) If a specially designed reusable container is involved for either the end item or components that are authorized for replacement, instructions shall be prepared to report or reenter the empty container through supply channels.
 - (3) When providing packaging instructions, the following information shall be included as necessary: part number/drawing number, CAGEC, and drawing title.
- c. For DMWR/NMWRs, a reference to the preservation, packaging, and marking general information data module shall be included.

5.90.1.10.20 Unpacking.

Data Module Type: Procedural Information Code: 840B

- a. Instructions shall be prepared detailing how to remove an item from a storage or shipping container or other shipping device prior to service or other maintenance operations. If the containers are to be used again, kept for future use, turned into supply, or require a special disposition method, the necessary procedures for reassembly of the container shall be prepared. These instructions shall be supported by illustrations.
- b. For ammunition, any special sequence of action necessary to protect the ammunition.
- c. For ammunition, if a specially designed reusable container is involved for either the end item or components that are authorized for replacement, instructions shall be prepared to report or re-enter the empty container through supply channels.

5.90.1.10.21 Preservation procedure.

Data Module Type: Procedural Information Code: 810A

Instructions shall be prepared for all authorized methods to treat systems and equipment, whether installed or stored, to keep them in a satisfactory condition. For DMWR/NMWRs, a reference to the preservation, packaging, and marking general information data module shall be included.

5.90.1.10.22 Assembly and preparation for use (Procedure to prepare item for use after storage).

Data Module Type: Procedural Information Code: 870A

- a. As applicable, instructions shall be prepared for assembly or other tasks required to prepare the equipment for use after it has been unpacked such as power requirements, connections, and initial control settings needed for installation purposes.
- b. For security measures for electronic data, instructions shall be prepared for handling, loading, purging, overwriting, or unloading classified electronic data under usual conditions. Instructions shall meet current security regulations as they pertain to automation security.

5.90.1.10.23 Assemble procedure.

Data Module Type: Procedural Information Code: 710A

Step-by-step instructions shall be prepared for assembling items disassembled or removed that make up the components, assemblies, or subassemblies.

- a. Instructions shall be prepared for assembling precision-matched or mated parts marked during disassembly.
- b. Instructions shall be prepared for checking and recording gear wear patterns, backlash, shimming requirements, and the indexing of parts to ensure proper alignment during assembly. The purpose of shims shall be given (e. g., adjust backlash, prevent metallurgical reaction, etc.).
- c. Torque requirements, values, and sequences shall be indicated. Only critical torques shall be indicated in task steps. All non-critical torques will be covered by the Torque Limits data module. (Refer to [5.90.1.21.](#)) Torque values shall be given for all structural attaching hardware, fluid couplings (fuel, oil, hydraulic, pneumatic, etc.), and connections. Torque values shall include torque correction factors when crowfoot extensions, thread

lubricants, and cadmium-plated screws or nuts are used. Torque values identified in the tasks must reflect torque wrenches authorized to personnel targeted to perform tasks. Upon completion of torque action, instructions shall be prepared on use of an orientation mark (striping).

- d. Instructions such as "reverse the disassembly procedure" shall not be used.
- e. ESD standards, ESD sensitive items along with the protective and control measures to be taken, and CPC procedures shall be identified.
- f. For ammunition, direction shall be provided if the assembly procedure results in a logistics change (NSN, DoDIC, etc.) to the end item.

5.90.1.10.24 Disassemble procedure.

Data Module Type: Procedural Information Code: 530A

- a. Instructions shall be prepared to take apart components, assemblies, or subassemblies to the extent specified by the MAC and SMR coded items. Instructions shall be prepared for precision-matched or mated components, assemblies, subassemblies, or parts (other than common hardware), including ESD sensitive items, to ensure they will be marked, handled, and stored to preclude damage and to ensure assembly and installation in their matched positions.
- b. For ammunition, direction shall be provided if the disassembly procedure results in a logistics change (NSN, DoDIC, etc.) to the end item or component(s).

5.90.1.10.25 Cleaning.

Data Module Type: Procedural Information Code: (multiple)

There are seven information code variants that can be used when preparing data modules containing cleaning procedures, depending on method used:

- a. 250A Clean and apply surface protection
- b. 251A Clean with chemical agents
- c. 252A Clean by abrasive blast
- d. 253A Clean by ultrasonic
- e. 254A Clean mechanically
- f. 255A Purge
- g. 256A Polish and apply wax
- h. 258A Other procedures to clean

Step-by-step instructions on how to remove dirt, corrosion, or other contaminants from equipment shall be prepared. All cleaning instructions, methods, special equipment, and materials shall be specified. Instructions shall be prepared for corrosion prevention treatment of metal parts after cleaning.

- a. All materials used in the cleaning and corrosion prevention of equipment, components, or parts shall be referenced and contained in the expendable and durable items list.
- b. Cleaning materials used for the cleaning of systems, subsystems, and components in order to prepare them for painting, bonding, applying sealants or adhesives, and the removal thereof shall be Hazardous Air Pollutant (HAP) Free. The use of HAP containing cleaner(s) is considered a serious risk to human health and the environment due to potential impacts on installations that are required to perform the specific cleaning tasks. If a

HAP containing cleaner(s) shall be used due to performance/technical requirements, then it shall be formally approved by the risk acceptance authority for serious-level risks as identified in the System Safety program and MIL-STD-882.

- c. Instructions shall include cautions to avoid damage of components and to prevent the entrance of water or other solvents into electrical components, ducts, or similar openings.
- d. Warnings and cautions shall be prepared whenever chemicals or cleaning compounds are used or combined which may result in a dangerous or hazardous mixture. Whether the danger is to personnel or equipment shall be identified and the effect (e.g., gases, fumes, caustic, and fire) shall be stated.
- e. For aircraft, detailed instructions shall be prepared for cleaning and washing the entire aircraft. Instructions shall be prepared for the removal of the battery, the relief tube, and power plant. Removal instructions for armament exhaust deposits or other items or material as necessary shall be provided. Instructions shall also be prepared regarding components which require relubrication after the aircraft has been washed or steam cleaned.
- f. Cleaning methods or materials shall not cause corrosion, create conditions that promote corrosion, or remove/negate any in-place corrosion prevention methods. If normal cleaning (e.g. pressure washing) has the potential to remove coatings, CPCs or other corrosion prevention materials instructions (or reference to the appropriate methods) shall be provided on how to properly restore the corrosion prevention to the affected system(s).
- g. The standard cleaning practice shall include instructions for proper cleanout and draining of enclosed areas. This shall include but is not limited to cleaning drain holes; removing drain plugs; and opening covers, hatches, etc. The procedure should clearly state when to open access points; how to clean enclosed areas; how to verify that such spaces are clean and dry; and how to reinstall drain plugs, covers, hatches, etc.

5.90.1.10.26 Nondestructive Inspection (NDI).

Data Module Type: Procedural Information Code: 350B

Step-by-step instructions on preparation and accomplishment of inspections or tests that do not destroy or damage the item or equipment.

- a. The reject criteria shall be specified in all cases. This shall be done by means of a blanket statement, individual criteria for a part, or a combination of both.
- b. When several NDI methods are permitted, the relative order of preference shall be specified.
- c. Instructions shall be prepared for removing primer and/or paint for TMs that require the removal process as part of NDI procedures. If a part requires a special process, this procedure must be contained within the NDI procedure for that part.
- d. Cleaning requirements before, during, and after NDI shall be specified. If a part has a built-in bearing, then a procedure shall be prepared to ensure protection of the bearing for the NDI procedure.
- e. The following requirements apply to **aircraft NDI TMs only**.
 - (1) Instructions for use of visible dye penetrants shall not be included as part of NDI instructions unless specified otherwise by the proponent activity. When required, refer to TM 1-1500-335-23 for preparation of those instructions.
 - (2) When specified by the acquiring activity, TM 1-1500-335-23 shall be the only NDI document referenced in the NDI procedures. The technical provisions of this TM shall be followed. Individual NDI procedures shall be specified for each part requiring NDI. In order to satisfy this requirement, the following shall be prepared:
 - (a) If penetrant is required, the applicable process in TM 1-1500-335-23 shall be identified.
 - (b) If magnetic particle inspection is required, the specific TM 1-1500-335-23 method, the type of magnetization, and amount of current or ampere turns shall be provided.

5.90.1.10.27 Radio interference suppression.

Data Module Type: Procedural Information Code: 143A

- a. Instructions shall be prepared for primary components in the suppression system and replacement of these primary components.
- b. Secondary components shall be referenced to pertinent maintenance procedures that contain the removal and installation instructions.
- c. Instructions shall be prepared for testing radio interference suppression components.

5.90.1.10.28 Placing in service.

Data Module Type: Procedural Information Code: 870P

Instructions shall be prepared for actions not previously provided in a service upon receipt data module (refer to [5.90.1.3](#)) that may be required for an assembly, component, or end item. Instructions shall be prepared such as removal of an item from storage and preparation for installation on an end item. Final servicing checks, calibration, leak checks, charging, pressurizing, and operational checks shall be prepared.

5.90.1.10.29 Ground handling.

Descriptions, instructions, and necessary cautions and warnings for ground handling of the aircraft/equipment, including any information needed in extreme cold, heat, humidity, dust, or other unusual or extreme conditions shall be prepared. Instructions for folding and unfolding appropriate parts such as rotor blades or wings, rudders, and fans shall also be included. For aircraft, instructions shall be prepared that are required for blocking and supporting the aircraft during performance of the operation or procedure involved. The following ground handling procedures shall be provided.

5.90.1.10.29.1 Towing.

Data Module Type: Procedural Information Code: 174A

Instructions shall be prepared to connect one vehicle to another for the purpose of having one vehicle moved through the motive power of the other vehicle.

5.90.1.10.29.2 Jacking.

Data Module Type: Procedural Information Code: 172A

Instructions shall be prepared for placement of jack stands or supporting devices and for raising or lifting a vehicle to facilitate maintenance.

5.90.1.10.29.3 Parking.

Data Module Type: Procedural Information Code: 170J

Instructions shall be prepared to safely place a vehicle in a lot, ramp area, or other designated location.

5.90.1.10.29.4 Mooring.

Data Module Type: Procedural Information Code: 17AA

Instructions shall be prepared to secure a vehicle by chains, ropes, or other means to protect the vehicle from environmental conditions or secure for transportation.

5.90.1.10.29.5 Covering.

Data Module Type: Procedural Information Code: 170B

Instructions shall be prepared to place a protective wrapping over a vehicle to protect it from environmental conditions or to hide (e.g., camouflage) it.

5.90.1.10.29.6 Hoisting.

Data Module Type: Procedural Information Code: 171B

Instructions shall be prepared to allow a vehicle equipment or ammunition to be raised by cables or ropes through attaching points.

5.90.1.10.29.7 Sling loading.

Data Module Type: Procedural Information Code: 178B

Instructions shall be prepared to place a sling around a vehicle, equipment, or ammunition to allow it to be raised.

5.90.1.10.29.8 External power.

Data Module Type: Procedural Information Code: 170C

Instructions shall be prepared on how to apply electrical power from any authorized power source (e.g., external generator or facility power).

5.90.1.10.30 Preparation for storage.

Data Module Type: Procedural Information Code: 810C

This task shall be prepared and as applicable, shall include the following for both short-term and long-term storage:

- a. Instructions for security procedures and special storage requirements for sensitive items (security, terrorism, etc.) related to storing the equipment.
- b. Instructions for special preservation, packaging, packing, marking, ESD protective and control measures required for storage. These shall include the use of specially designed reusable containers.
- c. Instructions on special use of corrosion-preventive compounds, moisture barriers, and desiccant materials required for storage.

- d. Instructions for applying special identifying and cautionary markings to storage containers. These shall include security classification, special temperature requirements, and shelf life.
- e. Instructions will be provided by the proponent activity for placing equipment in and for removing it from administrative storage.
- f. **(Ammunition only)** Instructions for basic load storage, quantity-distance class, storage compatibility groupings, storage temperatures, stacking limits, and other pertinent storage requirements per DA Pam 385-64.
- g. Instructions for aviation ground support equipment requirements to include a reference to TM 1-1500-204-23 for general technical information for preparation for storage.
- h. For wheeled and tracked vehicles, refer to MIL-STD-3003 for further guidance related to storage.

Reference shall not be made to any Surface Deployment and Distribution Command (formerly Military Transportation Management Command) Transportation Engineering Agency (SDDC/TEA) (formerly MTMC/TEA) publications. If there are no requirements related to the preparation for storage, a statement shall be inserted in the general data module. (Refer to [5.89.1.5.](#))

5.90.1.10.31 Preparation for shipment.

Data Module Type: Procedural Information Code: 811C, 830C

This task shall be prepared and as applicable, shall include the following:

- a. Instructions for security procedures and special transportation requirements for sensitive items (security, terrorism, etc.) related to shipping the equipment.
- b. Instructions for special preservation, packaging, packing, marking, ESD protective and control measures required for shipping. These shall include the use of specially designed reusable containers.
- c. Instructions on special use of corrosion-preventive compounds, moisture barriers, and desiccant materials required for shipping.
- d. Instructions for applying special identifying, shipping, and cautionary markings to shipping containers. These shall include security classification, special temperature requirements, and shelf life.
- e. Instructions should cover any component removal, fluid removal, etc. required to ship/transport the item.
- f. **(Ammunition only)** Instructions for basic load shipping, quantity-distance class, shipping compatibility groupings, storage temperatures, stacking limits, and other pertinent shipping requirements per DA Pam 385-64.
- g. Instructions for aviation ground support equipment requirements to include a reference to TM 1-1500-204-23 for general technical information for preparation for shipment.
- h. For wheeled and tracked vehicles, refer to MIL-STD-3003 for further guidance related to shipments. (Refer to [5.89.1.4.5.](#))

If there are no requirements related to the preparation for shipment, a statement shall be inserted in the general data module (refer to [5.89.1.4.6.](#)).

5.90.1.10.32 Transport.

Data Module Type: Procedural Information Code: 831

This task shall be prepared and as applicable, shall include the following:

- a. Requirements for dimensions, weights, and types of transport that can/cannot be used.

- b. Instructions for transporting the equipment via air, sea, land, and rail. For vehicles, this includes instructions for self-transport (i.e., it can be driven, flown, or sailed to its destination). Instructions should cover any chocking, bracing, tiedown, etc. required to ship/transport the item.
- c. Instructions for loading and unloading the equipment.
- d. Instructions for procedure on the proper handling, blocking, and bracing of basic load ammunition when being transported in trucks and other tactical vehicles.
- e. **(Ammunition only)** Instructions for basic load shipping, quantity-distance class, shipping compatibility groupings, storage temperatures, stacking limits, and other pertinent shipping requirements per DA Pam 385-64.

Reference shall not be made to any Surface Deployment and Distribution Command (formerly Military Transportation Management Command) Transportation Engineering Agency (SDDC/TEA) (formerly MTMC/TEA) publications. If there are no requirements related to transport of the equipment, a statement shall be inserted in the general work package (refer to [5.89.1.4.6](#)).

5.90.1.10.33 Arm.

Data Module Type: Procedural Information Code: 120G

Instructions shall be prepared for arming/activation of ammunition (e.g., ammunition, mines, etc.) prior to use.

5.90.1.10.34 Load.

Data Module Type: Procedural Information Code: 831A (vehicle)
725A (ammo)

Instructions for placing assets onto a transportation medium (e.g., vehicle, aircraft, pallet, container) or ammunition into a weapon/weapon system shall be prepared as required to support the specific equipment.

- a. For transportation, the act of placing assets onto a transportation medium (e.g., vehicle, aircraft, pallet, container).
- b. For ammunition, the act of placing ammunition into a weapon/weapon system.

5.90.1.10.35 Unload.

Data Module Type: Procedural Information Code: 841A (vehicle)
525A (ammo)

Instructions for removing assets from a transportation medium (e.g., vehicle, aircraft, pallet, container) or ammunition from a weapon/weapon system shall be prepared as required to support the specific equipment.

- a. For transportation, the act of removing assets from a transportation medium (e.g., vehicle, aircraft pallet, container).
- b. For ammunition, the act of removing ammunition from a weapon/weapon system.

5.90.1.10.36 Install peripheral device.

Data Module Type: Procedural Information Code: C96

Instructions shall be prepared for installing peripheral devices such as printers, scanner, modems, etc.

5.90.1.10.37 Uninstall peripheral device.

Data Module Type: Procedural Information Code: C96

Instructions shall be prepared for uninstalling peripheral devices such as printers, scanner, modems, etc.

5.90.1.10.38 Upgrade/patch.

Data Module Type: Procedural Information Code: C96

Instructions for performing software upgrades and/or installing software patches shall be prepared.

5.90.1.10.39 Configure.

Data Module Type: Procedural Information Code: C96

Instructions for configuring the software for different uses/purposes and/or different users shall be prepared. This includes creating accounts in the software.

5.90.1.10.40 Debug.

Data Module Type: Procedural Information Code: C96

Instructions for locating software bugs and removing those bugs/correcting errors shall be prepared.

5.90.1.10.41 Additional maintenance task.

Additional maintenance task may be developed when the specific type of maintenance tasks are not covered as described in [5.90.1.10.4](#) through [5.90.1.10.40](#). If additional maintenance tasks are used, the proponent shall submit to LDAC the requirements for this maintenance task type for possible incorporation within future revisions to this standard.

5.90.1.11 Requirements after job completion (aka Follow-on maintenance).**5.90.1.11.1 General.**

As applicable, instructions shall be prepared for requirements after job completion and it shall be the last task in the data module. Requirements after job completion is a maintenance condition which shall be accomplished sometime following the completion of a task to clean up or undo actions performed during the task. Requirements after job completion may be in a separate referenced procedural data module with an information code appropriate to the task performed. For example, in order to fix a component a task might require that an access panel be removed. The panel would then need to be replaced as a requirements after job completion action. This task might be performed sometime after the repair task is completed, but not immediately after the repair task. Other maintenance tasks might be performed in the same area before the requirements after job completion task is accomplished.

5.90.1.12 General maintenance.**5.90.1.12.1 General.**

This content shall be prepared as directed by the acquiring activity. It shall contain common, general, or standard maintenance procedures (e.g., painting, cleaning, marking) applicable to other maintenance data modules contained within the TM that require this general maintenance procedure to complete the task. Maintenance tasks listed in [5.90.1.10.2](#) shall not be included. This content may be referenced in other maintenance data modules.

5.90.1.13 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

5.90.1.13.1 General.

Lubrication schedules shall be prepared to present all applications and procedures, lubricants, and lubrication points to completely lubricate equipment.

5.90.1.13.2 Lubrication charts.

- a. Lubrication charts shall consist of a main drawing prepared as a three-dimensional (3D) diagram. They shall consist of enlarged or detailed views as are considered necessary to identify items that otherwise would be obscured. They shall show all lubrication requirements for all parts of the equipment requiring periodic lubrication other than those lubricated by the main engine oil system. The charts shall also indicate type of lubricant, method of application, and frequency.
- b. Use of black silhouette figures representing a likeness of the tool used in the application (oil can, grease gun, brush, or hand) shall be the accepted means of presenting application methods on the lubrication chart.
- c. Abbreviations, as specified in MIL-HDBK-275 (aviation) or MIL-HDBK-113 (non-aviation), shall be used to present lubricant types. In the event a lubricant does not have an abbreviation listed in MIL-HDBK-275 or MIL-HDBK-113, the abbreviation shall be provided by the acquiring activity. Assigned application symbols, type abbreviations, and frequency shall be placed within the standard lubrication symbols.
- d. Each application symbol and lubricant abbreviation used shall be defined. Notes may be used to specify any other than normal requirements.

5.90.1.14 Preservation, packaging, and marking data module (DMWR/NMWR only).

Data Module Type: Procedural Information Code: 810H

The following instructions shall be prepared and included in the preservation, packaging, and marking data module.

5.90.1.14.1 Preservation, packaging, and marking general information.

Preservation, packaging, and marking general information shall include the below preservation, packaging, and marking general information verbatim. Individual maintenance data modules shall be prepared for "pack" (refer to [5.90.1.10.19](#)), "mark" (refer to [5.90.1.10.18](#)), and "preserve" (refer to [5.90.1.10.21](#)) tasks. This data module shall refer to the individual data modules containing the procedures for packing, marking, and preserving. This data module shall not contain any tasks/procedures.

"PACKAGING

Military preservation, Level A packing, and marking shall be accomplished in accordance with the specific packaging instructions contained in (*insert data module reference*).

MARKING FOR SHIPMENT AND STORAGE

Storage: In addition to any special markings called out on the special packaging instruction (SPI) or in the packaging requirements code, all unit packages, intermediate packs, exterior shipping containers, and, as applicable, unitized loads shall be marked in accordance with MIL-STD-129 including bar coding. The repair facility is responsible for application of special markings as required by MIL-STD-129 regardless of whether specified in the contract/order or not. Special markings include, but are not limited to, shelf-life markings, structural markings, and transportation special handling markings. The marking of pilferable and sensitive materiel will not identify the nature of the materiel.

Shipment: The repair facility shall apply identification and address markings with bar codes in accordance with MIL-STD-129. A Military Shipment Label (MSL) is required for all shipments except contractor to contractor. The MSL will include both linear and 2D bar codes per the standard. Military Shipping Label: Military Shipment Labels may be created using the Computer Automated Transportation Tool Military Shipment Label/Issue Receipt Release Document (CATT MSL/IRRD).

HEAT TREATMENT AND MARKING OF WOOD PACKAGING MATERIALS

Wood Packaging Materials (WPM) (e.g., boxes, crates, skids, pallets, and any wood used as inner packaging made of non-manufactured wood) shall be constructed of lumber that has been heat-treated in accordance with the requirements of International Standard for Phytosanitary Measures (ISPM) -15. The WPM manufacturer shall be affiliated with an inspection agency accredited by the board of review of the American Lumber Standard Committee. The WPM manufacturer shall ensure traceability to the original source of heat treatment. Each piece of WPM shall be marked to show the conformance to the International Plant Protection Convention Standard. Certification markings shall be indelible and permanent. They may be stamped, stenciled, or branded directly onto or into the WPM. Certification marks shall be applied in a visible location on at least two opposite sides of the wood packaging product but are not required on each individual component piece of a wood packaging product. On dunnage, the marking shall be applied every 2 feet to opposite surfaces of each piece. If possible, the mark shall be visible when the dunnage is placed in the load to enable inspectors to verify the WPM's compliance without unloading or unstuffing the container. Foreign manufacturers shall have the heat treatment of WPM verified in accordance with their National Plant Protection Organization's compliance program.

ALTERNATIVES

The packaging requirements have been validated and the method of preservation/packing has proven successful in meeting the needs of the military distribution system, including undefined storage and shipment throughout the world. Tailoring of the packaging instructions may only be authorized by the packaging requirements developer. If tailored, prototype package is required to validate the sizes and fit requirements. Minor dimensional and size changes are acceptable provided email notification is provided to the packaging requirements developer. Any design changes or changes in the method of preservation that provide a cost savings without degrading the method of preservation or packing or affecting the serviceability of the item will be considered and responded to within 10 days of submission. The equipment proponent reserves the right to require testing to validate alternate preservation methods, materials, alternates, blocking, bracing, cushioning, and packing.

REUSE OF PACKAGING MATERIALS

The cushioning material and the fiberboard boxes may be reused provided:

- a. There is no visible damage to material.
- b. The foam cushioning has not taken a permanent set.
- c. The fiberboard has no punctures, delaminating or crushed flutes.

The water vapor proof barrier bag shall never be reused. Always use new barrier material, evacuate air from the barrier bag, and conduct a snap test after 2 hours on each bag to ensure seal is holding. All components of the wood box/crate must be present, properly secured in position, and not broken. Splits are acceptable provided the boards remain secured and not loose. When reapplying the lid, fasteners shall be placed 1/2 inch away from the previous fastener hole. Strapping shall be applied per MIL-HDBK-147.

CONTAINER REPAIR

Each long life metal reusable container will be inspected and reconditioned in accordance with TB 9-289, TM 1-8145-695-24&P, or SB 725-92-1 and the applicable container drawing package. Container drawings are available upon request from the packaging requirements developer. This reconditioning effort includes mandatory replacement of breather valves, humidity indicators, data plates, sealing gaskets, and desiccant, plus all shear mounts with an age factor of 5 years or older. It also includes a leak test after reconditioning, inspection and replacement of unserviceable wood skids, and touch up or total stripping and refinishing of the container surfaces with CARC paint."

5.90.1.15 Facilities.

Data Module Type: Descriptive Information Code: 915A

5.90.1.15.1 General.

The facilities data module shall be prepared as directed by acquiring activity. A description of all facilities (e.g., test stands, test tracks, clean rooms, shielded rooms, or other facilities) that are required to do the maintenance work shall be included. Reference shall be provided for any specifications or standards that these facilities must meet. When approved by the acquiring activity, data from these standards may be included in this data module.

5.90.1.16 Overhaul and retirement schedule (aircraft only).

Data Module Type: Descriptive Information Code: 288A

- a. This data module shall include the following statement and associated table and may include an introduction.

"OVERHAUL AND RETIREMENT SCHEDULE

Units of operating equipment that are to be overhauled or retired at the period specified are listed here. Unless otherwise specified in TM 1-1500-328-23, Aeronautical Equipment Maintenance Management Policies and Procedures, removal of equipment for overhaul may be accomplished at the inspection nearest the time when overhaul is due."

- b. The overhaul and retirement schedule shall be prepared as a table and shall consist of the following entries:

- (1) Part name. The name of the part shall be listed. An asterisk (*) shall precede the part name if the part is an indented subassembly.
- (2) Part number. The official part number of the part listed.
- (3) Overhaul interval hours. The maximum operating time allowed on the part before it is to be overhauled.
- (4) Overhaul interval notes. Any additional information required on the part's overhaul interval.
- (5) Retirement interval hours. Maximum operating time allowed on the part before it is removed and condemned.
- (6) Retirement interval notes. Any additional information required on the part's retirement interval.

5.90.1.17 Overhaul Inspection Procedures (OIP).

Data Module Type: Procedural Information Code: 310C

5.90.1.17.1 General.

Unless otherwise specified by the acquiring activity, OIPs shall be prepared for items that have parts with specific characteristics, wear limits, specified performance requirements, or fatigue characteristics or tolerances. A separate data module shall be provided for each item containing such parts. Within each data module, a separate OIP table or list shall be provided for each part of the item that requires a critical inspection. The OIP shall consist of the characteristics being inspected for, inspection methods, and the acceptance/reject criteria that must be met. Unless otherwise specified by the acquiring activity, an illustration shall accompany the OIP. Illustrations for OIPs are strongly encouraged and shall only be omitted for very simple systems/parts. A reference letter may be included on the illustration to aid in locating the critical inspection characteristics of the parts.

5.90.1.18 Depot mobilization requirements.

Data Module Type: Descriptive Information Code: 800K

5.90.1.18.1 General.

This data module shall be prepared and shall include the modifications, deletions, or additions to the preshop analysis or overhaul procedures required during mobilization shall be included in this data module. The data described below shall be included.

5.90.1.18.2 Introduction for depot mobilization requirements.

The following text shall be included verbatim.

"DEPOT MOBILIZATION REQUIREMENTS INTRODUCTION

Scope

The purpose of this is to streamline and accelerate the overhaul process during the mobilization of the depot.

Explanation of Mobilization Requirements

The mobilization requirements include a list of instructions for modifying preshop analysis and/or overhaul procedures. The pertinent procedures to be modified are referred to followed by the action to be taken."

5.90.1.18.3 Mobilization requirements.

Mobilization requirements consist of a list of actions that shall be in effect during depot mobilization. The data modules that are modified by these actions shall be noted. This data can be provided in a table. Alternatively, if the actions are already listed in another data module, a statement shall be made that includes references to those actions.

5.90.1.19 Quality Assurance (QA) requirements (DMWR/NMWR only).

Data Module Type: Descriptive Information Code: 315A

5.90.1.19.1 Statement of responsibility.

The following information shall be included in the QA Requirements data module.

"STATEMENT OF RESPONSIBILITY

The depot/contractor is responsible for complying with the quality assurance requirements contained here in accordance with ISO 9000 Series standards or equivalent. The commodity manager reserves the right to perform inspections or make changes that ensure the depot work being done meets the quality standards of the DMWR and preserves the inherent reliability of the item."

5.90.1.19.2 Definitions.

Definitions shall be prepared for all QA terms extensively used in the DMWR and NMWR. Alternatively, if the definitions are listed in another location, that publication or data module shall be referenced.

5.90.1.19.3 Special requirements for inspection tools and equipment.

Any special requirements for the maintenance and calibration of tools and test equipment used for QA inspections shall be listed.

5.90.1.19.4 Certification requirements.

Any certification or licensing requirements for processes, procedures, materials, equipment, or personnel skills shall be listed. The list shall include appropriate standards, specifications, regulations, or laws that apply. The list shall reference the text in the DMWR/NMWR where there is a requirement for a soldering, welding, or magnetic particle inspection certification, radioactive substance, or test driver licenses.

5.90.1.19.5 Quality program.

Any requirements for a quality program shall be listed.

5.90.1.19.6 In-process inspections.

The following statement shall be included.

"IN-PROCESS INSPECTIONS

In-process Quality Assurance (QA) inspections are contained throughout the overhaul procedures of this DMWR. These inspections are immediately preceded by a statement such as "QA check" to identify them. They are the minimum inspections required. Additional QA inspections may be established by the depot or the commodity manager."

5.90.1.19.7 Acceptance inspections.

The following statement shall be included.

"ACCEPTANCE INSPECTIONS

Items overhauled in accordance with this DMWR will be accepted based on the following criteria:

- a. Conformance to quality of material requirements.
- b. Conformance to all in-process quality assurance inspections.
- c. Conformance to all final assembly testing requirements.
- d. Conformance to the preservation, packaging, and marking requirements."

5.90.1.19.8 First article inspection.

When applicable, reference to first article inspection/test prepared for the DMWR/NMWR in accordance with ISO 9000 Series standards or equivalent shall be included.

5.90.1.20 Illustrated list of manufactured items (Field level or above only).

Data Module Type: Descriptive Information Code: 670E

5.90.1.20.1 General.

The illustrated list of manufactured items information shall be prepared as directed by acquiring activity and identify and shall contain introduction and manufacturing procedures information which identifies and includes technical information for each item authorized to be manufactured or fabricated by field or sustainment personnel. When applicable, links may be made to fabrication instructions for tools and equipment.

5.90.1.20.2 Introduction for illustration list of manufactured items data module.

The following introduction shall be prepared and included verbatim (italicized text within parentheses shall be replaced with the appropriate information):

"ILLUSTRATED LIST OF MANUFACTURED ITEMS**INTRODUCTION****Scope**

This includes complete instructions for making items authorized to be manufactured or fabricated at the (*insert applicable maintenance level*).

How to Use the Index of Manufactured Items

A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the information which covers fabrication criteria.

Explanation of the Illustrations of Manufactured Items

All instructions needed by maintenance personnel to manufacture the item shall be provided and shall include illustrations as required. (When applicable, a reference to the associated parts information TM or parts information data module shall be entered here.) All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration."

5.90.1.20.3 Index of manufactured items.

An index of P/Ns or drawing numbers shall be prepared. This index shall list P/Ns and/or drawing numbers, in alphanumeric order, along with the name of the part for all items illustrated in this data module. The data module number to the manufactured items data module containing the manufacturing instructions shall be included.

5.90.1.20.4 Instructions for manufactured items.

The following shall be prepared:

- a. Illustrations that contain sufficient views to portray all features of the item (as required).
- b. All instructions (explanatory text and list of bulk materials) needed by maintenance personnel to manufacture the item shall supplement the illustrations and shall contain the following data.
 - (1) All dimensional, location, and processing instructions needed to manufacture the item shall be included (e.g., 30-in. long, top surface, primer coating).
 - (2) A description of the item to be manufactured, including the P/N and name.
 - (3) A list of bulk materials needed to manufacture the item shall be prepared. The list of bulk materials shall consist of the P/N, CAGE number and NSN, or specification number of the raw bulk material to be used in manufacture of the item and shall cite the technical characteristics (i.e., standards, specifications, conditions, dimensions, and any other pertinent data).
 - (4) When applicable, a link shall be made to the associated parts information.

5.90.1.21 Torque limits (Maintainer/AMC and above).

Data Module Type: Procedural Information Code: 711B

5.90.1.21.1 General.

This data module shall be prepared as directed by acquiring activity using information prepared to provide applicable torque values (expressed in foot or inch pound terms and/or metric terms), data as to bolt grade markings and their proper identification such as SAE markings, and specific torque sequencing requirements.

5.90.1.21.2 Introduction.

Information shall be prepared to include the scope or how to use the torque limits data module.

5.90.1.21.3 Torque instructions.

Specific instructions such as torque limits for dry and wet fasteners, fastener sizes and thread patterns, etc., shall be prepared.

5.90.1.22 Ammunition identification.

Data Module Type: Procedural Information Code: 067C

5.90.1.22.1 General.

This information shall be prepared as directed by the acquiring activity. It shall provide applicable information on care and handling and identification of ammunition, components, and non-ammunition Class V items such as packaging. Individual paragraphs shall be prepared for each ammunition type/group/classification.

5.90.1.22.2 Care and handling.

Concise step-by-step instructions required for the care and handling of ammunition shall be prepared. These shall include hazard distances, storage, special requirements, prevention of deterioration due to rough handling, exposure to adverse weather conditions, or any other hazards that may be encountered.

5.90.1.23 Ammunition maintenance.

Data Module Type: Procedural Information Code: 200K

5.90.1.23.1 General.

This data module shall be prepared as directed by the acquiring activity and shall reference or contain (in separate data modules) any maintenance tasks identified in [5.90.1.10.2](#), among others, including but not limited to "inspect," "unpack," "preparation for firing" (including tasks such as "clean," "set fuze," "adjust charges," "remove safety clips," etc.), "loading," "firing" (including unfired ammunition), and "pack."

5.90.1.24 Foreign ammunition.

Data Module Type: Procedural Information Code: 011B

5.90.1.24.1 General.

A data module to describe foreign ammunition shall be prepared when applicable.

5.90.1.25 Maintenance or Demilitarization of Ammunition Procedures.

5.90.1.25.1 General.

Maintenance or demilitarization instructions shall cover all items comprising the ammunition information sets shall be prepared using the data module types and information codes specified in the corresponding content selection matrix in [A.5](#).

Some requirements may not be applicable to the preparation of all DMWRs. Selective application and tailoring of requirements contained in this standard are the responsibility of the acquiring activity and shall be accomplished using [A.5](#). The applicability of some requirements is also designated by one of the following statements: unless specified otherwise by the acquiring activity; as specified by the acquiring activity; or when specified by the acquiring activity.

5.90.1.25.2 Development of maintenance or demilitarization instructions.

Tasks shall be presented in the order in which they are performed. Procedures shall refer to specific maintenance tasks or demilitarization tasks to complete the tasks.

5.90.1.25.3 Preparation of maintenance or demilitarization DMWRs.

The DMWR shall contain the followings outlined below, as applicable, in addition to the front matter ([5.111](#)) and rear matter ([5.111.1.3](#)).

- a. General Information.
- b. DMWR Introduction.
- c. Maintenance Requirements.
- d. Quality Acceptance Requirements.
- e. Supporting Information:
 - (1) References.
 - (2) Expendable and Durable Items List.
 - (3) Tool Identification List.
 - (4) Ammunition Peculiar Equipment (APE).
 - (5) Special Equipment, Locally Available Materials, and Special Facilities.
 - (6) Approved Intraplant Transfer Equipment.
 - (7) Chemically Treated Packing Materials.
 - (8) Environmental Requirements.
 - (9) Hazard Analysis.
 - (10) Hazardous Component Safety Data Statement (HCSDS).
 - (11) Other Supporting Information.

5.90.1.25.4 General information and DMWR introduction.

Data Module Type: Descriptive Information Code: 018A

A general information data module shall be prepared in accordance with [5.89.1.5](#). At a minimum, scope ([5.89.1.4.2](#)), maintenance forms, records, and reports ([5.89.1.5.2](#)), and list of abbreviations/acronyms ([5.89.1.4.8](#)) shall be included.

5.90.1.25.4.1 Work planning.

Accumulation of excess ammunition items, removal of line rejects or explosive waste/hazardous waste, and removal of items containing precious metals shall be addressed.

5.90.1.25.4.2 Disposition guidance.

Disposition guidelines for serviceable and unserviceable components and materials shall be included as a part of each procedure and shall address removal of hazardous materials or components and inspection of salvaged materials prior to transfer to Locally Approved Disposition Services (LADS). Reference may be made to publications for information on packing, marking, and shipping generated assemblies, components, and materials.

5.90.1.25.4.3 Equipment.

The equipment information provided shall contain, but not be limited to, the following paragraph:

"Equipment cited herein for the various procedures has been approved for the procedures specified. Activities intending to use other equipment for these procedures must obtain approval from the proponent agency of this DMWR by filing a deviation, waiver, or exception in accordance with AR 700-20.

Transfer and materials handling equipment must conform to requirements set forth in AR 385-10. The Approved Intraplant Transfer Equipment Work Package lists preferred approved Ammunition Peculiar Equipment (APE) for moving and handling ammunition and components.

Use of APE or nonstandard APE is governed by AR 700-20. All modifications to existing APE and locally fabricated nonstandard APE must have prior approval in accordance with AR 700-20. Locally designed and fabricated equipment, other than APE or nonstandard APE, must be approved in accordance with AR 700-20."

5.90.1.25.4.4 Safety requirements.

The safety requirements information provided shall contain, but not be limited to, the following paragraph:

"Guidance for safety requirements as prescribed by current safety directives and regulations shall be addressed."

5.90.1.25.4.5 Protection against general hazards.

Guidance for general hazards shall be addressed for the ammunition and materials requiring protection against the general hazards. Additionally, requirements for handling of ammunition, requirements for wearing of suitable protective clothing, and precautions when handling chemically treated packing materials and pallets shall be included. Reference shall be made to Chemically Treated Packing Materials data module for additional data on personal hygiene requirements, working with chemically treated wood, and the disposition of contaminated clothing.

5.90.1.25.4.6 Protection against specific hazards.

Specific hazards shall be listed in each applicable procedure for the ammunition and materials requiring protection against the specific hazards.

5.90.1.25.4.7 Hazard analysis.

As a minimum, the hazard analysis information provided shall contain the following statement and shall reference the Hazard Analysis data module.

"A hazard analysis identifies potential hazards associated with these procedures. It provides countermeasures to mitigate these hazards and assesses the probability and effect of occurrence."

5.90.1.25.4.8 Environmental regulation compliance.

Environmental regulations implemented by Federal, State, and local governments, shall be addressed.

5.90.1.25.4.9 Resource conservation and recovery regulations.

Pertinent resource conservation and recovery regulations, as contained in the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq., shall be addressed.

5.90.1.25.4.10 Resource recovery.

Resource recovery shall contain a paragraph similar to the following:

"All items of salvageable value will be salvaged as scrap or reusable material. All propellant, explosives, and hazardous materials that can be successfully recovered and reused must be recovered; otherwise, the materials must be disposed of by an environmentally safe and State approved method."

5.90.1.25.4.11 Reporting requirements.

Guidance for reporting work accomplishments shall be addressed.

5.90.1.25.4.12 Tabulated data.

Reference shall be made to the applicable Army Ammunition Data Sheets TM.

5.90.1.25.4.13 Flowchart.

A flowchart for the overview of all operations may be included but is not mandatory.

5.90.1.25.5 Maintenance requirements.

Data Module Type: Descriptive Information Code: 130A

Specific procedural steps, which are to include warnings, cautions, and notes, shall be prepared. Preliminary requirements shall include safety, equipment, material, and facilities. A flowchart of each specific procedure may be included but is not mandatory.

5.90.1.25.6 Quality acceptance requirements.

Data Module Type: Descriptive Information Code: 315A

With the exception of demilitarization DMWRs, the quality acceptance requirements data module shall contain QA requirements for maintenance of ammunition only. Demilitarization of ammunition shall not contain QA requirements.

- a. **Ammunition maintenance.** The quality acceptance requirements for ammunition subject to maintenance shall address inspection methods and procedures, workmanship, lot formation, ammunition data card requirements, testing (e.g., ballistic, pre-renovation), and/or product defect criteria, including defect classification. Incorporation of appropriate Statistical Process Control (SPC) statements for performing activities will be included as required.

5.90.1.25.7 Supporting information.

Supporting information shall be added to a DMWR as applicable, in the order in which they are presented herein.

5.90.1.25.7.1 References.

This content shall be prepared in accordance with [5.103.1.1.2](#).

5.90.1.25.7.2 Consumable materials.

This content shall be prepared in accordance with [5.93.1.20](#).

5.90.1.25.7.3 Tool identification list.

This content shall be prepared in accordance with [5.100.1.1](#).

5.90.1.25.7.4 Ammunition Peculiar Equipment (APE).

This content shall be prepared in accordance with [5.5.1.3](#). This content shall consist of a list of APE required to perform the procedures described in the DMWR.

5.90.1.25.7.5 Special equipment, locally available materials, and special facilities.

This content shall be prepared in accordance with [5.5.1.3](#). This content shall consist of a list of special equipment, locally available materials, and special facilities required to perform the procedures described in the DMWR.

5.90.1.25.7.6 Approved intraplant transfer equipment.

This content shall be prepared in accordance with [5.5.1.3](#). This content shall list suggested or commonly available intraplant transfer equipment.

5.90.1.25.7.7 Chemically treated packing materials.

This content shall be prepared in accordance with [5.5.1.3](#). This content shall be used to include the latest chemically treated packing materials requirements.

5.90.1.25.7.8 Environmental requirements.

This content shall be prepared in accordance with [5.5.1.3](#). This content shall be used to include the latest environmental requirements. As a minimum, this work package shall include air, noise, and emission problems and controls as applicable.

5.90.1.25.7.9 Hazard analysis.

This content shall be prepared in accordance with [5.5.1.3](#). This content shall contain a hazard analysis updated to include the latest requirements. Potential hazards that may result in injury or death shall be identified. Appropriate countermeasures shall be provided.

5.90.1.25.7.10 Hazardous Component Safety Data Statement (HCSDS).

This content shall be prepared in accordance with [5.5.1.3](#). This content shall list all HCSDS documents and appropriate material, component, or assembly for the end item.

5.90.1.25.7.11 Other supporting information.

This content shall be prepared in accordance with [5.5.1.3](#). When specified by the contracting activity, other supporting information may be added to the DMWR.

5.90.1.26 Preventive maintenance checklist.

Data Module Type: Checklist

Information Code: 200J

5.90.1.26.1 Scope.

This information set contains detailed requirements for the preparation of an operator's Preventive Maintenance Checklist (PMC) for major weapon systems and their related systems, subsystems, equipment, assemblies, components, SRUs, and LRUs. The information contained herein is intended for compliance. The requirements are applicable for all maintenance levels/classes through "overhaul" (depot), including DMWRs and NMWRs.

5.90.1.26.2 General.

A PMC shall be prepared when specified by the acquiring activity.

5.90.1.26.3 Development of a Preventive Maintenance Checklist (PMC).

The acquiring activity shall specify those inspection intervals for the PMC using those intervals as stated in [5.90.1.6.2](#).

5.90.1.26.4 National Stock Numbers (NSNs) and Part Numbers (P/Ns).

NSNs shall not be used in procedural steps in the PMC. P/Ns shall not be used in procedural steps except when absolutely necessary for identification.

5.90.1.26.5 Illustrations.

Illustrations may be used in the PMC.

5.90.1.26.6 Selective application and tailoring of content.

This standard contains some requirements that may not be applicable to the preparation of all PMCs. Selective application and tailoring of requirements contained in this standard are the responsibility of the acquiring activity. The applicability of some requirements is also designated by one of the following statements: unless specified otherwise by the acquiring activity; as specified by the acquiring activity; or when specified by the acquiring activity.

5.90.1.26.7 Basic content.

The PMC shall consist of introductory information (front matter), a PMCS introduction data module, one or more PMCS data modules, and rear matter as described below.

5.90.1.26.8 Front matter.

A PMC manual shall contain the following front matter as required:

5.90.1.26.8.1 Front cover.

The PMC shall include an abbreviated front cover (refer to [5.111.1.1.3.4](#)) and shall include a usage note on the cover as prescribed below.

5.90.1.26.8.1.1 Usage note and reporting errors and recommending improvements statement.

The following usage statement shall appear on the cover of the PMC above the Reporting Errors and Recommending Improvements statement. The below abbreviated Reporting Errors and Recommending Improvements statement shall be used in lieu of the standard statement found in [5.111.1.1.8.1](#). Italicized text within parentheses shall be replaced with the appropriate information:

"NOTICE

To effectively perform the procedures in this checklist, you must be experienced in using the preventive maintenance checks and services (PMCS) table in Technical Manual (TM) (*insert the publication number*). The checklist item numbers match those in the PMCS table in the TM.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors, or if you know of a way to improve this publication, please let us know. Mail your letters or DA Form 2028-2 (Recommended Changes to Publications and Blank Forms) directly to: (*the address of proponent*). A reply will be sent to you."

5.90.1.26.8.2 Warning summary.

If applicable, a safety summary may be included in the PMC. (Refer to [5.111.1.1.5](#).)

5.90.1.26.9 PMCS introduction.

A PMCS introduction data module shall be prepared in accordance with [5.90.1.5](#).

5.90.1.26.10 PMCS.

The PMC shall contain one or more PMCS data modules containing all items and intervals for the maintenance level (s) as specified by the acquiring activity. The specified inspections shall be taken directly from the applicable PMCS table (refer to [5.90.1.6](#)) in the operator-level or field-level manual containing the inspection. Item numbers in the checklist shall be the same as those assigned to the procedures in the operator or field-level maintenance PMCS table. For stand-alone PMC manuals, the preliminary requirements shall contain detail for items and shall not be linked or referenced.

5.90.1.26.11 Rear matter.

Rear matter shall be prepared in accordance with [5.111.1.3.1](#).

5.90.1.26.12 Acquisition requirements.

The acquiring activity should specify the inspection intervals to be included in the PMC. (Refer to [5.90.1.26.3](#).)

5.90.2 Army business rules.

None.

5.90.3 Project decisions.**5.90.3.1 Other service upon receipt task.**

BRDP-ARMY-00069: The project shall determine if additional service upon receipt task data modules shall be developed.

5.90.3.2 Cleaning information codes.

BRDP-ARMY-00070: The project shall determine the information codes used for cleaning procedure data modules.

5.90.3.3 General maintenance instructions.

BRDP-ARMY-00071: The project shall decide what general maintenance instructions will be prepared.

5.90.3.4 Overhaul Inspection Procedures (OIP) data modules.

BRDP-ARMY-00072: The project shall determine if and when OIP data modules shall be prepared.

5.90.3.5 Mobilization requirements.

BRDP-ARMY-00073: The project shall determine if the modifications, deletions, or additions to the preshop analysis or overhaul procedures required during mobilization shall be included in the depot mobilization requirements information set.

5.90.3.6 Applicable systems for land and sea products.

BRDP-S1-00404: Decide the applicable systems for land and sea products.

5.91 S1000D Chapter 5.2.1.3.2 - Common information sets - Fault isolation.

5.91.1 Army content requirements.

5.91.1.1 Scope.

This section contains content requirements for the following information sets:

- a. Troubleshooting index (refer to [5.91.1.27](#))
- b. Preshop analysis (refer to [5.91.1.28](#))
- c. Component checklist (refer to [5.91.1.29](#))
- d. Operational checkout (refer to [5.91.1.30](#))
- e. Troubleshooting (refer to [5.91.1.31](#))

5.91.1.2 General.

Troubleshooting procedures shall be prepared for weapon systems, major equipment, components, and applicable support and interface equipment. Troubleshooting procedures and supporting illustrations shall be prepared so that operator/crew and maintenance personnel can perform all required operator through depot level (overhaul) troubleshooting.

5.91.1.3 Troubleshooting scope.

Troubleshooting instructions shall cover all items comprising the weapon system/equipment, such as assemblies, sub-assemblies, components, wiring, junction boxes, and accessories. Troubleshooting procedures shall isolate faults to the part(s) authorized by the parts list for repair or replacement at the maintenance level addressed. Tasks shall be presented in the order in which they are performed. Approved LPD, service experience, performance data on similar equipment, other RMS and Ao data available shall be used in the preparation of specific troubleshooting procedures. Troubleshooting procedures shall begin with testing, observed problems, a fault symptom or malfunction and shall diagnose to a single fault/failure. Troubleshooting shall refer to specific maintenance or repair tasks to correct the fault. Instructions, where applicable, shall flow from operator level through field and sustainment until the fault is isolated. Procedures shall include schematics and illustrations as needed (or shall reference to required schematics, etc.). Troubleshooting data shall be test and fault-isolation oriented. Troubleshooting instructions shall include detailed inspection and troubleshooting information. Instructions shall include or reference to functional descriptions of subsystems being diagnosed to aid the operator/technician. The method used for identifying system equipment test points, including the requirements and methods of determining defects through visual inspection, shall be explained.

5.91.1.4 Testing and troubleshooting philosophy.

Testing and troubleshooting data shall be developed to the extent required to maintain aircraft and other major weapon systems, equipment, components and support equipment at the authorized maintenance level in accordance with the LPD or MAC and the SMR codes developed for the weapon system/equipment. Other factors to be considered in the development of troubleshooting procedures include, but are not limited to, the following:

- a. Technical experience (target audience).

- b. User environment.
- c. System quick-turnaround requirements.
- d. Test equipment requirements and availability.
- e. Automated versus manual testing.
- f. Replaceable component and part reliability.
- g. Ease of testing.
- h. Test access time.
- i. Test time.

5.91.1.5 Information to be provided.

Troubleshooting information shall be provided in combination with test procedures. This testing and troubleshooting information shall guide the technician, in as practical a manner as possible, to the system, subsystem, equipment, WRA, shop replacement assembly, or further to the replaceable part, interconnecting wire, or mechanical linkage which caused the malfunction or failure. All information required to perform the tests and evaluate probable malfunctions of the assembled systems or equipment shall be provided.

5.91.1.6 Methods of testing and troubleshooting.

The number of interrelated systems, assemblies, subassemblies, and components, types of equipment, and maintenance plan shall be taken into consideration as to the type and depth of testing and troubleshooting instructions to be developed. Based on the complexity of the system or equipment, manual (non-automatic), semi-automatic or automatic testing and troubleshooting methods shall be used. Functional testing is usually performed using a test set or test console whereby technicians make end-to-end checks of the system or equipment to ensure it will perform the function it was intended to do.

5.91.1.7 Manual (non-automatic) troubleshooting.

Troubleshooting procedures using non-automatic test equipment shall be established on a system test concept. To meet the objectives of reduced maintenance downtime and decreased fault detection time, malfunction symptoms shall be identified to specific points of entry into the testing/troubleshooting cycle. Every effort shall be employed to avoid repetition of the time consuming end-to-end test.

5.91.1.8 Semi-automatic or automatic testing and troubleshooting.

Many high performance systems have been designed to accept the use of semiautomatic/ automatic test equipment. These systems are designed and programmed for rapid electronic test in the interest of reducing maintenance downtime to fault isolate and repair.

5.91.1.9 Testing and troubleshooting using Built-In-Test (BIT) equipment.

Built-In-Test (BIT) capabilities are designed to operate in various formats. One of these formats is built-in-test using diagnostic software; another is the incorporation of electronically controlled sensors within the systems to be tested. Testing procedures shall identify the software required for test performance.

5.91.1.10 Sensor derived failures.

Sensors, installed at critical points shall be used to detect discrepancies in system operation.

5.91.1.11 Failure interpretation.

Lookup tables for manually tested systems or software coding for semi-automatic and automatic systems shall be prepared so the maintenance technician may properly interpret these displays and isolate and correct malfunctions.

5.91.1.12 Types of testing and troubleshooting information.

Testing and troubleshooting information includes fault reporting/fault isolation data and detailed testing and troubleshooting procedures for each weapon system equipment, systems, components and support equipment. When applicable, integrated system testing and troubleshooting for aircraft and major weapon systems shall also be included.

5.91.1.13 Fault reporting/fault isolation information.

Fault reporting information provides crew members or other operating personnel with a standardized means for reporting malfunctions and fault symptoms. Fault isolation information is designed for use in rapid isolation of faults revealed during an operational mission or when the aircraft/weapon system is in an operational configuration on the ground. This data shall instruct maintenance personnel as to what maintenance actions to perform and/or what procedures to use to correct reported faults. Fault reporting information and the fault isolation data are designed to be used together. Fault isolation information coverage shall be limited to faults identified in the fault reporting data, which require specific procedures to isolate the cause. Fault reporting data shall reference the fault isolation data to the maximum extent practical for isolation of indicated malfunctions.

5.91.1.14 Integrated system testing and troubleshooting.

When several systems are dependent upon each other for proper operation, the interdependent systems, as a unit, are identified as an integrated system. The testing of an integrated system is a checkout of the interdependent systems and shall reflect the assumption that the technician performing the check is qualified and is familiar with its systems and subsystems. Development and content of testing and troubleshooting for integrated systems shall be determined based on the systems having self-test or built-in test capabilities or requiring the use of a system peculiar test set or common test equipment. These compound applications require more specifics on the criteria of which components or signals are tested by which method. In addition to coverage of the integrated system, the associated systems making up the integrated system shall be covered separately.

5.91.1.15 Integrated systems having self-test or built-in test capability.

Testing and troubleshooting procedures shall identify the components or functions that are tested, and any user inputs required for proper testing (power parameters, signals, motion, air, hydraulic, etc.). If wiring tests are included they should have defined testing parameters (which wires are tested, resistance tolerances, open definitions, wire-to-wire and wire-to-ground resistances, and any peculiar wire criteria) and what fault verification is required for a failure indication.

5.91.1.16 Integrated systems requiring the use of system peculiar test sets.

Testing and troubleshooting procedures shall include identical parameters as those in [5.91.1.15](#) with the additional requirement for special cables or support equipment that may be required.

5.91.1.17 Integrated systems requiring the use of common test equipment.

Testing and troubleshooting procedures shall focus on actual readings or signal requirements so sources of common test equipment will not be restricted.

5.91.1.18 Troubleshooting procedures content.

Troubleshooting procedures shall contain all essential and pertinent information that would be included in any other form of maintenance procedure. This includes warnings, cautions, notes, power turn-on procedures, precheckout procedures, reference diagrams, and initial switch settings. In addition to external causes for malfunctions, troubleshooting should also identify symptoms resulting from failure of every spare and repair part authorized for replacement at user level. Troubleshooting procedures shall be prepared assuming one malfunction at a time is being corrected. The operator/technician shall be instructed to perform any applicable self-tests, alignments, and inspections before beginning any other troubleshooting procedures. As applicable, an operational check shall be specified to be performed after the fault is corrected to ensure correct operation of the system. Troubleshooting procedural instructions shall be prepared following these general requirements.

- a. A concise explanation of the testing and troubleshooting format and an explanation on how to use the testing and troubleshooting procedures with the malfunction/symptom index, when applicable.
- b. The location for each component, accessory, connector, or junction box in the system under test shall be provided or a reference to the equipment description and data module shall be included. The text and illustrations, as necessary, shall identify every test connector or other test point to be used in the test.
- c. A complete list of test options shall be stipulated by the troubleshooting procedure. List any self-tests that are associated with the system. Self-test schemes shall be described as the prime troubleshooting tool, with manual or automatic troubleshooting repaired to supplement the instructions where the self-test leaves off or fails to locate the malfunction. Build the procedure using system self-tests before using external test equipment.
- d. Test setup procedures and post-test teardown procedures.
- e. Complete step-by-step troubleshooting procedures, including instructions required for use and application of installed on-line testing equipment. Procedures shall take into account controls, test point accessibility, indicator displays, and the feasibility of using BITE or automated test equipment where available.
- f. Test procedures (e.g., system turn on, identification of time required to run and complete the system test, and an indication of any possible mid-test interruptions or stoppages and how to respond to them).
- g. Backup diagrams showing all test points, input and output signals, logic charts, schematics, signal flow diagrams, tables, and other illustrations as required for comprehensible understanding of the procedures.
- h. Include any information that will aid the operator/technician, such as waveforms; resistance data; fluid pressures; voltage levels; references to test diagrams, functional diagrams, text, etc.; and alignment procedures, checkout procedures, or other scheduled maintenance procedures. Connector numbers, pin designations, etc., shall be identified.
- i. Special attention shall be given to interface wiring fault isolation procedures. Wiring fault isolation procedures shall include the following types of data, as applicable:
 - (1) Specific wire reading access points and resistances for wiring components (where practical).
 - (2) Wire-to-wire and wire-to-ground criteria for circuit integrity.
 - (3) Special wire definition where required (including interconnecting criteria for proper sealing or terminal application), and special notations where wire harnesses should be completely replaced and not repaired.
 - (4) It is also essential when developing fault isolation procedures, to provide or refer to ground stud tables, which include type, location, and wires connected, charts for both connectors and terminal boards, and a wire number log to identify any wire to its prime wiring diagram.

5.91.1.19 Aviation testing and troubleshooting category (Aircraft Troubleshooting TMs only).

When developing Aircraft Troubleshooting TMs/IETPs, the following information sets shall be developed, as applicable.

- a. Introduction.
- b. Technical description.
- c. Troubleshooting index.
- d. Operational checkout.
- e. Troubleshooting.
- f. Diagnostic (IETP only).

5.91.1.20 Standard testing and troubleshooting category.

When developing TMs/IETPs with maintenance level below depot, the following information sets shall be developed, as defined by the content selection matrices (refer to [A.5](#)).

- a. Introduction.
- b. Troubleshooting index
- c. Operational checkout
- d. Troubleshooting
- e. Diagnostic (IETP only)

5.91.1.21 DMWR/NMWR testing and troubleshooting category (depot only).

When developing DMWRs or NMWRs, the following information sets shall be developed, as defined by the content selection matrices (refer to [A.5](#)).

- a. Introduction.
- b. Troubleshooting index
- c. Preshop analysis
- d. Component checklist
- e. Operational checkout
- f. Troubleshooting
- g. Diagnostic (IETP only)

5.91.1.22 Master index testing and troubleshooting category.

When developing a TM/IETP with a master troubleshooting index section, the Troubleshooting index data module shall be developed.

5.91.1.23 Testing and troubleshooting.

Testing and troubleshooting information sets shall be developed for the overall weapon system/equipment and each maintainable system, subsystem, and WRA/shop replacement assembly for each applicable maintenance level as indicated in the approved MAC.

5.91.1.24 Information set content.

Troubleshooting information sets shall include preliminary requirements information, and all required testing and troubleshooting information. When preliminary requirements information differs for specific testing and troubleshooting procedures, additional data modules shall be developed. Any follow-on maintenance that shall be performed after troubleshooting is completed shall be included (e.g., disconnect external power, perform operational checks, etc.). When the follow-on maintenance is extensive and is contained in a separate data module, a reference shall be made to the applicable data module.

5.91.1.25 Troubleshooting introduction.

Data Module Type: Descriptive Information Code: 018C

5.91.1.25.1 Scope.

This data module is required for aviation systems and is optional for non aviation systems. This data module shall describe the testing and troubleshooting process used to perform troubleshooting and shall include information on the methods used to perform troubleshooting. The general flow of the troubleshooting process shall be described and the general methods used to perform testing and troubleshooting shall be included. Any information peculiar to troubleshooting electrical subsystems and electronic equipment shall also be described. If a troubleshooting index is used, an explanation of the index shall be provided.

5.91.1.26 Technical description (Aircraft Troubleshooting Manuals only).

Data Module Type: Descriptive Information Code: 011C

A technical description data module may be developed for each system and subsystem of the weapon system, as applicable. The data module shall, as applicable, include the following information:

5.91.1.26.1 Equipment description and data.

When equipment description and data information is required to support the testing and troubleshooting procedures, it shall be prepared, as applicable. If this information is provided in another TM, a reference to the TM may be included in lieu of including the descriptive data.

5.91.1.26.2 Controls and indicators.

When it is necessary to provide information concerning the description and use of the controls and indicators to support the testing and troubleshooting procedures, it shall be prepared, as applicable. If this information is provided in another TM, a reference to the TM may be included in lieu of including the controls and indicator data.

5.91.1.26.3 Theory of operation.

When theory of operation is required to support the troubleshooting procedures, it shall be prepared, as applicable. If this information is provided in another TM, a reference to the TM may be included in lieu of including the theory data.

5.91.1.27 Troubleshooting index.**5.91.1.27.1 General.**

This data module shall be prepared as directed by the acquiring activity and consist of either a malfunction/symptom index or a system/subsystem index.

5.91.1.27.2 Malfunction/symptom index.

Data Module Type: Descriptive Information Code: 410F/410B

When all probable faults have been determined and described, prepare a malfunction/symptom index using the exact description of the fault or symptom as was used in the troubleshooting procedures. This index shall include the following data:

- a. For simple systems, list all fault symptoms or known malfunctions in alphabetical order by malfunction/symptom or by built-in test code/fault message word. Reference this information to the applicable testing and troubleshooting data module or the required corrective action.
- b. For complex systems, list symptoms by subsystem categories. Group symptoms to common subsystem areas both in the malfunction/symptom index and in the troubleshooting procedures. For example, if a system has a data link, communications, radar, display, and tracking subsystems, the symptoms would be grouped into each related subsystem. All fault symptoms of a communications nature would fall under the communications subsystem. The symptoms may be further divided into functions within the communications subsystem that would be common. The same would be done for radar, data link, display, and tracking subsystems. Subsystem categories shall be listed in alphabetical order or by their standard numbering system (SNS).
- c. Catalog malfunctions/symptoms by method of detection, if this aids usability.
- d. Fault symptom descriptions shall be standardized between malfunction/symptom index data modules and troubleshooting procedures.

5.91.1.27.3 Master index.

Data Module Type: Descriptive Information Code: 410D

When applicable, one master troubleshooting malfunction/symptom index data module shall be prepared for all troubleshooting for the system/equipment.

5.91.1.27.4 System/subsystem index.

Data Module Type: Descriptive Information Code: 410C

This index shall consist of a list of specific systems, subsystems, assemblies and components requiring troubleshooting, referenced to the applicable testing and troubleshooting data module or required corrective action.

5.91.1.28 Preshop analysis (DMWR/NMWR only).

Data Module Type: Descriptive Information Code: 341C

5.91.1.28.1 General.

Preshop analysis shall apply when data indicate that an inspection or test is more effective in determining the useful life of a system, subsystem, or component than a mandatory disassembly.

5.91.1.28.2 Scope.

The purpose and coverage of the preshop analysis shall be stated.

5.91.1.28.3 Preparation procedures.

- a. Unpacking and special handling. Procedures shall be prepared for removing the item, assemblies, subassemblies, or components from the shipping containers and packaging material. Instructions shall be prepared on any needed handling requirements for hazardous material, electrostatic sensitive devices, precious metal content, classified material, or critical material. Instructions shall also be prepared for any special condemnation procedures for the item and its assemblies and subassemblies.
- b. Checking attached documents. Instructions shall be prepared for checking all tags, forms, and documents attached to the item to determine the reason for its return and to identify any other obvious faults or damage.
- c. External inspection. Procedures shall be prepared for external inspection of the item to determine if it is complete and if there is any obvious external damage.
- d. Cleaning and preservation. Instructions shall be prepared for cleaning the item to prepare it for preshop analysis testing. They shall include the procedures for any temporary preservation or corrosion protection measures needed to protect the item until the work required is started.

5.91.1.28.4 Preshop analysis procedures.

Detailed procedures shall be prepared for performing a preshop analysis. The acquiring activity shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist. A checklist permits the inclusion of the name and signature of the person performing the analysis and any remarks that are required based on the results of the analysis. If a narrative preshop analysis is not provided, a printable checklist shall be provided. When specified by the acquiring activity, an electronic checklist shall be provided in lieu of the narrative or printable checklist.

5.91.1.28.5 Narrative procedures.

Preshop analysis text shall be presented in procedural format. Test and analysis procedures shall be presented in a logical sequence not to cause any unnecessary disassembly and in the order in which they should be performed. Each procedure shall be identified by a step number. Procedures shall be arranged in groups by major components, assemblies, and subassemblies. Each group shall be headed with an applicable title.

5.91.1.28.6 Checklist.

The checklist shall include the following data.

5.91.1.28.6.1 Cover sheet/frame.

The cover sheet/frame shall contain an area to record the following item information: part number; serial number; NSN; modifications required; reason for overhaul or repair; unpacking of secondary items required; review of tags or forms with the item, name, and signature of the person doing the analysis, and date.

5.91.1.28.6.2 Introduction.

When necessary, the table of tests and inspections shall be preceded by a brief explanation of its use.

5.91.1.28.6.3 Table of tests and inspections.

This table shall have an entry for each test and inspection procedure. Each entry shall have, as a minimum, the following information: inspection point (the item or area to be inspected), condition, action, remarks, and identification of the personnel performing the inspection. If the procedure is too complex or lengthy to be included in the checklist, a reference to the procedures or actions shall be included in the checklist.

5.91.1.29 Component checklist (DMWR/NMWR only).

Data Module Type: Descriptive Information Code: 341B

5.91.1.29.1 General.

A component checklist information set shall be prepared when required to support the preshop analysis procedures.

5.91.1.29.2 Introduction.

When necessary, the checklist shall be preceded by a brief explanation of its use.

5.91.1.29.3 Component checklist.

The checklist shall contain the following data. Item "a" is required and items "b-j" are as applicable:

- a. Name/nomenclature of the equipment/item
- b. Serial number
- c. Date received
- d. Received from (identify unit)
- e. Component name
- f. NSN
- g. Part number
- h. Quantity required
- i. Quantity received
- j. Visual damage found

5.91.1.30 Operational checkout.**5.91.1.30.1 General.**

A series of data modules shall be developed containing operational checkout and troubleshooting procedures for integrated weapon systems and for each independent system and subsystem of the weapon system, as applicable. DMWRs/NMWRs shall include these data modules as required by the acquiring activity.

5.91.1.30.2 Operational checkout and troubleshooting procedures content.

Operational checkout and troubleshooting procedures shall guide a technician in as practical a manner as possible in detecting, isolating, and correcting system or equipment failure/malfunctions. Procedures shall ultimately lead to isolating faults to an appropriate adjustment, replaceable parts, interface wires, or mechanical linkage. Instructions shall direct repair or replacement of parts authorized for repair or replacement at the maintenance level covered. Procedures shall be accompanied by schematics, signal flow diagrams, waveforms, tables, and other illustrations for comprehensive understanding of the procedures. When schematics are required as backup data, they shall be referenced or they may be contained in the same data module. The schematics shall integrate fluid, mechanical, electrical, and electronic components. Illustrations may also be included that locate and identify the controls and displays used to perform the testing and troubleshooting procedures. If ATE is used and a Test Program Set has been developed, the operational checkout and troubleshooting procedures contained in the Test Program Set shall not be duplicated. A reference to the Test Program Set shall be provided.

5.91.1.30.3 Operational checkout and troubleshooting procedure development.

Operational checkout and troubleshooting procedures shall be combined and contained in the same data module or may be developed in separate operational checkout and troubleshooting data modules. Based on the following factors, may be developed in a separate operational checkout and a separate troubleshooting data module:

- a. Complexity of the system/equipment.
- b. The type of test equipment used.
- c. System/equipment self-test or BIT capability.
- d. Complexity of the test and troubleshooting procedures as determined by the task analysis.
- e. Clarity and usability.

5.91.1.30.4 Operational checkout procedures.

Operational checkout procedures that subject an aircraft or other type of major weapon system or their systems, subsystems, components, accessories, and items of equipment to prescribed conditions to determine that they will function in accordance with predetermined test parameters shall be developed. Operational checkout for DMWRs/NMWRs shall be developed as specified by acquiring activity. An operational checkout information set may include test set hookup and disconnect procedures, index of test set message words, a reference index of test set or BIT/BITE fault codes and related actions, and further testing procedures related to the message words and fault codes. The words "END OF [*data module title*]" shall be placed below the last item (i.e., text, illustration, etc.) in any data module containing the operational checkout procedures.

5.91.1.30.5 Operational checkout introduction.

Data Module Type: Descriptive Information Code: 018V

When required, an introduction shall be included explaining how the operational checkout procedures are to be used to perform testing and how they relate to the associated troubleshooting information sets.

5.91.1.30.6 General procedures and precautions.

Any general procedures that shall be performed prior to checkout and precautions that shall be taken during the performance of the checkout procedure shall be included.

5.91.1.30.7 Pretest setup procedures.

Data Module Type: Procedural Information Code: 331B

Procedures for connecting any test and accessory equipment, including cable connections shall be included in the pretest setup procedures. Procedures for the initial setting of controls shall also be provided.

5.91.1.30.8 Operational checkout procedures.

The selection of an operational checkout type shall be based on the type of system, equipment, or assembly/subassembly being addressed, the target audience, and the maintenance level of the operator/technician. Based on the complexity of the operational checkout to be performed, operational checkout procedures can be structured differently and therefore contain different content elements. The following methods shall be used to prepare operational checkout procedures. Once selected, the operational checkout method shall be prepared in accordance with the requirements outlined below.

5.91.1.30.8.1 Operational checkout test procedure.

Data Module Type: Procedural Information Code: 320C

The Operational checkout test procedure type of operational checkout procedures shall consist of a series of numbered steps and sub steps, which lead to an indication or condition. Based on the indications or conditions, a corrective action is provided. This corrective action can either be stated as a specific remedy or can be a reference to a detailed troubleshooting procedure data module. This process is continued until the complete operational checkout procedure is completed.

5.91.1.30.8.2 Message index.

Data Module Type: Descriptive Information Code: 410G

The test set message word index type of operational checkout procedures shall consist of a series of test set messages or bit-code words with message word description. Based on the message or bit-code word, a corrective action shall be stated. This corrective action can either be stated as a specific remedy or can be a reference to a detailed troubleshooting procedure data module.

5.91.1.30.8.3 Fault code reference index.

Data Module Type: Descriptive Information Code: 410H

Fault code reference index type of operational checkout procedures shall consist of fault code(s) that leads to a corrective action. This corrective action can either be stated as a specific remedy or can be a reference to a maintenance data module. If applicable, additional follow-on operational testing procedures shall be included based on the corrective action.

5.91.1.30.9 Post-operational checkout shutdown procedures.

Data Module Type: Procedural Information Code: 334C

Procedures to return the aircraft, aircraft system, or equipment to its normal configuration, prior to operational checkout setup, if required, shall be included. Any follow-on maintenance shall also be included. A single procedural data module shall be used for each test.

5.91.1.31 Troubleshooting.

5.91.1.31.1 General.

Troubleshooting procedures for detecting, isolating, and correcting aircraft, aircraft systems, or other types of weapon systems and their subsystems, and equipment failures and malfunctions shall be developed. Troubleshooting for DMWRs/NMWRs shall be developed as specified by the acquiring activity. Data modules will relate either to a specific symptom or to a system, assembly, or component. Data modules related to a system of some complexity may contain more than one set of troubleshooting procedures directed to specific subsystems. Each malfunction shall end with one of the following:

- a. When the corrective action can be performed at the same level of maintenance authorized to troubleshoot, the troubleshooting procedure shall end with a corrective action that includes a reference to the appropriate maintenance data module and to a data module (operational checkout, test or operating instructions) to confirm the malfunction was corrected.
- b. When the corrective action cannot be performed at the same level of maintenance authorized to troubleshoot, then the troubleshooting procedure shall end with the following statement, "Send to next level of maintenance."

5.91.1.31.2 Troubleshooting introduction.

Data Module Type: Descriptive Information Code: 018C

When required, an introduction shall be included explaining how the troubleshooting procedures are to be used to perform troubleshooting and how they relate to the associated operational checkout information sets.

5.91.1.31.3 General troubleshooting procedures and precautions.

Data Module Type: Procedural Information Code: unspecified

Any general procedures that shall be performed prior to troubleshooting and precautions that shall be taken during the performance of the troubleshooting procedure shall be included.

5.91.1.31.4 Pretest setup procedures.

Data Module Type: Procedural Information Code: 331B

Procedures for connecting any test and accessory equipment, including cable connections shall be included in the pretest setup procedures. Procedures for the initial setting of controls shall also be provided.

5.91.1.31.5 Graphic troubleshooting tree.

A graphic troubleshooting tree may be used in maintenance manuals. Graphic troubleshooting trees shall only be used as graphics to supplement the narrative troubleshooting procedures and shall not be the primary means of presenting troubleshooting information.

5.91.1.31.6 Troubleshooting type.

The selection of a troubleshooting type shall be based on the type of system, equipment, or assembly/subassembly being addressed, the target audience description, and the maintenance level of the operator/technician. Based on the complexity of the troubleshooting to be performed, troubleshooting procedures can be structured differently and therefore contain different content elements. The following methods shall be used to prepare troubleshooting procedures. Once selected, the troubleshooting method shall be prepared in accordance with the requirements specified by this document.

5.91.1.31.6.1 Troubleshooting procedure.

Data Module Type: Fault Information Code: 421B - 428B

Troubleshooting procedures for specific fault symptoms shall combine text and logic and consist of a series of steps and sub steps which lead to an indication or condition (usually stated in the form of a question). Based on these indications or conditions, a "YES" or "NO" type response is provided that will guide the technician to either the next step or a series of steps, or to a malfunction and corrective action. This process is continued until the entire troubleshooting procedure is completed. When required, the corrective action may include a reference to the data module that contains the corrective action.

5.91.1.31.6.2 Diagnostics (using the process data module).

Data Module Type: Process Information Code: 429A

Diagnostic procedures using computer generated code data shall be listed in troubleshooting sequence order. The pass or fail result shall be used to traverse through a series of troubleshooting steps until the problem is resolved.

5.91.1.31.6.2.1 General.

The diagnostic information set shall contain all information required by the maintenance technician to perform a single complete test or multiple tests that isolates a fault. The test may be an entire automatic system test to a series of manual steps required to obtain some level of fault identification. The process data module shall be used to develop troubleshooting procedures for all complex diagnostic models or simple diagnostic models that require state table manipulation. Process data module(s) in conjunction with other data modules as necessary shall be used. The following types of information shall be included:

- a. As applicable, any warnings, cautions, or notes that would apply to the entire diagnostic procedure.

- b. As applicable, any general information that may aide the technician in understanding, setting up, performing the test, or similar information.
- c. As applicable, any additional configuration unique hookup or conditional hookup (depends on state table information) requirements not identified in the preliminary requirements.
- d. As applicable, a reason for performing the test.
- e. Shall conduct a single test using of the following methods:
 - (1) Simple test
 - (2) Complex test
 - (3) Conditional complex test
- f. As applicable, upon testing conclusion, any test equipment not required for next diagnostic test shall be removed through a disconnection procedure or conditional disconnection procedure.

5.91.1.31.6.2.2 State table explanation.

The state table is a function of S1000D and the Logic Engine. A state table provides the IETP and/or the user with information on the condition of the task being performed or changes in system or user defined variables.

5.91.1.31.6.2.3 State table limits.

At no time shall changes to state table variables be allowed to change the IETP source data. TM/IETP source data shall only be changed as a result of an approved IETP/TM change.

5.91.1.31.6.2.4 Simple test.

Simple diagnostic testing shall contain an indication prompt. After conducting the testing the user is prompted for the test indication. The prompt shall indicate to the user the information needed from the test, usually through a question. The test indication shall be entered through selecting a binary indication (i.e., "yes/no," "true/false," "pass/fail") or a list of possible options (i.e., "<3.5" "3.5 to 4.5" ">4.5"). Using a simple test excludes the IETP from deriving direct results from test equipment or embedded sensors (since this depends on storing the information in an IETP state variable table for evaluation). Simple diagnostic testing shall contain test results. Each test evaluation shall provide a corrective action, reference to detailed corrective action data module, or reference to further diagnostic testing procedure or data module. When the test has determined the fault, the IETP shall display the fault code to the user for recording the equipment maintenance log. As applicable, upon testing conclusion, any test equipment not required for next diagnostic test shall be removed through a disconnection procedure. When the test has concluded and no further testing is required, the IETP shall indicate the test completion.

5.91.1.31.6.2.5 Complex tests.

Diagnostic testing shall conduct testing using known system conditions (maintained in the IETP state table), previous test results (maintained in the IETP state table), test equipment results, weapon system's embedded sensor(s) readings, and/or information from the user to conduct evaluations on the test information (from the IETP state table, user, and/or weapon system), and directs the user to the next test or corrective action.

5.91.1.31.6.2.5.1 IF statement.

The IF statement shall evaluate state table information (through user interaction or test results) to determine the appropriate action to perform. When an evaluated expression returns a true condition, the THEN condition shall perform the assigned test result(s) actions and/or conduct further evaluation on the test results. When multiple conditions occur that have different test result to perform, each additional condition shall use ELSEIF. When the evaluated ELSEIF expression returns a true condition the THEN condition shall perform the assigned test result(s)

actions and/or conduct further evaluation on the test results. When all evaluated expressions returns as false, the ELSE condition shall perform the assigned test result(s) actions and/or conduct further evaluation on the test results.

5.91.1.31.6.2.5.2 LOOP COUNTER statement.

The LOOP COUNTER statement will repeat the testing actions for a predetermined number of iterations. After satisfying iteration count then the test result(s) actions shall be performed and/or further evaluation shall be conducted on the test results.

5.91.1.31.6.2.5.3 LOOP UNTIL CONDITION statement.

The LOOP UNTIL CONDITION statement will repeat a testing action until an evaluated expression returns a terminating condition (Boolean true expression). After satisfying the terminating condition then the test result(s) actions shall be performed and/or further evaluation shall be conducted on the test results. The author shall ensure the LOOP UNTIL CONDITION statement has a terminating condition through setting an IETP state variable(s) and this terminating condition shall be part of the loop evaluating expression.

5.91.1.31.6.2.5.4 Loop test actions.

The looping test action includes any required instruction(s) automated test equipment results, weapon system's embedded sensor(s) readings, information from the user, conditional information from the user, and/or updating or setting IETP state variable(s).

5.91.1.31.6.2.6 Test results action.

Each test evaluation shall provide a corrective action, reference to detailed corrective action data module, reference to further diagnostic testing procedure or procedure, assigning IETP state variables, information for the user, and/or additional information from the user that may require additional evaluation. When the test has determined the fault, the IETP shall display the fault code to the user for recording, either automatically or manually, the equipment maintenance log. As applicable, upon testing conclusion, any test equipment not required for next diagnostic test shall be removed through a disconnection procedure or conditional disconnection procedure. When the test has concluded and no further testing is required, the IETP shall indicate the test completion.

5.91.1.31.7 Post-troubleshooting shutdown procedures.

Data Module Type: Procedural Information Code: 334B

Procedures to return the aircraft, aircraft system, or equipment to its normal configuration, prior to troubleshooting setup, if required, shall be included. Any follow-on maintenance shall also be included. A single procedural data module shall be used for each troubleshooting procedure.

5.91.1.31.8 Integrated system troubleshooting procedures.

When specified by the acquiring activity, integrated system operational checkout and troubleshooting shall be developed. Troubleshooting procedures which involve more than one system or more than one major subsystem and which cannot be logically placed in one of the individual system/ subsystem troubleshooting information sets shall be covered in this type of information set.

5.91.2 Army business rules.

None.

5.91.3 Project decisions.

5.91.3.1 Troubleshooting index.

BRDP-ARMY-00146: The project shall decide which type of index to prepare.

5.91.3.2 Preshop analysis format.

BRDP-ARMY-00147: The project shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist.

5.91.3.3 Component checklist introduction.

BRDP-ARMY-00148: The project shall determine when a component checklist introduction is required.

5.91.3.4 Operational checkout introduction.

BRDP-ARMY-00149: The project shall determine if and when an introduction to operational checkout is required.

5.91.3.5 Operational checkout method.

BRDP-ARMY-00150: The project shall determine the method of operational checkout procedures.

5.91.3.6 Troubleshooting introduction.

BRDP-ARMY-00151: The project shall determine if and when troubleshooting procedures require an introduction.

5.91.3.7 Troubleshooting type.

BRDP-ARMY-00152: The project shall determine which troubleshooting type to use for each troubleshooting procedure required.

5.91.3.8 Use of integrated system troubleshooting procedures.

BRDP-ARMY-00153: The project shall determine if and when integrated system operational checkout and troubleshooting procedures shall be developed.

5.92 S1000D Chapter 5.2.1.4 - Common information sets - Wiring data.

Data Module Type: Descriptive Information Code: 051A

5.92.1 Army content requirements.

5.92.1.1 General.

Wiring diagrams information sets shall be prepared as directed by acquiring activity and include wiring and cable provisions contained in the equipment/end item, including all systems or equipment which can be installed or

removed later (e.g., mission-related systems/equipment). Applicability of diagrams shall be explained in relation to equipment configuration.

5.92.1.2 Introduction.

Information shall be prepared to include the scope of the wiring diagrams information set. A statement shall be included explaining that wiring diagrams and essential wiring information are provided for all electrical and electronic systems and circuits.

5.92.1.2.1 Wiring diagrams index.

A table which lists the wiring diagrams by foldout number and title may be included in the introduction. Wiring diagram index list shall include the sheet numbers as applicable and the page number for the foldout.

5.92.1.3 Abbreviations.

A statement shall be prepared that abbreviations are in accordance with ASME Y14.38, except when the abbreviation stands for a marking actually found in the equipment. A table listing the abbreviations used on the wiring diagram may be included in this data module. Table shall include the abbreviation and its definition.

5.92.1.4 Component descriptions with related schematic locations table.

A table may be prepared to assist user in finding components which contains component descriptions in alphabetical order, foldout sheet number, grid number, and official name which appears on the wiring diagram.

5.92.1.5 Wire identification.

Identification of wires by number shall be explained. A list of circuit designators and a wire identification diagram shall be prepared. Additional tables may be included as follows for SAE or color designations:

5.92.1.5.1 SAE wire designations.

A table explaining the SAE wire designations used in the wiring diagrams may be included in the wiring diagrams data module.

5.92.1.5.2 Wire color designations.

As applicable, a table may be prepared which explains the color codes used on the wiring diagrams.

5.92.1.6 Wiring diagrams.

Wiring diagrams shall be prepared for all electrical and electronic systems and circuits.

5.92.1.7 Signal flow.

To assist the IETP user in following the diagram, where possible, major signal or pressure flow shall be from left to right, and feedback or return flow shall be from right to left. Animation or color may be used to indicate signal flow.

5.92.2 Army business rules.

None.

5.92.3 Project decisions.

5.92.3.1 How to use the element field descriptions in the wiring data description Schema.

BRDP-S1-00405: Decide how to use the element field descriptions of the wiring data description Schema in an interactive wiring publication.

5.92.3.2 Use of introduction data modules for wiring publications.

BRDP-S1-00406: Decide whether to produce introduction data modules for wiring publications. If required, the scope of these introduction data modules must be defined.

5.92.3.3 Optional descriptive information for connection units.

BRDP-S1-00407: Decide whether to produce descriptive information for connection units including illustrations and tables.

5.92.3.4 Optional descriptive information for wires and harnesses.

BRDP-S1-00408: Decide whether to produce descriptive information for wires and harnesses including illustrations and tables.

5.92.3.5 Wiring standard practices data modules.

BRDP-S1-00409: Define source and scope of wiring standard practices data modules. Decide whether to prepare standard wiring practice information as procedural or descriptive data modules.

5.92.3.6 Wiring diagrams in an interactive wiring publication.

BRDP-S1-00410: Decide whether to produce wiring diagrams for an interactive wiring publication.

5.92.3.7 Harness routing drawings.

BRDP-S1-00411: Decide whether harness routing drawings are to be simplified and how their layout must look like.

5.92.3.8 Coding of harness installation drawing data modules.

BRDP-S1-00412: Decide whether to code harness installation drawing data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).

5.92.3.9 Harness installation information.

BRDP-S1-00413: Decide whether to prepare harness installation information for each major area in list form in addition to or instead of harness installation and routing drawings.

5.92.3.10 Coding of harness routing drawing data modules.

BRDP-S1-00414: Decide whether to code harness routing drawing data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).

5.92.3.11 Equipment and panel location drawings.

BRDP-S1-00415: Decide whether to produce separate data modules containing equipment and panel location illustrations.

5.92.3.12 Production of electrical standard parts data.

BRDP-S1-00416: Decide whether to produce data modules containing electrical standard parts data.

5.92.3.13 Definition of required electrical equipment information.

BRDP-S1-00417: Define the required information for each electrical or electronic item of equipment that has electrical connections.

5.92.3.14 Coding of electrical equipment information data modules.

BRDP-S1-00418: Decide whether to code electrical equipment information data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).

5.92.3.15 Coding of harness data modules.

BRDP-S1-00419: Decide whether to code harness data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).

5.92.3.16 Generation of harness wire list data modules.

BRDP-S1-00420: Decide whether and how to generate harness wire list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.92.3.17 Generation of connection list data modules.

BRDP-S1-00421: Decide whether and how to generate connection list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.92.3.18 Generation of plug and receptacle list data modules.

BRDP-S1-00422: Decide whether and how to generate harness plug and receptacle list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.92.3.19 Generation of terminal list data modules.

BRDP-S1-00423: Decide whether and how to generate terminal list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.92.3.20 Generation of splice list data modules.

BRDP-S1-00424: Decide whether and how to generate splice list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.92.3.21 Generation of earth point list data modules.

BRDP-S1-00425: Decide whether and how to generate earth point list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.

5.93 S1000D Chapter 5.2.1.5 - Common information sets - Illustrated parts data.**5.93.1 Army content requirements.****5.93.1.1 Scope.**

This section contains content requirements for the following information sets:

- a. IPD introduction (refer to [5.93.1.9](#))
- b. Repair parts information (refer to [5.93.1.10](#))
- c. Repair parts for special tools list (refer to [5.93.1.12](#))
- d. Kit parts list (refer to [5.93.1.13](#))
- e. Bulk items list (refer to [5.93.1.14](#))
- f. Special tools list (refer to [5.93.1.15](#))
- g. Cross reference index (refer to [5.93.1.16](#))
- h. National stock number index (refer to [5.93.1.16.5](#))
- i. Part number index (refer to [5.93.1.16.6](#))
- j. Reference designator index (refer to [5.93.1.16.7](#))
- k. Components of end item list (refer to [5.93.1.17](#))
- l. Basic issue items list (refer to [5.93.1.18](#))
- m. Additional authorization list (refer to [5.93.1.19](#))
- n. Collateral Material (refer to [5.93.1.19](#))
- o. Expendable and durable items list (refer to [5.93.1.20](#))
- p. Mandatory replacement parts (refer to [5.93.1.21](#))

- q. Critical safety items (refer to [5.93.1.22](#))
- r. Hand receipt technical manuals (refer to [5.93.1.23](#))

5.93.1.2 General.

Parts lists shall be prepared for weapon systems, major components and applicable support and interface equipment.

5.93.1.3 Separate publication.

If a separate parts manual is required, it shall consist of front and rear matter and a Parts Information Chapter. Unless otherwise specified, the parts information chapter shall contain the data modules listed below in the order specified.

- a. A single introduction.
- b. One or more repair parts list data modules.
- c. When there is a special tools data module and the special tools have repair parts, a repair parts for special tools data module shall be prepared.
- d. When kit parts are listed, a kit parts list shall be prepared.
- e. When bulk items are listed in the parts list, a bulk items data module shall be prepared.
- f. When special tools are listed, one or more special tools list data modules.
- g. A National Stock Number (NSN) index data module shall be prepared.
- h. A part number index data module shall be prepared.
- i. When specified by the acquiring activity, a reference designator index data module shall be prepared.

5.93.1.4 Parts data included in a maintenance publication.

When a separate parts manual is not required or authorized, parts data shall be included in a separate chapter that precedes the supporting information chapter in a maintenance TM/IETP. Introduction, repair parts list, kit parts, bulk items, special tools list, and cross reference indexes shall be included as specified herein.

5.93.1.5 Parts data included in a DMWR/NMWR.

If an item of equipment is programmed for depot overhaul and no repair parts (including modules, printed circuits, and components) are authorized for replacement at a level below depot maintenance, authorized repair parts data shall appear in the applicable DMWR/NMWR. Introduction, repair parts list, kit parts, bulk items, special tools list, and cross reference indexes shall be included as specified herein.

5.93.1.6 Depot repair parts.

Unless otherwise specified by the acquiring activity, depot level repair parts shall be included in a single parts list. When the acquiring activity specifies a depot (DMWR/NMWR only) level IPD, only depot level parts shall appear in the depot parts list. Figure(s) in the lower maintenance level parts list that contain both depot coded and non depot coded parts shall identify all parts. The appropriate SMR code shall identify the repair level. If the parts manual includes depot repair parts, the statement "Including Depot Maintenance Repair Parts" shall be added to the title of the publication.

5.93.1.7 Repair parts list, special tools, and kits layout.

Parts lists, special tools list and kit lists start on a right hand page. The first page shall contain the data module code and when practicable, the figure and parts list is placed on the first page. When the figure and parts list cannot be included on a single page, the part list shall begin on the next right-hand page following the figure(s).

5.93.1.8 Use of automated systems to generate parts data.

Projects are not precluded from using automated systems to generate parts data. Programs that use automated systems to generate parts data shall be able to produce IPD data compliant with S1000D and this standard.

5.93.1.9 Parts introduction.

Data Module Type: Descriptive Information Code: 018E

Parts information shall contain an introduction. For non-aviation systems refer to [5.93.1.9.1](#), for aviation systems refer to [5.93.1.9.2](#), and for Marine Corps only manuals refer to [5.93.1.9.3](#).

5.93.1.9.1 Non-aviation parts information introduction.

For non-aviation systems, the verbatim text (below within the quotation marks) shall be included. The italicized text shall be replaced with the required system specific information or select the corresponding phrase for the specific system. The publication list shall identify the publication module code and title in numerical sequence. If the publication is non-government, the source shall be given and shall be listed alphabetically by title. If there are any SMR codes in the parts data that use the 6th position, information for the 6th position found in AR 700-82 shall be included in the parts data introduction after the explanation of the 5th position.

"INTRODUCTION

SCOPE

This parts information (PI) lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of (*insert maintenance level*) maintenance of the (*insert item name*). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction, this PI is divided into the following.

1. Repair Parts List containing lists of spares and repair parts authorized by this PI for use in the performance of maintenance at the levels determined by the MAC/SMR code. These also include parts which shall be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of one of the following data modules (*select the data module the bulk items will be listed in: the last Parts List data module, the Special Tools Repair Parts data module, or Kits data module*). (*choose one of the following: Repair parts kits are listed separately in their own functional group and data modules. OR Repair parts kits are listed at the end of the individual data modules.*) Repair parts for reparable special tools are also listed separately. Items listed are shown on the associated illustrations.

2. (Include the text in items 2 through 4 and 6 only if the described data module is included in the publication.) Special Tools Repair Parts. This lists any spare parts required for the special tools, TMDE, or other support equipment listed in the Special Tools List that are not listed in any other publication.

3. Kits. This lists all repair kits and their component parts.

4. Bulk Items. This lists all items identified as 'bulk' in the parts lists. Due to the nature of bulk items, this does not include a figure.

5. Special Tools List. This lists those special tools, special TMDE, and special support equipment authorized by this parts information (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

6. Cross-Reference Indexes. There are (*enter applicable number*) cross-reference indexes in this Parts Information. The National Stock Number (NSN) Index refers you to the figure and item number for each NSN listed in the Parts Information. The Part Number Index refers you to the figure and item number for each part number listed in the Parts Information. (*If reference designator is used enter: "The Reference Designator Index refers you to the figure and item number of each reference designator listed in the Parts Information."*)

EXPLANATION OF ENTRIES IN THE ILLUSTRATED PARTS LIST AND SPECIAL TOOLS LIST

ITEM NO. (Entry 1). Indicates the number used to identify items called out in the illustration.

SMR CODE (Entry 2). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction in accordance with AR 700-82, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

Table I. SMR Code Explanation.

<u>Source Code</u> XX		Maintenance <u>Code</u> XX	<u>Recoverability Code</u> X
1st two positions: How to get an item	3rd position: Who can install, replace, or use the item.	4th position: Who can do complete repair* on the item.	5th position: Who determines disposition action on unserviceable items.

*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Source Code	Application/Explanation
PA	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code.
PB	
PC	
PD	
PE	
PF	

Note

Items coded PC are subject to deterioration. Items coded PR or PZ are obsolete and may not be able to be ordered like other P coded items.

PA

Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code.

Note

Items coded PC are subject to deterioration. Items coded PR or PZ are obsolete and may not be able to be ordered like other P coded items.

PB
PC
PD
PE
PF
KF
KB

MF - Made at field
MH - Made at below depot/sustainment level
ML - Made at SRA
MD - Made at depot
MG - Navy only

Items with these codes are not to be requisitioned/requested individually. They shall be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) entry and listed in the bulk material group of the PI. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.

AF - Assembled by field
AH - Assembled by below depot sustainment level
AL - Assembled by SRA
AD - Assembled by depot
AG - Navy Only

Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item shall be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you

	to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and part number.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

Note

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Maintenance Code	Application/Explanation
C	Crew (operator)
F	Maintainer maintenance can remove, replace, and use the item.
H	Below Depot Sustainment maintenance can remove, replace, and use the item.
L	SRA can remove, replace, and use the item.
G	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only)
K	Contractor facility can remove, replace, and use the item
Z	Item is not authorized to be removed, replace, or used at any maintenance level.
D	Depot can remove, replace, and use the item.

Note

Army may use C in the third position. However, for joint service publications, Army will use O.

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

Maintenance Code	Application/Explanation
C	Crew (operator) is the lowest class that can do complete repair.
F	Maintainer is the lowest class that can do complete repair of the item..
H	Below Depot Sustainment is the lowest level that can do complete repair of the item.
L	SRA is the lowest class that can do complete repair of the item.
D	Depot is the lowest class that can do complete repair of the item.
G	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
K	Complete repair is done at contractor facility
Z	Non-reparable. No repair is authorized.
B	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
C	Reparable item. When uneconomically reparable, condemn and dispose of the item at the crew/operator level.
Z	Non-repairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
F	Reparable item. When uneconomically reparable, condemn and dispose of the item at the maintainer level.
H	Reparable item. When uneconomically reparable, condemn and dispose of the item at the below depot sustainment level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L	Reparable item. Condemnation and disposal not authorized below SRA.

A Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

Note

When you use an NSN to requisition an item, the item you receive may have a different part number from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. Part numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. Refer to Usable on Code details presented later in this data module under SPECIAL INFORMATION.
5. Dot indentions indicate the relationship of the part (or parts) to its next higher assembly (NHA) in the tabular listing. The NHA for this part (or parts) is listed right before the part (or parts) that it is the NHA for. If the item is connected directly to (can be disassembled from) the item identified in the functional group code title for that specific tabular listing, it shall have one dot indentation. Otherwise, that item in the tabular list will not have a dot indentation.
6. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the illustrated parts list and special tools lists.

QTY (Column (7)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, sub functional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application."

(MC) Include for Marine Corps manuals only.

"USMC QTY per Equip (Column (8)). This column accommodates the Marine Corps quantity per equipment requirement.

For IETPs only, cross-reference indexes are optional. The information below shall be included in all page-based manuals. For IETPs, if you have cross reference indexes in your parts information include the information below in the parts information introduction as applicable:

EXPLANATION OF CROSS-REFERENCE INDEXES FORMAT AND COLUMNS

1. National Stock Number (NSN) Index. NSNs in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Column. This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the illustrated parts list and special tools lists.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index. Part numbers in this index are listed in ascending numeric/alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Column. Indicates the part number assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the illustrated parts list and special tools lists.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column."

Include 3 if applicable.

"3. Reference Designator Index. Reference designators in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combination which places the first letter or digit of each group in order "A" through "Z," followed by the numbers "0" through "9" and each following letter or digit in like order).

REFERENCE DESIGNATOR Column. Indicates the reference designator assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list or special tools list.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Column heading. Usable on codes are shown as "UOC..." in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the parts list are:

Code	Used on
PAA	Model M114
PAB	Model M114A
PAC	Model M114B"

Include appropriate UOC content, as applicable.

"Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this parts list. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in *(insert applicable TM number)*.

Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / Part Number (P/N) Index and the bulk material list in the repair parts list."

For a combined narrative-parts list manual associated publications shall not be included.

"Associated Publications. The publication(s) listed below pertains to the *(insert item name)*:

Publication	Short Title"
-------------	--------------

The following paragraph shall appear only in the unit maintenance parts list special instructions.

"Illustrations List. The illustrations in this parts list contain unit authorized items. Illustrations published in *(insert applicable publication module code for the higher maintenance level parts list, e.g., for direct support, general support, etc.)* that contain unit authorized items also appear in this Parts list. The tabular list in the repair parts list contains only those parts coded "O" in the third position of the SMR code, therefore, there may be a break in the item number sequence.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or Part Numbers Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and sub-assembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the sub functional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

For page-based manuals and IETPs that have cross-reference indexes in the parts information enter the following in the introduction:

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN index. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When Part Number Is Known.

First. If you have the part number and not the NSN, look in the PART NUMBER column of the part number index. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list.

For IETPs that don't have NSN and part number indexes in the parts information enter the following in the introduction:

4. When Reference Designator Is Known.

First. If you know the reference designator, look in the REFERENCE DESIGNATOR column of the reference designator index. Note the figure and item number.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

ABBREVIATIONS

Abbreviation

Explanation

Include uncommon abbreviations used in the parts list. List/define those not found in ASME Y14.38."

5.93.1.9.2 Aviation parts information introduction.

For aviation systems include the following verbatim in the parts information introduction. Items in italics should be filled in with appropriate information and/or removed as appropriate.

"INTRODUCTION

SCOPE

This parts information lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of (*enter maintenance level*) maintenance of the (*enter item name*). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction data module, this parts information is divided into the following data modules.

1. Repair Parts List data modules. Data modules containing lists of spare and repair parts authorized for use in the performance of maintenance at the levels determined by the MAC/SMR code. These data modules also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in

ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in the Bulk Items data module which follows (*select the data module the bulk items follow: the last Parts List data module, the Special Tools Repair Parts data module, or Kits*) data module. (*choose one of the following*) Repair parts kits are listed separately in their own functional group and data module OR Repair parts kits are listed at the end of the individual data modules. Repair parts for reparable special tools are also listed in a separate data module. Items listed are shown on the associated illustrations.

2. (*Include the text in items 2 through 4 and 6 only if the described data module(s) is included in the TM.*) Special Tools Repair Parts data module. This data module lists any spare parts required for the special tools, TMDE, or other support equipment listed in the Special Tools data module that are not listed in any other publication.

3. Kits data module. This data module lists all repair kits and their component parts.

4. Bulk Items data module. This data module lists all items identified as 'bulk' in the parts lists. Due to the nature of bulk items, this data module does not include a figure.

5. Special Tools List data module. This data module lists those special tools, special TMDE, and special support equipment authorized by this parts data (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) entry). Tools that are components of common tool sets and/or Class VII are not listed.

6. Cross-Reference Indexes data modules. There are (*enter applicable number*) cross-reference indexes data modules in this parts information. The National Stock Number (NSN) Index data module refers you to the figure and item number for each NSN listed in the parts information. The Part Number Index data module refers you to the figure and item number for each part number listed in the parts information. (*If reference designator is used enter:*

"The Reference Designator Index data module refers you to the figure and item number of each reference designator listed in the parts data.")

EXPLANATION OF ENTRIES IN THE PARTS INFORMATION DATA MODULES

ITEM NO. (Entry 1). Indicates the number used to identify items called out in the illustration.

SMR CODE (Entry 2). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction in accordance with AR 700-82, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

Table I. SMR Code Explanation.

<u>Source Code</u> XX	<u>Maintenance Code</u> XX		<u>Recoverability Code</u> X
1st two positions: How to get an item	3rd position: Who can install, replace, or use the item.	4th position: Who can do complete repair on the item.	5th position: Who determines disposition action on unserviceable items.

Note

Complete Repair: Maintenance capacity, capability, and authority to preform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a field item.

Source Code: The source code tells you how you get an item needed for maintenance, repair, or overhaul of an item/equipment. Explanations of source codes follow:

Table 2. Source Code Explanation

Source Code	Application/Explanation
PA	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the third position of the SMR code.
PB	
PC	
PD	
PE	
PF	
PG	
PH	
PR	
PZ	
	Note
	Items coded PC are subject to deterioration. Items coded PR or PZ are obsolete and may not be able to be ordered like other P coded items.
KD	Items with these codes are not to be requested/requisitioned individually. They are part of a kit that is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
KF	
KB	
MO-Made at AMC level	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) entry and listed in the bulk material group data module of the parts information. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
MF-Made at ASB level	
ML-Made at TASM	
MD-Made at depot	
MG (Navy only)	
AO-Assembled at AMC level	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you to replace the item, but the source code
AF-Assembled at ASB level	
AL-Assembled at TASM	
AD-Assembled at depot	

AG- Navy only	indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through local purchase or normal supply channels using the CAGEC and P/N given, if no NSN is available.

Note

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance class authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following classes of maintenance:

<u>Maintenance Code</u>	<u>Application/Explanation</u>
O -	AMC maintenance can remove, replace, and use the item
F -	ASB maintenance can remove, replace, and use the item
L -	TASMG can remove, replace, and use the item
G -	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only)
K -	Contractor facility can remove, replace, and use the item
Z -	Item is not authorized to be removed, replace, or used at any maintenance level
D -	Depot can remove, replace, and use the item

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance class with the capability to do complete repair (perform all authorized repair functions).

O -	AMC is the lowest class that can do complete repair of item
F -	ASB is the lowest class that can do complete repair of the item

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- L - TASMG is the lowest class that can do complete repair of the item
- D - Depot is the lowest class that can do complete repair of the item
- G - Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
- K - Complete repair is done at contractor facility
- Z - Nonreparable. No repair is authorized
- B - No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

<u>Recoverability Code</u>	<u>Application/Explanation</u>
Z -	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the AMC level
F -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the ASB level.
D -	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L -	Reparable item. Condemnation and disposal not authorized below TASMG.
A -	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G -	Field level reparable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K -	Reparable item. Condemnation and disposal to be performed at contractor facility.

NSN (Entry 3). The NSN for the item is listed in this entry.

CAGEC (Entry 4). The Commercial and Government Entity Code (CAGEC) is a five-digit code that is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Entry 5). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

Note

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Entry (6)). This entry includes the following information:

DESCRIPTION AND USABLE ON CODE (UOC) (Entry (6)). This entry includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. P/Ns of bulk materials are referenced in this entry in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. Refer to Usable on Code details presented later in this data module under SPECIAL INFORMATION.
5. Dot indentions indicate the relationship of the part (or parts) to its next higher assembly (NHA) in the tabular listing. The NHA for this part (or parts) is listed right before the part (or parts) that it is the NHA for. If the item is connected directly to (can be disassembled from) the item identified in the functional group code title for that specific tabular listing, it shall have one dot indentation. Otherwise, that item in the tabular list will not have a dot indentation.
6. The statement END OF FIGURE appears just below the last item description in entry (6) for a given figure in both the repair parts list and special tools list work packages.

QTY (Entry (7)). The QTY (quantity per figure) entry indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, sub functional group, or an assembly. A "V" appearing in this entry instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

(MC) Include for Marine Corps manuals only.

USMC QTY per Equip (Entry 8). This entry accommodates the Marine Corps quantity per equipment requirement.

If you have cross-reference indexes include the information below in the parts data introduction as applicable:

EXPLANATION OF CROSS-REFERENCE INDEXES DATA MODULES FORMAT AND ENTRY

1. National Stock Number (NSN) Index Data Module. NSNs in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Entry. This entry lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this entry to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

FIG. Entry. This entry lists the number of the figure where the item is identified/located.

The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Entry. The item number identifies the item associated with the figure listed in the adjacent FIG. entry. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index Data Module. P/Ns in this index are listed in ascending numeric/alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Entry. Indicates the P/N assigned to the item.

FIG. Entry. This entry lists the number of the figure where the item is identified/located in the repair parts list and special tools list data modules.

ITEM Entry. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number entry.

Include 3, as applicable.

3. Reference Designator Index Data Module. Reference designators in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combination which places the first letter or digit of each group in order "A" through "Z," followed by the numbers "0" through "9" and each following letter or digit in like order).

REFERENCE DESIGNATOR Entry. Indicates the reference designator assigned to the item.

FIG. Entry. This entry lists the number of the figure where the item is identified/located in the repair parts list or special tools list data module.

ITEM Entry. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number entry.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Entry heading. Usable on codes are shown as "UOC: ..." in the Description Entry (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the PI are:

<u>Code</u>	<u>Used On</u>
PAA	Model M114
PAB	Model M114A
PAC	Model M114B

Include appropriate UOC content, as applicable.

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this parts data. Part numbers for bulk material are also referenced in the Description Entry of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in (*enter applicable TM number or data module number/title*).

Index Numbers. Items which have the word BULK in the figure entry will have an index number shown in the item number entry. This index number is a cross-reference between the NSN / P/N index data modules and the bulk material list in the repair parts list data module."

For a combined narrative-parts data manual associated publications shall not be included. Associated Publications. The publication(s) listed below pertains to the (*enter item name*):

Publication Short Title"

The following paragraph shall appear only in the unit maintenance parts data special instructions.

Illustrations List. The illustrations in this parts data contain field authorized items.

Illustrations published in (*enter applicable TM number for the higher maintenance level parts data, e.g., for AMC, ASB, TASM, etc.*) that contain field authorized items also appear in this parts data. The tabular list in the repair parts list data module contains only those parts coded "O" in the third position of the SMR code, therefore, there may be a break in the item number sequence.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or P/Ns Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the sub functional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list data modules for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

If there are NSN and part number indexes in your parts data enter the following in the introduction:

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER entry of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When P/N Is Known.

First. If you have the P/N and not the NSN, look in the PART NUMBER entry of the P/N index data module. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list data module. *If you don't have NSN and part number indexes in your parts data enter the following in the introduction:*

2. When NSN or part number is known.

First. Using the search function in the tool bar (binoculars), search for the NSN or part number.

Second. Locate the parts data entries for the NSN or part number in the search results to find further details for the NSN or part number in the parts data.

Include 4 only if the parts has a reference designator index data module.

4. When Reference Designator Is Known.

First. If you know the reference designator, look in the REFERENCE DESIGNATOR entry of the reference designator index data module. Note the figure and item number.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

ABBREVIATIONS

Abbreviation Explanation

Include uncommon abbreviations used in the parts data. List/define those not found in ASME Y14.38."

5.93.1.9.3 (MC) Marine Corps only parts information introduction.

For Marine Corps only manuals include the following verbatim in the parts information introduction. Items in italics should be filled in with appropriate information and/or removed as appropriate.

"INTRODUCTION

SCOPE

This PI lists and authorizes spares and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of (*enter maintenance level*) maintenance of the (*enter item name*). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance, and Recoverability (SMR) codes.

GENERAL

In addition to the Introduction data module, this PI data is divided into the following data modules.

1. PI List data modules. Data modules containing lists of spare and repair parts authorized for use in the performance of maintenance at the levels determined by the MAC/SMR code. These data modules also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in the Bulk Items data module which follows (*select the data module the bulk items follow: the last Parts List data module, the Special Tools Repair Parts data module, or Kits*) module. (*choose one of the following*) Repair parts kits are listed separately in their own functional group and data module OR Repair parts kits are listed at the end of the individual data modules. Repair parts for repairable special tools are also listed in a separate data module. Items listed are shown on the associated illustrations.

2. (*Include the text in items 2 through 4 and 6 only if the described data module(s) is included in the TM.*) Special Tools Repair Parts Data module. This data module lists any spare parts required for the special tools, TMDE, or other support equipment listed in the Special Tools Data Module that are not listed in any other publication.

3. Kits data module. This data module lists all repair kits and their component parts.
4. Bulk Items Data Module. This data module lists all items identified as 'bulk' in the parts lists. Due to the nature of bulk items, this data module does not include a figure.
5. Special Tools List Data Modules. This data module lists those special tools, special TMDE, and special support equipment authorized by this PI (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) entry). Tools that are components of common tool sets and/or Class VII are not listed.
6. Cross-Reference Indexes Data Modules. There are (*enter applicable number*) cross-reference indexes data modules in this PI. The National Stock Number (NSN) Index data module refers you to the figure and item number for each NSN listed in the PI. The Part Number Index data module refers you to the figure and item number for each part number listed in the PI. (*If reference designator is used enter: "The Reference Designator Index data module refers you to the figure and item number of each reference designator listed in the PI."*)

EXPLANATION OF ENTRIES IN THE PI DATA MODULES

ITEM NO. (Entry 1). Indicates the number used to identify items called out in the illustration.

SMR CODE (Entry 2). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction in accordance with AR 700-82, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

Table I. SMR Code Explanation.

<u>Source Code</u> <u>XX</u>	<u>Maintenance Code</u> <u>XX</u>	<u>Recoverability</u> <u>Code</u> <u>X</u>
1st two positions: How to get an item	3rd position: Who can install, replace, or use the item.	4th position: Who can do complete repair on the item.
		5th position: Who determines disposition action on unserviceable items.

Note

Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

TABLE 2. Source Code Explanation.

<u>Source Code</u>	<u>Application/Explanation</u>
PA	
PB	
PC	
PD	
PE	
PF	
PG	
	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the third position of the SMR code.

PH

Note

Items coded PC are subject to deterioration. Items coded PR or PZ are obsolete and may not be able to be ordered like other P coded items.

PR

PZ

KD

KF

KB

Items with these codes are not to be requested/requisitioned individually. They are part of a kit that is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.

MO-Made at Field/
Organizational

MF-Made at Field/
Intermediate

MH-Made at Field/
Intermediate

ML-Made at Spec-
ialized Maintenance
Facility

MD-Made at depot"

MG (Navy only)

Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) entry and listed in the bulk material group data module of the PI. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.

AO-Assembled at
Field/
Organizational

AF-Assembled at
Field/Intermediate

AH - Assembled at
Field Intermediate

AL-Assembled at
Specialized Mainte-
nance Facility

AD-Assembled at
depot

AG- Navy only

Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.

XA

Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)

XB

If an item is not available from salvage, order it using the CAGEC and P/N.

XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through local purchase or normal supply channels using the CAGEC and P/N given, if no NSN is available.

Note

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance class authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following classes of maintenance:

<u>Maintenance Code</u>	<u>Application/Explanation</u>
O-	Field/Organizational maintenance can remove, replace, and use the item.
F-	Field Intermediate maintenance can remove, replace, and use the item.
H-	Field Intermediate maintenance can remove, replace, and use the item.
L-	Specialized Maintenance Facility can remove, replace, and use the item.
G-	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only).
K-	Contractor facility can remove, replace, and use the item.
Z-	Contractor facility can remove, replace, and use the item.
D-	Depot can remove, replace, and use the item.

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance class with the capability to do complete repair (perform all authorized repair functions).

<u>Maintenance Code</u>	<u>Application/Explanation</u>
O-	Field/Organizational is the lowest class that can do complete repair of item.
F-	Field Intermediate is the lowest class that can do complete repair of the item.

H-	Field Intermediate maintenance is the lowest class that can do complete repair of the item.
L-	Specialized maintenance Facility is the lowest class that can do complete repair of the item.
D-	Depot is the lowest class that can do complete repair of the item.
G-	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only).
K-	Complete repair is done at contractor facility.
Z-	Nonreparable. No repair is authorized.
B-	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

<u>Recoverability Code</u>	<u>Application/Explanation</u>
Z-	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the Field/Organizational level.
F-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the Field/Intermediate level.
H-	Reparable item. When uneconomically reparable, condemn and dispose of the item at the Field/Intermediate level.
D-	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L-	Reparable item. Condemnation and disposal not authorized below Specialized Maintenance Facility.
A-	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G-	Field level reparable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K-	Reparable item. Condemnation and disposal to be performed at contractor facility.

NSN (Entry 3). The NSN for the item is listed in this entry.

CAGEC (Entry 4). The Commercial and Government Entity Code (CAGEC) is a five-digit code that is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Entry 5). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

Note

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Entry (6)). This entry includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. P/Ns of bulk materials are referenced in this entry in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. Refer to Usable on Code details presented later in this data module under

SPECIAL INFORMATION.

5. Dot indentions indicate the relationship of the part (or parts) to its next higher assembly (NHA) in the tabular listing. The NHA for this part (or parts) is listed right before the part (or parts) that it is the NHA for. If the item is connected directly to (can be disassembled from) the item identified in the functional group code title for that specific tabular listing, it shall have one dot indentation. Otherwise, that item in the tabular list will not have a dot indentation.

6. The statement END OF FIGURE appears just below the last item description in entry (6) for a given figure in both the repair parts list and special tools list work packages.

QTY (Entry (7)). The QTY (quantity per figure) entry indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, sub functional group, or an assembly. A "V" appearing in this entry instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

If you have cross-reference indexes include the information below in the PI introduction as applicable:

EXPLANATION OF CROSS-REFERENCE INDEXES DATA MODULES FORMAT AND ENTRY

1. National Stock Number (NSN) Index Data Module. NSNs in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Entry. This entry lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. When using this entry to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476. FIG. Entry. This entry lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Entry. The item number identifies the item associated with the figure listed in the adjacent FIG. entry. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index Data Module. Part numbers which are all numbers are listed first in ascending numeric sequence. Part numbers containing letters and numbers are listed in ascending alphanumeric sequence by part number after all the part numbers containing numbers only.

PART NUMBER Entry. Indicates the P/N assigned to the item. FIG. Entry. This entry lists the number of the figure where the item is identified/located in the repair parts list and special tools list data modules.

ITEM Entry. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number entry.

Include 3, as applicable.

3. Reference Designator Index Data Module. Reference designators in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combination which places the first letter or digit of each group in order "A" through "Z," followed by the numbers "0" through "9" and each following letter or digit in like order).

REFERENCE DESIGNATOR Entry. Indicates the reference designator assigned to the item.

FIG. Entry. This entry lists the number of the figure where the item is identified/located in the repair parts list or special tools list data module.

ITEM Entry. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number entry.

SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Entry heading. Usable on codes are shown as "UOC: ..." in the Description Entry (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the PI are:

<u>Code</u>	<u>Used On</u>
PAA	Model M114
PAB	Model M114A
PAC	Model M114B

Include appropriate UOC content, as applicable.

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this PI. Part numbers for bulk material are also referenced in the Description Entry of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in (*enter applicable TM number or data module number/title*).

Index Numbers. Items which have the word BULK in the figure entry will have an index number shown in the item number entry. This index number is a cross-reference

between the NSN / P/N index data modules and the bulk material list in the repair parts list data module."

For a combined narrative-PI manual, associated publications shall not be included.

Associated Publications. The publication(s) listed below pertains to the (enter item name):

Publication Short Title"

The following paragraph shall appear only in the unit maintenance PI special instructions.

Illustrations List. The illustrations in this PI contain field authorized items.

Illustrations published in (*enter applicable TM number for the higher maintenance level PI, e.g., for AMC, ASB, TASMG, etc.*) that contain field authorized items also appear in this PI. The tabular list in the repair parts list data module contains only those parts coded "O" in the third position of the SMR code; therefore there may be a break in the item number sequence.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or P/Ns Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the sub functional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list data modules for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

If there are NSN and part number indexes in your PI data enter the following in the introduction:

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER entry of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When P/N Is Known.

First. If you have the P/N and not the NSN, look in the PART NUMBER entry of the P/N index data module. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list data module.

If you don't have NSN and part number indexes in your PI data enter the following in the introduction:

2. When NSN or part number is known.

First. Using the search function in the tool bar (binoculars), search for the NSN or part number.

Second. Locate the PI data entries for the NSN or part number in the search results to find further details for the NSN or part number in the PI data.

Include 4 only if the PI has a reference designator index data module.

4. When Reference Designator Is Known.

First. If you know the reference designator, look in the REFERENCE DESIGNATOR entry of the reference designator index data module. Note the figure and item number. Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

ABBREVIATIONS

Abbreviation Explanation

Include all abbreviations used in the PI."

5.93.1.10 Repair parts information.

Data Module Type: IPD

Information Code: 941A

5.93.1.10.1 General.

A parts list data module shall consist of one top-level item or component.

5.93.1.10.2 Scope.

The repair parts list shall have a figure and a list of repair part items.

5.93.1.10.3 Repair parts figure title.

When available, figure titles shall be taken from provisioning documentation. The parts list figure title, technical name, and the applicable MAC title shall be the same. When there is no provisioning documentation, the acquiring activity or contractor shall develop a title. This title shall be used consistently throughout the publication.

5.93.1.10.4 List requirements.

Repair part item. Each repair part list shall include the following column requirements:

- a. Item number column. Items shall be listed on the repair parts list (in the ITEM NO. column) by the same callout number shown on the associated figure. The items shall be listed in ascending alphanumeric sequence.
- b. SMR code column. The SMR code column shall include SMR codes assigned to the applicable items. When developed as a multiple service publication, each service shall have identified the appropriate SMR code. When services share the same SMR code for an item, the SMR code shall be listed for each service.
- c. NSN column. The NSN column shall include the NSN assigned to the applicable item.
- d. CAGEC column. The applicable five-digit CAGEC number, as listed in Catalog Handbook H4/H8, shall appear in the CAGEC column.
- e. Part number column. The part number is listed in the PART NUMBER column.

f. Description and UOC column. The DESCRIPTION AND USABLE ON CODE (UOC) column shall include the following information.

- (1) Item name. The item name shall consist of the federal item name (taken from Federal Supply Cataloging Handbook H6) and, if necessary, a minimum description to further identify the item. When provisioning data is used, the description shall consist of the data from the provisioning document. If the item is a Hardness Critical Item, the symbol HCI shall precede the item name.
- (2) Indentions. The item name listed in the DESCRIPTION AND USABLE ON CODE (UOC) column shall be indented to show components of assemblies and next higher assemblies.
- (3) UOC. When an item has multi-configurations or multi-models use, the three-position alphanumeric UOC representing the applicable configuration in which the item is used shall be placed on the last line under the item description. The letters "UOC:" followed by the applicable UOC shall be indented. When an item is used on all configurations or when only one configuration is covered by the parts list, UOCs shall not be shown.
- (4) Serial number application. When part numbers of spare/repair items are not the same for all serial numbered equipment of the same model, a statement identifying the Usable Effective (USBL EFF) serial numbers shall be placed on the last line under the item description. The letters "USBL EFF" followed by the applicable serial numbers shall be indented. (e.g., USBL EFF SER NOS 1719-1941). When an item is used on all models or when only one configuration is covered by the parts list, serial number shall not be shown.
- (5) Assembled items. Spare and repair parts that are part of a non-stocked assembled item (source coded "AO," "AF," "AH," or "AD") shall be assigned item numbers on illustrations and shall be listed in item number sequence on the repair parts list. These items/parts shall be listed immediately below the item to be assembled on the repair parts list. When a particular illustration does not show the parts breakdown of the non-stocked assembly, reference shall be made to the breakdown illustration in the parts list. Instructions, drawings, charts, and tables showing how to assemble assemblies source coded "A()" shall not appear in the parts list, but shall appear in the narrative maintenance TM.

g. Manufactured items. All items source coded "MO," "MF," "MH," or "MD" shall have the statement in the DESCRIPTION AND USABLE ON CODE (UOC) column as follows: "MAKE FROM (insert applicable bulk material or other replaceable item name, CAGEC, and part number)." Material that is used to make items shall also be shown in a separate bulk items data module. Instructions, drawings, charts, and tables required to show how items are made shall not be contained in the parts list but shall appear in the narrative maintenance TM. This is normally specified in the illustrated list of manufactured items when it is specified by the acquiring activity.

h. Kits and kit repair parts. Kits and repair parts (source coded "KD," "KF," or "KB") shall conform to the format of either option 1 or option 2, as specified by the acquiring Activity. Only one option is to be used in a weapons systems parts list.

(1) Option 1.

- (a) Option 1 (kits). Option 1 kits shall appear at the end of the associated parts list. As specified by the acquiring activity, the ITEM NO. column for kits shall be either left blank or list an alphabetical character(s). The QTY column for kits shall be "AR" when the exact quantity may vary.
- (b) Option 1 (parts). Option 1 kit repair parts shall be listed and appear in item number sequence. The statement "part of Kit P/N (insert kit P/N)" shall follow item name. Kit repair parts shall also be listed under the kit list at the end of the parts list. Parts of the kit list shall be indented and listed alphabetically by item name or in item number sequence immediately below the kit item name.

(2) Option 2.

- (a) Option 2 (kits). Option 2 kits shall be listed in the kit parts list (IC 607C).
- (b) Option 2 (parts). Option 2 kit repair parts shall appear in the parts list by item number as shown on the associated figure. They shall be listed in item number sequence. The statement "PART OF KIT P/N (insert kit part number)" shall follow the item name.

- i. End of data module statement. The statement "End of [insert data module title]" shall appear below the last item described in the column for each figure of the tabular lists in the repair parts list and the special tools lists.
- j. Quantity column. The number in the QTY column shall represent the number of times the item appears in the illustration/figure with the associated item number. When a definite quantity cannot be determined because the number of uses per equipment or the size/length of an item may vary, with each equipment, the letters "AR" (as required) shall be placed in the left position of the QTY column.
- k. (MC) USMC Quantity per equipment column. The number in the USMC QTY Per Equip column shall represent the total number of times the part appears in all the repair parts lists.

5.93.1.10.5 Basic Issue Items (BII) (repair parts).

Repair parts for reparable BII that do not have separate operator TMs, but are authorized for the parts list, shall be listed in a parts data module titled "Basic issue items." Items shall be listed and identified with the same basic columnar data required for the end item repair parts. BII shall be supported by illustrations.

5.93.1.10.6 Expendable and durable items.

Expendable and durable items shall not be listed in the parts list. These items shall appear in the expendable and durable items list in the Support Information Chapter.

5.93.1.11 Parts list specific illustration requirements.

Additional parts list specific illustration requirements are described below:

- a. Arrangement of illustrations. All illustrations prepared for spares, repair parts, special tools, special TMDE, and other special support equipment shall be arranged in figure number sequence. They shall precede their companion parts list (on the left-hand page preceding the parts list or at the top of the same page of the parts list). Illustrations shall not be duplicated to provide facing page illustrations for the second and subsequent pages of the parts list. Illustrations shall not be duplicated to show different models or configurations of an assembly when UOCs can be assigned to indicate differences in configurations.
- b. Use of illustrations. Foldout and foldout-fold up illustrations shall not be used in parts lists. References to illustrations in other publications or to illustrations in the narrative portion of a combined maintenance publications with a parts list shall not be made. Landscape pages shall not be prepared except for parts lists supporting nuclear weapons (regulated by the Department of Energy/Defense Nuclear Agency). For clarity, multisheet illustrations may be used.
- c. Identical parts/item numbers. Identical parts (same part number) appearing in a figure (illustration) shall have the same item number. If a figure has two or more components/assemblies, only the identical parts with identical SMR codes within each component/assembly shall have the same item number.
- d. Identical assemblies. When two or more identical assemblies (same part number) exist in different places, i.e., in the equipment, a breakdown of the parts shall be illustrated only once, i.e., the first time the assembly appears in the parts list. For subsequent times that the identical assembly appears, the assembly item name shall appear in the description column and be followed by the statement "BREAKDOWN: *[dmRef]*."

5.93.1.12 Repair parts for special tools.

Data Module Type: IPD

Information Code: 607B

5.93.1.12.1 General.

Repair parts for special tools list. The special tools repair parts list shall be prepared when all of the following conditions in a through c are met. The list shall follow the last repair parts list and shall precede the kit parts list and bulk items list.

- a. The parts list identifies special tools in the special tools list.
- b. The special tool has repair parts that may be replaced at any maintenance level covered in the publication.
- c. The special tool does not have repair instructions and parts listed in another technical manual for the special tool.

5.93.1.12.2 Special tools repair parts items list.

The repair parts items list requirements shall be used except as specified below:

5.93.1.13 Kit parts list.

Data Module Type: IPD

Information Code: 607C

5.93.1.13.1 General.

A kits parts list shall be prepared when kit parts are listed separately. The kit part list shall follow the last repair parts list or repair parts for special tools list, when provided, and shall precede the bulk items list, if provided. The list consists of one or more kits part item lists organized by SNS.

5.93.1.13.2 Kits part items list.

The kits part items list shall be listed alphanumerically by part number in the PART NUMBER column. The requirements defined for repair parts lists shall be used except as specified below:

- a. Item column. The required attribute **item** shall be populated with the value "999" and the item shall be identified as not illustrated.
- b. Kit part item group. Parts in the kit group, in the DESCRIPTION column, shall be indented two positions and listed alphabetically by item name or in item number sequence under their kit name. Kit parts shall be listed by item names, the quantity, and the item numbers that appear in the basic parts list.
- c. Kits part item quantity. The QTY column entry for kits part shall contain "AR" (as required) when the exact quantity may vary.

5.93.1.14 Bulk items.

Data Module Type: IPD

Information Code: 603B

5.93.1.14.1 General.

A bulk items list shall be prepared whenever bulk items are required in the repair of any parts listed in a parts list, special tool list or repair kit. The data module shall not have an illustration.

5.93.1.14.2 Bulk items list.

Items in the bulk items list shall be listed alphabetically by item name in the DESCRIPTION column. The requirements defined for repair parts lists shall be used except as specified below:

- a. ITEM column. Each bulk item shall be populated with the attribute **item** value "999" and identified as not illustrated.

5.93.1.15 Special tools list.

Data Module Type: IPD

Information Code: 604B

5.93.1.15.1 General.

A special tools list shall be prepared for special tools, special TMDE, and other special support equipment authorized for maintenance of the end item/assembly. All repair parts for special tools listed that have their own publication shall not be listed in the repair parts for special tools list.

5.93.1.15.2 Special tools list requirements.

The special tools list requirements described for repair parts lists shall be used except as specified below:

- a. Item number column. The required attribute **item** shall be populated with the value "999" and the item shall be identified as not illustrated.
- b. D-coded items. When a depot level parts list does not exist and items are maintained at depot level, they shall be identified with a "D" in the third position of the SMR code in the highest level parts list prepared.
- c. Basis of Issue (BOI). The BOI shall be placed on the last line under the item description, in the DESCRIPTION column, for individual items, sets, or kits. The BOI shall indicate the quantity of the items, i.e., sets, or kits authorized to support a quantity of end items/assembly(s) or a specific military unit. For example, BOI: 1 auth for 1-12 equip or BOI: 1 per BN HQ when BN has SVC CO.
- d. Quantity column. The QTY column shall be populated with the value "AR."
- e. Components list. Components of special tool sets and kits, in the DESCRIPTION column, shall be listed in item number sequence. The component shall be indented two positions. Quantities of components shall be included in BOI statement.

5.93.1.16 Cross-reference indices.**5.93.1.16.1 General.**

For Army publications a combined cross reference index shall not be used. For IETPs, cross reference indices are optional and search engines may be used in lieu of the indices. For page-based/paper manuals, NSN and part number cross-reference indices shall be included.

5.93.1.16.2 Preparation.

If required, cross reference table shall be auto generated as a descriptive data module at time of authoring.

5.93.1.16.3 Bulk figure reference.

The numbers in the ITEM No. column shall refer to the item number list in the bulk figure located in the bulk parts list and shall not refer to item numbers on an illustration.

5.93.1.16.4 Sets and kits.

Part numbers for sets/kits shall be cross-referenced to NSN and item number for the set/kit.

5.93.1.16.5 National Stock Number (NSN) index.

Data Module Type: Descriptive Information Code: 942F

The index shall be in ascending numeric sequence by the NIIN (the last nine digits of the NSN). Each line entry shall list the complete NSN for each NSN assigned to applicable repair part or special tool items data module and item number. The NSN line entry shall identify the first item number for which the stock number is applicable. The NSN shall not be repeated on the same page of the index for each additional data module and item number identified by that NSN. When NSN references carry over to another page, the carried over NSN entry shall appear at the top of the list.

5.93.1.16.6 Part number index.

Data Module Type: Descriptive Information Code: 942B

The index shall be in ascending alphanumeric sequence by part number. The part numbers that consist of all numbers shall be in numeric sequence preceding those with both letters and numbers. Each line entry shall list each part numbers assigned to applicable repair part or special tool items data module and item number. The part number line entry shall identify the first data module and item number for which the part number is applicable. The part number shall not be repeated on the same page of the index for each additional data module and item number identified by that part number. When part number references carry over to another page, the carried over part number entry shall appear at the top of the list.

5.93.1.16.7 Reference designator index.

Data Module Type: Descriptive Information Code: 942C

As applicable, a reference designator index may be prepared. The index shall be in alphanumeric sequence by reference designators. Each line entry shall list each reference designators assigned to applicable repair part or special tool items data module and item number. The reference designator line entry shall identify the first data module and item number for which the reference designators is applicable. The reference designators shall not be repeated on the same page of the index for each additional data module and item number identified by that reference designator. When reference designator references carry over to another page, the carried over reference designator entry shall appear at the top of the list.

5.93.1.17 Components of End Item (COEI) list.

Data Module Type: Descriptive/ Information Code: 105D/941B
IPD

5.93.1.17.1 General.

The COEI list shall be prepared as an inventory for the equipment to ensure safe and efficient operation. The format of the COEI shall be based on the number of items and usability. When there are only a few items, the illustrations shall be placed above the tabular listing (Method A). When there are numerous items, the illustrations may be included within the tabular listing for better usability (Method B). For Marine Corps only manuals, Supply System Responsibility (SSR) shall be used in lieu of COEI terminology throughout the COEI information.

5.93.1.17.2 Components of End Item (COEI) introduction.

The COEI list data module shall include the following verbatim text:

"COMPONENTS OF END ITEM (COEI) LIST

INTRODUCTION

Scope

The COEI for the (*insert the short end item name*) helps inventory items for safe and efficient operation of the equipment.

General

Components of End Item (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the (*insert name of end item*). As part of the end item, these items shall be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List "

Select method A text.

"Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) Part Number/(CAGEC)/National Stock Number (NSN). Identifies the part number, CAGE code, and/or stock number of the item to be used for requisitioning purposes.

Column (3) Description. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI is also included in this column.

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (Add the following only as applicable. Replace Xs with appropriate codes and model numbers.) These codes are identified below:

Code Used on

XXX Model XXX

XXX Model XXXX

XXX Model XXXXX

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

OR

Select method B text.

"Column (1) Item Number. Gives you the reference number of the item listed.

Column (2) National Stock Number (NSN) and Illustration. Identifies the stock number of the item to be used for requisitioning purposes and provides an illustration of the item.

Column (3) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI is also included in this column. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (Add the following only as applicable. Replace Xs with appropriate codes and model numbers.) These codes are identified below:

Code	Used on
XXX	Model XXX
XXX	Model XXXX
XXX	Model XXXXX

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

5.93.1.17.3 Components of End Item (COEI) or SSR list.

This list shall be prepared as an illustrated list of components of the end item (spare/repair parts that are removed from the major end item and separately packaged or stowed for transportation or movement; includes on-board spares). The illustrations shall be placed above the list (Method A) or within the list (Method B). When using method A for larger listings, the listing may be broken into multiple data modules to aid usability. The COEI list shall include the following information and basic content applicable to the specific equipment. The description of each item shall consist of the approved Federal item name, followed by a short description when needed. Items shall be listed alphabetically. The stowage location of COEI shall also be presented with the description. When more than one model or configuration is applicable and Usable On Codes (UOC) are assigned, the UOC shall appear in a separate entry adjacent to the description entry. When on-board spares apply, a new entry ON-BOARD SPARES shall be used. A list of the on-board spares shall appear in the same format as required for the basic COEI list.

5.93.1.17.4 Method B illustration.

The element **<symbol>** shall be used to include illustrations when using Method B.

5.93.1.18 Basic Issue Items (BII) list.

Data Module Type: Descriptive/ Information Code: 105C/941C
IPD

5.93.1.18.1 General.

BII lists shall be prepared as an inventory for the equipment to ensure safe and efficient operation. The format of the BII shall be based on the number of items and usability. When there are only a few items, the illustrations shall be placed above the tabular listing (Method A). When using method A for larger listings, the listing may be broken into multiple smaller tables to aid usability. When there are numerous items, the illustrations may be included within the tabular listing for better usability (Method B). For Marine Corps only manuals, BII shall not be included.

5.93.1.18.2 Basic Issue Items (BII) introduction.

The BII lists data module shall include the following verbatim text:

"BASIC ISSUE ITEMS (BII) LIST

INTRODUCTION

Scope

The BII for the (*insert the short end item name*) helps inventory items for safe and efficient operation of the equipment.

General

Basic Issue Items (BII). These essential items are required to place the (*insert name of end item*) in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII shall be with the (*insert name of end item*) during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the BII List"

Select method A text.

"Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) Part Number/(CAGEC)/National Stock Number (NSN). Identifies the part number, CAGE code, and/or stock number of the item to be used for requisitioning purposes.

Column (3) Description. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of BII is also included in this column.

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (Add the following only as applicable. Replace Xs with appropriate codes and model numbers.) These codes are identified below:

<u>Code</u>	<u>Used on</u>
XXX	Model XXX
XXX	Model XXXX
XXX	Model XXXXX

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

OR

Select method B text.

"Column (1) Item Number. Gives you the reference number of the item listed.

Column (2) National Stock Number (NSN) and Illustration. Identifies the stock number of the item to be used for requisitioning purposes and provides an illustration of the item.

Column (3) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of BII is also included in this column. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (Add the following only as applicable. Replace Xs with appropriate codes and model numbers.) These codes are identified below:

<u>Code</u>	<u>Used on</u>
XXX	Model XXX
XXX	Model XXXX
XXX	Model XXXXX

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

5.93.1.18.3 Basic Issue Items (BII) list.

This tabular list shall be prepared in the same format and include similar content (tailored to the applicable BII) as required for the COEI list. The stowage location of BII shall also be included with the description entry.

5.93.1.19 Additional Authorization List (AAL) (operator only).

Data Module Type: Descriptive/ Information Code: 104C/941D
IPD

5.93.1.19.1 General.

The AAL data module shall list all AAL items (i.e., items not issued with the end item; not listed on the end item engineering drawing as part of the end item, NSN configuration; not required to be turned in with the end item; separately authorized by MTOE, Tables of Distribution and Allowances (TDA), Common Table of Allowance (CTA), or Joint Table of Allowances (JTA); and provided for information only). For Marine Corps only manuals, Using Unit Responsibility Items (UURI) List shall be used in lieu of AAL terminology throughout the AAL list information.

5.93.1.19.2 Introduction.

The following introduction shall be prepared and included verbatim in the AAL data module:

"ADDITIONAL AUTHORIZATION LIST (AAL)

INTRODUCTION

Scope

This lists additional items you are authorized for the support of the (insert item name).

General

This list identifies items that do not have to accompany the (insert item name) and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

Explanation of Columns in the AAL

Column (1) Part Number/(CAGEC)/National Stock Number (NSN). Identifies the part number, CAGE code, and/or stock number of the item to be used for requisitioning purposes.

Column (2) Description. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed.

Column (3) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (Add the following only as applicable. Replace Xs with appropriate codes and model numbers.) These codes are identified below:

<u>Code</u>	<u>Used on</u>
XXX	Model XXX
XXX	Model XXXX
XXX	Model XXXXX

Column (4) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the part number/National Stock Number shown in column (1).

Column (5) Qty Recm. Indicates the quantity recommended."

5.93.1.19.3 Additional Authorization List (AAL).

A tabular list of all additional authorized items shall be prepared. Since there are no illustrations, the attribute **item** shall be populated with the value "999" and identified as not illustrated. The QTY entry shall be QTY RECM (quantity recommended). The items shall be listed alphabetically.

5.93.1.19.4 (MC) Collateral Material (CM) Data Module.

Data Module Type: Descriptive Information Code: 105A

5.93.1.19.4.1 (MC) General.

This data module shall be prepared for Marine Corps only manuals. This data module contains a list of items furnished with the end items upon initial issue and normally remain with the using unit during redistribution/rebuild or other change of custody of the end item unless otherwise directed by MARCORLOGCOM. These items are required to be maintained on hand, on order, or identified as an unfunded deficiency unless otherwise specifically directed. CM will be maintained and replaced by the using unit, except for materiel with 9999 series NSNs. Using units are not authorized to requisition items using the assigned 9999 series NSNs. The 9999 series NSN shown under the heading of "Collateral Materiel" is for control within the distribution system only, and is not authorized for requisitioning purposes. Items under this category will be requisitioned by individual NSN/NIIN, and/or part number and CAGE) Codes.

5.93.1.19.4.2 (MC) Introduction.

The following introduction (text within the quotation marks) shall be prepared and included verbatim:

"COLLATERAL MATERIAL(CM) ITEMS LIST INTRODUCTION

Scope

This data module lists collateral material items you are authorized for the support of the (*enter item name*)

General

This list identifies items that are to be requisitioned by the using unit except those with 9999 NSN.

Explanation of Entries in the CM

Part Number/Commercial and Government Entity Code (CAGEC)/National Stock Number (NSN). Identifies the part number/CAGE code/stock number of the item to be used for requisitioning purposes.

Description. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed.

Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (*Add the following only as applicable. Replace Xs with appropriate codes and model numbers.*) These codes are identified below:

<u>Code</u>	<u>Used on</u>
XXX	Model XXX
XXX	Model XXXX
XXX	Model XXXXX

Add if applicable: Model XXX uses CM items (*insert item numbers*), Model XXXX uses CM items(*insert item numbers*), and Model XXXXX use CM items (*insert item numbers*).

U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number.

Qty Recm. Indicates the quantity recommended."

5.93.1.19.4.3 (MC) CM List.

A tabular list of all CM items shall be prepared. The entries and subsequent information for this list shall be the same as the COEI/BII/SSR lists except no illustrations are used, and the QTY entry shall be QTY RECM (quantity recommended). The items shall be listed alphabetically.

5.93.1.20 Expendable and durable items list.

Data Module Type: Descriptive Information Code: 070D

5.93.1.20.1 General.

The expendable and durable items list data module shall be prepared to provide the user a list of all expendable and durable items called out in the TM/IETP text which are necessary to operate and/or maintain the equipment.

5.93.1.20.2 Introduction.

The following introduction shall be prepared and included verbatim in the expendable and durable items data module:

"EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This lists expendable and durable items that you will need to operate and maintain the (*insert equipment/end item name*). This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Item No. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item.

Level. This entry identifies the lowest level of maintenance that requires the listed item (include as applicable: C = Operator/Crew, O = AMC, F = Maintainer or ASB, H = Below Depot or TASM, D = Depot).

National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Item Name, Description, Part Number/(CAGE). This column provides the other information you need to identify the item. The last line below the description is the part number and the Commercial and Government Entity Code (CAGE) (in parentheses).

U/I. Unit of Issue (U/I) code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc."

5.93.1.20.3 Scope.

The Expendable and durable items list shall be prepared and include the following information:

- a. Item number
- b. Lowest maintenance level
- c. NSN
- d. Item name or nomenclature
- e. If applicable, a description
- f. Part number
- g. CAGEC
- h. U/I

5.93.1.20.4 No illustrations.

No illustrations shall be prepared for these items. Items appearing in the tabular list shall appear in alphabetical sequence by item name. Items to be listed shall be those approved by the acquiring activity.

5.93.1.21 Mandatory replacement parts (Field/Aviation Maintenance Company (AMC) level or above only.

Data Module Type: Descriptive Information Code: 075D

5.93.1.21.1 General.

The mandatory replacement parts (MRP) data module shall be included. If there are no MRPs, the following statement shall be included in the MRP data module:

"No mandatory replacement parts are required for the maintenance of (*insert equipment name*)."

5.93.1.21.2 Scope.

The MRPs data module shall be prepared and shall list all mandatory replacement parts referenced in the task preliminary requirements and procedures including those for PMCS. For **DMWRs/NMWRs**, a mandatory replacement parts list (consisting of all items that shall be replaced during the repair and overhaul of the equipment, whether or not they have been disturbed) shall be developed. When an item or component is not disassembled based on PreShop Analysis (PSA), the item will not be disassembled for the sole purpose to add a mandatory part. All items that shall be replaced during overhaul or repair procedures (based on usage intervals such as miles, time, or rounds fired, or replaced on a Time Between Overhaul (TBO) interval) shall be included in the parts list table. A reference shall be made to the TM/IETP that covers the equipment.

5.93.1.21.3 Introduction.

Mandatory replacement parts data module shall include an introduction.

5.93.1.21.4 Mandatory replacement parts.

This data module shall include a tabular list of mandatory replacement parts. Mandatory replacement parts shall be listed (standard column headings in quotes) by:

- a. item number "Item No."
- b. part number and CAGEC "Part Number/(CAGEC)"
- c. NSN "National Scot Number (NSN)"
- d. nomenclature "Nomenclature"
- e. quantity "QTY."

Items shall be listed in alphanumeric order by part number.

5.93.1.22 Critical Safety Items (CSIs).

Data Module Type: Descriptive Information Code: 075E

5.93.1.22.1 General.

When specified by the acquiring activity, the CSI data module shall be developed.

5.93.1.22.2 Critical Safety Items (CSIs) contents.

As applicable, the CSI data module shall include a tabular listing provided by the acquiring activity. Each CSI and associated characteristic(s) shall be clearly identified within overhaul/repair procedures. The location of the critical safety procedures or processes within the depot maintenance information set shall be referenced.

5.93.1.22.3 Critical Safety Items (CSIs) requirements.

A CSI data module shall be prepared on any aviation system that contains a CSI. All CSIs shall be listed by their nomenclature, part number, CAGEC, and critical characteristic.

5.93.1.23 Hand Receipt (HR) technical manuals.

5.93.1.23.1 General.

Hand receipt technical data shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

Hand receipt data shall consist of the following content.

5.93.1.23.1.1 Front matter.

An HR manual shall contain the following front matter as required:

5.93.1.23.1.1.1 Front cover.

The HR shall contain an abbreviated front cover. The abbreviated front cover shall contain the items as described below:

- a. Applicable TM designator.
- b. Title. "HAND RECEIPT COVERING CONTENTS OF COMPONENTS OF END ITEM (COEI), BASIC ISSUE ITEMS (BII), AND ADDITIONAL AUTHORIZATION LIST (AAL) FOR (short end item title)."
- c. National Stock Number (NSN) for respective end item.
- d. Applicable distribution statement in accordance with DoD 5230.24.
- e. End item code (if applicable).

5.93.1.23.1.1.2 List of effective data modules.

This content shall be prepared in accordance with [5.111.1.1.6](#).

5.93.1.23.1.1.3 Highlights.

This content shall be prepared in accordance with [5.111.1.1.7](#).

5.93.1.23.1.1.4 Safety summary.

If applicable, a safety summary may be included in the HR. (Refer to [5.111.1.1.5](#).)

5.93.1.23.1.1.5 Title block page.

An HR manual title block page shall consist of applicable TM number, title, national stock number, end item code (if applicable), statement regarding reporting of errors, and table of contents.

5.93.1.23.2 Introduction.

Data Module Type: Descriptive Information Code: 018A

TM hand receipt Introduction, shall consist, as a minimum, of the following paragraphs:

- a. SCOPE - This paragraph shall describe the scope and purpose of the HR.
- b. GENERAL - This paragraph shall explain the overprinted DA Form 2062 and its purpose; local reproduction authorization; and provides an address for requisitioning additional copies of HRs.
- c. EXPLANATION OF BLOCKS AND COLUMNS (DA FORM 2062) - This paragraph shall include explanations of all applicable codes used on the DA Form 2062 (e.g., controlled inventory item code (formerly SEC) and Accounting Requirements Code (ARC)).
- d. AUTHORIZATION DOCUMENTS - This paragraph shall provide the authorization documents for COEI, BII, and AAL.

Additional paragraphs addressing other introductory information may be added as appropriate.

5.93.1.23.3 Hand Receipt.

Data Module Type: Descriptive Information Code: 028A

The hand receipt shall contain one or more data modules containing:

5.93.1.23.3.1 Lead-in paragraph.

This paragraph shall contain the following lead-in sentence:

"Following is the Hand Receipt for *(insert system name)*."

5.93.1.23.3.2 Technical content.

The hand receipt data module shall contain DA Form 2062 in the form of a graphic. The DA Form 2062 shall consist of COEI, BII, and AAL contents extracted from the applicable validated and verified operator's manual.

5.93.1.23.3.2.1 Overprinted DA Form 2062.

The TM hand receipt shall include an overprinted DA Form 2062 for line item entry for system/end item and the contents of the applicable COEI, BII, and AAL. The TM hand receipt COEI, BII, and AAL title headers and listings shall be in the same sequence as used in the related operator technical manual (i.e., (1) system/end item line item entry; (2) COEI; (3) BII; and (4) AAL). TM hand receipt contents shall be as follows:

- a. The related TM number and date of publication, end item stock number, and the end item description and quantity should be shown in the applicable blocks in the heading of DA Form 2062. The line item entry for the end item and contents of COEI, BII and AAL lists, with applicable headers, shall comprise one DA Form 2062 (front side with continuation sheet(s)).

- b. The continuation sheet(s) shall contain the TM number and short end item title placed at the top left (outside the margin of the DA Form 2062). When COEI, BII, and/or AAL listings require a continuation sheet, the first line of the description column shall include the applicable title (i.e., COEI, BII, or AAL) followed by a dash and the word "Continued."
- c. Sufficient space (8 lines minimum) shall be left at the end of a listing for signature of recipient of COEI, BII, and AAL items. If a list of components extends too far on the page to allow for signature in the balance columns, a blank continuation sheet shall be added.
- d. When a title header (e.g., COEI, BII, or AAL) has an applicable listing in the operator technical manual, the TM hand receipt shall consist of the title header followed by the line item entry for NSN; brief item description (which shall include Commercial and Government Entity Code (CAGEC) and Part Number (P/N), in that order); the accounting requirements code; the physical security/pilferage code; unit of issue information; and quantity authorized.
- e. When a title header (e.g., COEI, BII, or AAL) has no applicable listing in the operator technical manual, the title header should appear on the TM hand receipt with the line entry "NOT APPLICABLE."

5.93.1.23.3.2.2 Current as of date.

The statement "Current as of" shall be shown at the bottom of each DA Form 2062. The cited date shall be the publication date of the current operator's manual/change from which the TM hand receipt data was extracted.

5.93.2 Army business rules.

None.

5.93.3 Project decisions.

5.93.3.1 Separate parts manual.

BRDP-ARMY-00074: The project shall decide if they will produce a separate parts manual or include parts data within other publications.

5.93.3.2 Components of End Item (COEI) method.

BRDP-ARMY-00077: The project shall determine use of Method A or Method B for presenting COEI data.

5.93.3.3 COEI authoring.

BRDP-ARMY-00078: Decide on the data module type for authoring COEI (Method A only).

NOTE

Projects should consider using an information code variant (e.g., 941B) if authoring COEI using an IPD data module. Additionally, if using IPD, document the authoring rules for the use of the required element **<partRef>** (e.g., allow empty attributes for unknown part numbers and CAGE codes).

5.93.3.4 Basic Issue Items (BII) method.

BRDP-ARMY-00079: The project shall determine use of Method A or Method B for presenting BII data.

5.93.3.5 BII authoring.

BRDP-ARMY-00080: Decide on the data module type for authoring BII (Method A only).

NOTE

Projects should consider using an information code variant (e.g., 941C) if authoring BII using an IPD data module. Additionally, if using IPD, document the authoring rules for the use of the required element **<partRef>** (e.g., allow empty attributes for unknown part numbers and CAGE codes).

5.93.3.6 AAL authoring.

BRDP-ARMY-00081: Decide on the data module type for authoring AAL (Method A only).

NOTE

Projects should consider using an information code variant (e.g., 941D) if authoring AAL using an IPD data module. Additionally, if using IPD, document the authoring rules for the use of the required element **<partRef>** (e.g., allow empty attributes for unknown part numbers and CAGE codes).

5.93.3.7 Mandatory replacement parts format.

BRDP-ARMY-00082: The project shall determine if mandatory replacement parts shall be prepared as tables or if procedural step writing style will indicate the needed information.

5.93.3.8 Hand receipt data as part of a larger manual.

BRDP-ARMY-00083: The project may decide to produce hand receipt data as a stand-alone manual or as part of a larger manual or IETP.

5.94 S1000D Chapter 5.2.1.6 - Common information sets - Maintenance planning information.**5.94.1 Army content requirements.****5.94.1.1 Maintenance Allocation Chart (MAC) introduction.**

Data Module Type: Descriptive Information Code: 018D

5.94.1.1.1 General.

An introduction for non-aviation Army MAC shall be prepared using a single descriptive data module. It shall include the following text verbatim:

"INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of the levels/classes, tasks, and other information contained in the MAC.

The MAC (immediately following this introduction) designates overall authority and responsibility for the performance of all maintenance tasks on the identified end item or component. The application of the maintenance tasks to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels/classes that are shown in the MAC in column (4). Column (4) is divided into two secondary columns. These columns indicate the maintenance levels/classes of "Field" and "Sustainment." Each maintenance level column is further divided into two sub-columns. These sub-columns identify the maintenance classes and are as follows:

1. Field level maintenance classes:
 - a. Crew (operator) maintenance. This is the responsibility of a using organization to perform maintenance on its assigned equipment. It normally consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. Items with a "C" ("O" for joint service reporting) in the third position of the Source, Maintenance, and Recoverability (SMR) code may be replaced at the crew (operator) class. A code of "C" ("O" for joint service) in the fourth position of the SMR code indicates complete repair is authorized at the crew (operator) class.
 - b. Maintainer maintenance. This is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion by field level units. This maintenance is performed either on the system or after it is removed. An "F" in the third position of the SMR code indicates replacement of assemblies, subassemblies, or other components is authorized at this level. An "F" in the fourth position of the SMR code indicates complete repair of the identified item is allowed at the Maintainer class. Items repaired at this level are normally returned to the user after maintenance is performed.
2. Sustainment level maintenance classes:
 - a. Below depot sustainment. This is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The item subject to maintenance has normally been forwarded to a maintenance facility away from the field level supporting units. An "H" in the third position of the SMR code indicates replacement of assemblies, subassemblies, or other components is authorized at this class. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at this class. Items are normally returned to the supply system after maintenance is performed at this class.
 - b. Depot. This is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. Assets to be repaired at this class are normally returned to an Army Depot or authorized contractor facility. The "replace" task for this class of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this class.

The tools and test equipment requirements table (immediately following the MAC) lists the tools and test equipment (both special tools and common tool sets) required for each maintenance task as referenced from the MAC.

The remarks table (immediately following the tools and test equipment requirements) contains supplemental instructions and explanatory notes for a particular maintenance task.

Maintenance tasks

Maintenance functions are limited to and defined as follows:

1. Inspect. Step-by-step instructions determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
2. Test. Step-by-step instructions to verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards, e.g., load testing of lift devices or hydrostatic testing of pressure hoses. For software, it is step-by-step instructions to verify usability/operability/functionality of the software.
3. Service. Step-by-step instructions to be performed periodically to keep an item in proper operating condition such as replenishing fuel, lubricants, chemical fluids, or gases.
4. Adjust. Step-by-step instructions to maintain or regulate, within prescribed limits, by bringing in-to proper position, or by setting the operating characteristics to specified parameters.
5. Align. Step-by-step instructions to adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. Step-by-step instructions to determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. It consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. Remove. Step-by-step instructions for taking a sub-component off an asset to facilitate other maintenance on a different component or on the same component (except replace or repair). For software, it is step-by-step instructions for uninstalling/removing the software from a workstation or other viewing hardware.
8. Install. Step-by-step instructions for placing, positioning, or otherwise locating a component to make it part of a higher level end item. The install task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position in the SMR code. For software, it is step-by-step instructions putting the software on a workstation or other viewing hardware.
9. Replace. Step-by-step instructions for taking off a serviceable component and putting a serviceable one in its place. The replace task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code.
10. Repair. Step-by-step instructions for restoring an item or software to a completely serviceable or fully mission capable status. The repair task is authorized by the LPD/MAC and the assigned maintenance level is shown as the fourth position code of the SMR code. The following definitions are applicable to the "repair" maintenance task: welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.
11. Paint. Step-by-step instructions to prepare and apply coats of paint. When used with munitions, the paint is applied so the ammunition can be identified and protected.
12. Overhaul. Step-by-step instructions to restore an item to a completely serviceable/operational condition as required by maintenance standards in the appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to a like new condition.
13. Rebuild. Step-by-step instructions required for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

14. Lubricate. Step-by-step instructions for applying a material (e.g., oil or grease) to reduce friction and allow a component to operate in a more efficient manner.
15. Mark. Step-by-step instructions for restoring obliterated identification on an asset.
16. Pack. Step-by-step instructions to place an item into a container for either storage or shipment after service and other maintenance operations have been completed.
17. Unpack. Step-by-step instructions for removing an asset from a storage or shipping container in preparation to perform further maintenance (e.g., repair or install).
18. Preserve. Step-by-step instructions for treating systems and equipment whether installed or stored, to ensure a serviceable condition.
19. Prepare for use. Step-by-step instructions required to make an asset ready for other maintenance (e.g., remove preservatives, lubricate, etc.).
20. Assemble. Step-by-step instructions to join the component pieces of an asset together to make a complete serviceable asset.
21. Disassemble. Step-by-step instructions to break down (take apart) a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).
22. Clean. Step-by-step instructions on how to remove dirt, corrosion or other contaminants from equipment. Refer to appropriate painting, lubrication, and preservation methods to restore original corrosion prevention and control methods when removed as a result of cleaning and/or when using cleaning to remove corrosion from the item.
23. Nondestructive inspection. Step-by-step instructions on preparation and accomplishment of inspections which do not destroy or damage the equipment.
24. Radio interference suppression. Step-by-step instructions to ensure installed equipment, either communication or other electronics, does not interfere with installed communication equipment.
25. Place in service. Step-by-step instructions required to place an item into service that are not covered in the service upon receipt data module.
26. Towing. Step-by-step instructions to connect one vehicle to another for the purpose of having one vehicle moved through the motive power of the other vehicle.
27. Jacking. Step-by-step instructions to mechanically raise or lift a vehicle to facilitate maintenance on the vehicle.
28. Parking. Step-by-step instructions to safely place a vehicle in a lot, ramp area or other designated location.
29. Mooring. Step-by-step instructions to secure a vehicle by chains, ropes or other means to protect the vehicle from environmental conditions or secure for transportation.
30. Covering. Step-by-step instructions to place a protective wrapping over a vehicle to protect it from environmental conditions or to hide (e.g., camouflage) it.
31. Hoisting. Step-by-step instructions to allow a vehicle to be raised by cables or ropes through attaching points.
32. Sling loading. Step-by-step instructions to place a sling around a vehicle to allow it to be raised.
33. External power. Step-by-step instructions on how to apply electrical power from any authorized power source (e.g., external generator or facility power).

34. Preparation for storage. Step-by-step instructions for preparing the equipment for placement into administrative storage, short-term storage, and/or long-term storage.
35. Preparation for shipment. Step-by-step instructions for preparing the equipment to be shipped or transported.
36. Transport. Step-by-step instructions and guidance for transporting/shipping the equipment.
37. Arm. Step-by-step instructions on activating munitions prior to use.
38. Load. Step-by-step instructions for one of three tasks:
 - a. For transportation, the act of placing assets onto a transportation medium (e.g., pallet, truck, container).
 - b. For weapons/weapons systems, the act of placing munitions into the weapon/weapons system.
39. Unload. Step-by-step instructions for one of three tasks:
 - a. For transportation, the act of removing assets from a transportation medium (e.g., pallet, truck, container).
 - b. For weapons/weapons systems, the act of removing munitions from the weapon/weapons system.
40. Install peripheral device. Step-by-step instructions for installing peripheral devices such as printers, scanners, modems, etc.
41. Uninstall peripheral device. Step-by-step instructions for uninstalling peripheral devices such as printers, scanners, modems, etc.
42. Upgrade/patch. Step-by-step instructions for performing an upgrade to software or installing a patch to software.
43. Configure. Step-by-step instructions for configuring software for different uses/purposes and/or different users.
44. Debug. Step-by-step instructions for debugging software/correcting errors in the software.

Explanation of Columns in the MAC

Column (1) Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance task. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions, refer to "Maintenance tasks" outlined previously).

Column (4) Maintenance Level. Column (4) specifies each level/class of maintenance authorized to perform each task listed in column (3), by indicating man-hours required in the appropriate sub-column. The man-hour figure is the task time multiplied by the number of maintainers required to perform that maintenance task. This time includes preparation (equipment conditions, inspections), task performance, follow-on maintenance and quality assurance (inspections) time. Crew maintenance time will be entered as task (clock) time only. If different maintenance classes perform the same maintenance tasks due to the number or complexity of the tasks, appropriate man-hour figures are to be shown for each class. The symbol designations for the various maintenance levels and classes are as follows:

Field:

- C Crew maintenance
- F Maintainer maintenance

Sustainment:

- L Specialized Repair Activity (SRA)
- H Below depot maintenance
- D Depot maintenance

Note

The "L" maintenance class is not included in column (4) of the MAC. Functions to this class of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the RE-MARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by a number code, those common tool sets, kits, or outfits (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), common tools that are not part of a set, kit, or outfit, special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this Column (6) contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Columns in the Tools and Test Equipment Requirements

Column (1) Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) Maintenance Level. The lowest class of maintenance authorized to use the tool or test equipment.

Column (3) Nomenclature. Name or identification of the tool or test equipment.

Column (4) National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) Tool Number. The manufacturer's part number.

Explanation of Columns in the Remarks

Column (1) Remarks Code. The code recorded in column (6) of the MAC.

Column (2) Remarks. This column lists information pertinent to the maintenance task being performed as indicated in the MAC."

5.94.1.2 Maintenance Allocation Chart (MAC) Introduction (for Army aviation).

Data Module Type: Descriptive Information Code: 018D

5.94.1.2.1 General.

An introduction for Army aviation MAC shall be prepared using a single descriptive data module. It shall include the following text verbatim:

"INTRODUCTION

Aviation Maintenance Allocation Chart

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance tasks on the identified end item or component. The application of the maintenance tasks to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance level which are shown on the MAC as:

Field - includes two columns:

"O" which corresponds to Aviation Maintenance Company (AMC) and

"F" which corresponds to Aviation Support Battalion (ASB)

Sustainment - includes two columns:

"L" which corresponds to Theater Aviation Sustainment Maintenance Group (TASMG) and other organizations that have National Maintenance Program certification and

"D" which corresponds to Depot

The maintenance to be performed is described as follows:

1. Field maintenance activities:

- a. Aviation Maintenance Company (AMC). The aviation maintenance company is the lowest class of aviation field maintenance. The AMC provides direct support to aircraft operations, performing functions of aircraft servicing (daily, preflight, postflight inspections, refuel, arming), Battle Damage Assessment and Repair (BDAR), and repair or replacement actions as specified in the MAC.
- b. Aviation Support Company (ASC) in the Aviation Support Battalion (ASB). The ASB performs the following types of maintenance:
 - (1) Off equipment repair of LRUs or other components within the limits prescribed in the MAC.
 - (2) Inspections beyond the capability of the AMC.
 - (3) BDAR as required.
 - (4) Provide support to AMC personnel during peak workload periods as determined by local policy.

2. Sustainment maintenance:

- a. Theater Aviation Sustainment Maintenance Group (TASMG) (deployed). The TASMG performs the following:
 - (1) Provides support to CONUS deploying forces.
 - (2) Provides support to OCONUS deployed forces (as the Theater Aviation Support Maintenance Group (TASMG).
 - (3) Expands aviation maintenance capabilities of CONUS depots.
 - (4) Classifies and inspects aviation stocks and components.

- (5) Performs maintenance actions beyond the scope of the AMC or ASB within the limits prescribed in the MAC.
- (6) Augments ASB and AMC maintenance tasks.
- b. Depot. This is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. Assets to be repaired at this class are normally returned to an Army Depot or authorized contractor facility. The "replace" task for this class of maintenance is indicated by the letter "D" or "K" appearing in the third position of the Source, Maintenance, and Recoverability (SMR) code. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level/class.

Use of the MAC

Note

Approved item names are used throughout this MAC. Generic terms/ nomenclature (if any) are expressed in parentheses and are not to be considered as official terminology.

The MAC assigns maintenance tasks to the lowest level/class of maintenance.

Maintenance tasks

Maintenance tasks are limited to and defined as follows:

1. Inspect. Step-by-step instructions to determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
2. Test. Step-by-step instructions to verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards, e.g., load testing of lift devices or hydrostatic testing of pressure hoses. For software, to verify usability/operability/functionality of the software.
3. Service. Step-by-step instructions to be performed periodically to keep an item in proper operating condition such as replenishing fuel, lubricants, chemical fluids, or gases.
4. Adjust. Step-by-step instructions to maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. Align. Step-by-step instructions to adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. Step-by-step instructions to determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. It consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. Remove. Step-by-step instructions for taking a off an asset to facilitate other maintenance on a different component or on the same component (except for replace repair).

For software, it is step-by-step instructions for uninstalling/removing the software from a workstation or other viewing hardware.

8. Install. Step-by-step instructions for placing, positioning, or otherwise locating a component to make it part of a higher level end item. The install task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code. For software, it is step-by-step instructions putting the software on a workstation or other viewing hardware.
9. Replace. Step-by-step instructions for taking off an unserviceable component and putting a serviceable component in its place. The replace task is authorized by the LPD/MAC and the assigned maintenance level is shown as the third position code of the SMR code.
10. Repair. Step-by-step instructions for restoring an item or software to a completely serviceable or fully mission capable status. The repair task is authorized by the LPD/MAC and the assigned maintenance level is shown as the fourth position code of the SMR code. The following definitions are applicable to the "repair" maintenance task: welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.
11. Paint. Step by step instructions to prepare and apply coats of paint. When used with munitions, the paint is applied so the ammunition can be identified and protected.
12. Overhaul. Step-by-step instructions to restore an item to a completely serviceable/operational condition as required by maintenance standards in the appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to a like new condition.
13. Rebuild. Step-by-step instructions required for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.
14. Lubricate. Step-by-step instructions for applying a material (e.g., oil or grease) to reduce friction and allow a component to operate in a more efficient manner.
15. Mark. Step-by-step instructions for restoring obliterated identification on an asset.
16. Pack. Step-by-step instructions to place an item into a container for either storage or shipment after service and other maintenance operations have been completed.
17. Unpack. Step-by-step instructions for removing an asset from a storage or shipping container in preparation to perform further maintenance (e.g., repair or install).
18. Preserve. Step-by-step instructions for treating systems and equipment whether installed or stored, to ensure a serviceable condition.
19. Prepare for use. Step-by-step instructions required to make an asset ready for maintenance (e.g., remove preservatives, lubricate, etc).
20. Assemble. Step-by-step instructions to join the component pieces of an asset together to make a complete serviceable asset.
21. Disassemble. Step-by-step instructions to break down (take apart) a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant). Normal operation - Instrument flight.

22. Clean. Step-by-step instructions on how to remove dirt, corrosion or other contaminants from equipment. Refer to appropriate painting, lubrication, and preservation methods to restore original corrosion prevention and control methods when removed as a result of cleaning and/or when using cleaning to remove corrosion from the item.
23. Nondestructive inspection. Step-by-step instructions on preparation and accomplishment of inspections which do not destroy or damage the equipment.
24. Radio interference suppression. Step-by-step instructions to ensure installed equipment, either communication or other electronics, does not interfere with installed communication equipment.
25. Place in service. Step-by-step instructions required to place an item into service that are not covered in the service upon receipt data module.
26. Towing. Step-by-step instructions to connect one vehicle to another for the purpose of having one vehicle moved through the motive power of the other vehicle.
27. Jacking. Step-by-step instructions to mechanically raise or lift a vehicle to facilitate maintenance on the vehicle.
28. Parking. Step-by-step instructions to safely place a vehicle in a lot, ramp area or other designated location.
29. Mooring. Step-by-step instructions to secure a vehicle by chains, ropes or other means to protect the vehicle from environmental conditions or secure for transportation.
30. Covering. Step-by-step instructions to place a protective wrapping over a vehicle to protect it from environmental conditions or to hide (e.g., camouflage) it.
31. Hoisting. Step-by-step instructions to allow a vehicle to be raised by cables or ropes through attaching points.
32. Sling loading. Step-by-step instructions to place a sling around a vehicle to allow it to be raised.
33. External power. Step-by-step instructions on how to apply electrical power from any authorized power source (e.g., external generator or facility power).
34. Preparation for storage. Step-by-step instructions for preparing an item for placement into administrative, short-term, and/or long-term storage.
35. Preparation for shipment. Step-by-step instructions for preparing the equipment to be shipped or transported.
36. Transport. Step-by-step instructions and guidance for transporting/shipping the equipment.
37. Arm. Step-by-step instructions on activating munitions prior to use.
38. Load. Step-by-step instructions for one of three tasks:
 - a. For transportation, the act of placing assets onto a transportation medium (e.g., pallet, truck, container).
 - b. For weapons/weapon systems, the act of placing munitions into the weapon/weapon system.
39. Unload. Step-by-step instructions for one of three tasks:
 - a. For transportation, the act of removing assets from a transportation medium (e.g., pallet, truck, container).

- b. For weapons/weapon systems, the act of removing munitions from the weapon/weapon system.
- 40. Install peripheral device. Step-by-step instructions for installing peripheral devices such as printers, scanners, modems, etc.
- 41. Uninstall peripheral device. Step-by-step instructions for uninstalling peripheral devices such as printers, scanners, modems, etc.
- 42. Upgrade/patch. Step-by-step instructions for performing an upgrade to software or installing a patch to software.
- 43. Configure. Step-by-step instructions for configuring software for different uses/purposes and/or different users.
- 44. Debug. Step-by-step instructions for debugging software/correcting errors in the software.

Explanation of Columns in the MAC

Column (1) Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance task. Column (3) lists the tasks to be performed on the item listed in column (2). (For a detailed explanation of these functions, refer to "Maintenance tasks" outlined above).

Column (4) Maintenance Level. Column (4) specifies each level/class of maintenance authorized to perform each function listed in column (3), by indicating man-hours required in the appropriate sub-column. This man-hour figure is the task time multiplied by the number of maintainers required to perform that maintenance task. This time includes preparation (equipment conditions, inspections), task performance, follow-on maintenance and quality assurance (inspections) time. Crew maintenance time will be entered as task (clock) time only. If different maintenance classes perform the same maintenance tasks due to the number or complexity of the tasks, appropriate man-hour figures are to be shown for each class. The symbol designations for the various maintenance levels and classes are as follows:

Field:

- O Aviation Maintenance Company
- F Aviation Support Battalion

Sustainment:

- L Theater Aviation Support Maintenance Group
- D Depot

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by a number code, those common tool sets, kits, or outfits (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), common tools that are not part of a set, kit, or outfit, and special tools, special TMDE, and special support equipment required to perform the designated task. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, Column (6) contains a letter code, in alphabetical order, that is keyed to the remarks table entries.

Explanation of Entries in the Tools and Test Equipment Requirements

Column (1) Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) Maintenance Level. The lowest level/class of maintenance authorized to use the tool or test equipment.

Column (3) Nomenclature. Name or identification of the tool or test equipment.

Column (4) National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) Tool Number. The manufacturer's part number.

Explanation of Entries in the Remarks

Column (1) Remarks Code. The code recorded in remarks code entry of the MAC.

Column (2) Remarks. This entry lists information pertinent to the maintenance task being performed as indicated in the MAC."

5.94.1.3 Maintenance Allocation Chart (MAC).

Data Module Type: Schedule

Information Code: 916A (MAC)
916B (Aviation MAC)

5.94.1.3.1 General.

The MAC shall be prepared in FGC sequence to consolidate and identify those groups on the list which involve identified maintenance functions. The MAC shall be prepared according to the approved source data provided by the acquiring activity. The MAC shall be prepared using the schedule schema and the **<mainAllocation>** branch (along with **<toolsList>** and **<remarksList>**, as applicable).

5.94.1.3.2 Single Maintenance Allocation Chart (MAC) data module.

The MAC shall be prepared as a single data module. A project may optionally present the MAC in an IETP in screen views segmented at the subsystem or sub-subsystem level, but the MAC shall also be available to users as a single uninterrupted (scrollable) presentation.

5.94.1.3.3 Maintenance Allocation Chart (MAC) entries.

- a. The basic entries in the MAC shall be a list of functional groups applicable to the end item that requires maintenance. Parts that are not subject to maintenance shall not be listed in the MAC. The term "functional group" applies to repairable assemblies and subassemblies (e.g., spares) but not to repair parts. The end item group shall be numbered "00." Detailed information on the software shall be contained in the COEI/BII or AAL data modules as appropriate. Software shall be considered a major component and assigned an FGC accordingly. Software FGCs shall be listed last in the MAC.
- b. All item names of MAC functional groups shall be the official nomenclature in reverse word order except for software. Where applicable, type designators may be used, without stock or part numbers (P/Ns) if possible, in order to minimize need for subsequent change; however, entries shall contain positive identification.
- c. The maintenance code entered in the third position of the SMR code in the parts data shall be used to identify the lowest category of maintenance that is authorized to remove, replace, and use the spare or repair part.

- d. All items in the MAC shall specify the maintenance class(es) to which a function is authorized.
- e. The MAC shall be updated during change/revision cycle to reflect any changes made to maintenance tasks in that change/revision such as adding new tasks, deleting tasks, or changing times.

5.94.1.3.4 Maintenance Allocation Chart (MAC) format.

For an explanation of data to be listed in columns of the MAC, refer to the introduction information presented in [5.94.1.1](#) or [5.94.1.2](#) as applicable.

The non-aviation MAC and aviation MAC shall be prepared as follows:

- a. For an explanation of data to be listed in entries of the MAC, refer to the introduction information presented in [5.94.1.1](#) or [5.94.1.2](#) as applicable.
- b. The group number entry shall be entered, the nomenclature of the spare (component/assembly) shall be entered, and the maintenance function shall be listed in the MAC.
- c. The maintenance level entry shall be as follows:
 - (1) The non-aviation MAC maintenance level column shall be divided into two main headings, one for field and one for sustainment. Beneath the main headings there shall be four subheadings. Crew and maintainer shall be under field and below depot sustainment and depot shall be under sustainment.
 - (2) The aviation MAC maintenance level column shall be divided into two main headings, one for field and one for sustainment. Beneath the main headings there shall be four subheadings. Aviation Maintenance Company and Aviation Support Battalion shall be under field and theater aviation sustainment maintenance group and depot shall be under sustainment.
- d. A man-hour figure shall appear for the maintenance level authorized to perform the maintenance. For ammunition, an "X" may be used in place of man-hour figure. For sustainment maintenance tasks where the man-hour figures are not yet known, an asterisk "*" or a dash "-" may be used in place of a time until such time as a time can be determined.
- e. Reference numbers for all required tools and test equipment shall be listed in the MAC. These reference numbers shall correspond to the appropriate tools/test equipment listed in the tools and test equipment table.
- f. Reference letters for applicable remarks shall be listed in the MAC. These reference letters shall correspond to the appropriate remarks listed in the remarks table.

5.94.1.3.5 Tools and test equipment requirements.

A tabular list of all common tool sets, kits, or outfits (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), common tools that are not part of a set, kit, or outfit, and special tools/kits, special TMDE, and special support equipment required to maintain the equipment shall be prepared, as applicable. Common tools shall not be included on this list when they are part of an existing set, kit, or outfit authorized to the intended user; however, the authorized set, kit, or outfit that contains the prescribed common tools shall be listed. This list shall be in alphabetical order by name.

5.94.1.3.6 Remarks.

Remarks pertinent to maintenance tasks shall be prepared as applicable and shall be listed in this table alphabetically by remarks code.

5.95 S1000D Chapter 5.2.1.7 - Common information sets - Mass and balance information.**5.95.1 Army content requirements.****5.95.1.1 Weighing and loading.**

Data Module Type: Procedural Information Code: 160B

5.95.1.1.1 General.

The weighing and loading data module (**Aviation Support Battalion only**) shall be prepared. It shall provide description, information, and procedures for aircraft weighing, balancing, and loading.

5.95.1.1.2 Scope.

The following text shall be included verbatim:

"WEIGHING AND LOADING

GENERAL INFORMATION

Scope

This data module contains description, information, and procedures for aircraft weighing and loading."

5.95.1.1.3 Weighing information.

Instructions shall be included for preparing the aircraft, weighing the aircraft in the basic weight condition, performing calculations, and using and recording data on DD Form 365-1 (Basic Weight Checklist) and DD Form 365-2 (Aircraft Weighing Record). Instructions shall include preliminary requirements, procedures for positioning the aircraft in the weighing area, and assembly of the aircraft weighing equipment. Illustrations shall be prepared to support the text, including a two-view chart diagram. A reference may be made to TM 55-1500-342-23 for additional information governing weight and balance of aircraft, forms, and records.

5.95.1.1.4 Loading information.

Descriptions and instructions shall be prepared for aircraft loading, and computing weight and balance information. Sufficient information and data shall be provided so that an aviator, knowing the basic weight and moment of the aircraft, can compute any combination of weight and balance using the prescribed charts and forms. Reference shall be made to AR 95-1, DA PAM 738-751, and TM 55-1500-342-23 for additional information governing weight and balance of aircraft, forms, and records. Data shall include fundamental principles of loading. An illustration of aircraft compartments and stations shall be included. Reference shall be made to DD Form 365-1 for a more complete listing of compartments and equipment that comprise the basic weight of the aircraft. Loading information shall include weight and balance characteristics, center of gravity limits, weight/balance and loading, and weight and moment tables for load items such as crew, fuel, cargo, and armament.

5.96 S1000D Chapter 5.2.1.9 - Common information sets - Equipment information.

5.96.1 Army content requirements.

5.96.1.1 Equipment/user fitting instructions.

Data Module Type: Procedural Information Code: 913B

5.96.1.1.1 General.

As applicable, equipment/user fitting instructions for personal use equipment shall be prepared.

5.96.1.2 Auxiliary equipment maintenance.

5.96.1.2.1 General.

When auxiliary equipment (e.g., Modified Tables of Organization and Equipment (MTOE) items, etc.) maintenance TMs/IETPs or maintenance requirements cards are not procured for peculiar equipment furnished by the contractor, maintenance instructions shall be prepared. Procedural data module(s) shall be used with information codes assigned by the project specific to the maintenance performed.

5.96.1.2.2 Auxiliary equipment procedures.

Concise step-by-step auxiliary equipment procedures shall be prepared for proper care of auxiliary equipment while in and out of service. These procedures shall include instructions for storage, preventive maintenance, lubrication, operating checks, and adjustments, as applicable. Maintenance instructions shall also be included, as applicable, for special tools that have been fabricated.

5.96.1.3 Supplemental data for Commercial Off-The-Shelf (COTS) manuals.

5.96.1.3.1 General.

If after evaluation of COTS Manuals (refer to MIL-PRF-32216), it is determined the manual requires supplemental data, the supplemental data should be prepared using the following guidance. COTS supplemental manuals shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.96.1.3.2 Identifying Technical Publication Sheet.

The contracting activity may require the contractor to prepare an Identifying Technical Publication Sheet. The Identifying Technical Publication Sheet should be tailored to reflect only information applicable to the acquisition. S1000D and the Army business rules provide 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.

5.96.1.3.3 Equipment/model coverage.

Only equipment/models, accessories, and components specified in the contract shall be covered in the supplemental data.

5.96.1.3.4 Content/format selection summary.

The supplemental data should be presented in the following order:

5.96.1.3.4.1 Front matter.

Refer to [5.111](#).

5.96.1.3.4.2 Destruction of military materiel to prevent enemy use.

Refer to [5.98.1.3](#)

5.96.1.3.4.3 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

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 shall have a Government identifier (military specification number, NSN, etc.) that identifies the product beyond the product name and provides the user with requisitioning information. Refer to [5.96.1.4](#).

5.96.1.3.4.4 Preventive Maintenance Checks and Services (PMCS).

Refer to [5.90.1.4](#).

5.96.1.3.4.5 Maintenance Allocation Chart (MAC).

Refer to [5.94](#).

5.96.1.3.4.6 Components of End Item (COEI).

Refer to [5.93.1.17](#).

5.96.1.3.4.7 Basic Issue Items (BII) list.

Refer to [5.93.1.18](#).

5.96.1.3.4.8 Additional Authorization List (AAL).

Refer to [5.93.1.19](#).

5.96.1.3.4.9 Expendable supplies and materials list.

Refer to [5.93.1.20](#).

5.96.1.3.4.10 Repair parts information.

Data Module Type: IPD

Information Code: 941A

Manuals shall be supplemented with applicable spare/repair parts breakdown information.

Recommended changes, activity comment sheet, or manual deficiency report applicable to the particular service, as provided by the contracting activity. Refer to [5.93.1.10](#).

5.96.1.3.4.11 Other requirements as specified.

Data Module Type: Descriptive

Information Code: unspecified

When using manuals evaluation checklist as a guide, other required data may be indicated thereon.

5.96.1.3.4.12 Warranty information.

Data Module Type: Descriptive

Information Code: 023E

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.

5.96.1.3.4.13 Copyright.

Data Module Type: Descriptive

Information Code: 021A

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.

5.96.1.4 Lubrication instructions.

Data Module Type: Procedural

Information Code: 240B

Lubrication instructions shall be prepared for all equipment, except aircraft, that require lubrication. These lubrication instructions shall be prepared except in the following cases:

- a. When specified by the acquiring activity, the lubrication instructions may be included in the PMCS data module or as a lubrication data module.
- b. When the lubrication procedures are classified, the lubrication instructions shall be included in the PMCS or a lubrication data module that is classified to at least the classification level of the instructions or higher. Classified instructions shall be marked and handled as specified in the current security regulations.

5.96.1.4.1 Separate Lubrication Order (LO).**5.96.1.4.1.1 Lubrication Order (LO) format.**

LOs shall be prepared in either log book or standard page size (refer to [5.116.1](#)).

5.96.1.4.1.2 Lubrication Order (LO) number.

The LO number shall appear on the cover in accordance with [5.96.1.4.1.6](#). The LO number shall appear at the top of all other page.

5.96.1.4.1.3 Lubrication interval symbols.

Unless otherwise specified by the contracting activity, the following lubrication interval symbols shall be used:

TABLE LXVI. Lubrication Intervals.

Symbol	Definition
D	Daily
W	Weekly
M	Monthly
Q	Quarterly
S	Semiannually
A	Annually
B	Biannually
H	Hours (operated)
MI	Miles (operated)
KM	Kilometers (operated)
RDS	Rounds (fired)
OC	On Condition
MRA	Maintenance Repair Action

5.96.1.4.1.4 Measurements.

Unless otherwise specified by the acquiring activity, all measurements expressed in the text, in tables, or in illustrations shall be expressed in both U.S. standard units and metric units. The order shall be in accordance with equipment markings.

5.96.1.4.1.5 Title page (cover) contents.

The title page (cover) shall contain the heading, title, NSN, P/N, CAGEC, the end item code, a reference line, reporting errors information, supersedure notice (revisions only), distribution statement/export control warning/destruction notice, LO statement, service nomenclature, and date.

5.96.1.4.1.6 Heading.

The heading shall consist of the LO number centered at the top of the cover and the words "LUBRICATION ORDER," centered below the LO number.

5.96.1.4.1.7 Title.

The title shall appear below the heading and read the same as the title on the related publication. When more than one piece of equipment is covered by the LO, the nomenclature for each shall appear separately. The applicable NSNs, part numbers, CAGECs, and EICs for each piece of equipment covered by the LO shall be entered beneath the nomenclature.

5.96.1.4.1.8 Reference line.

A reference line consisting of the publication module code(s) of the related publication shall be placed below the title within the applicable area.

5.96.1.4.1.9 Reporting errors.

LO cover shall contain a Reporting Errors and Recommending Improvements Statement.

5.96.1.4.1.10 Supersedure notice.

For revised LOs, a supersedure notice shall be included on the cover.

5.96.1.4.1.11 Distribution statement, export control warning, and destruction notice.

A distribution statement and, when required, an export control warning and destruction notice shall be placed on the LO cover. Requirements for these notices are contained in [5.111.1.1.3.6](#) through [5.111.1.1.3.8](#) and in DoDI 5230.24

5.96.1.4.1.12 Lubrication Order (LO) statement.

The following statement shall be included on the title page of the LO:

"A copy of this lubrication order will remain with the equipment at all times; instructions contained herein are mandatory."

5.96.1.4.1.13 Service nomenclature.

The LO cover shall include the service or acquiring activity's nomenclature.

5.96.1.4.1.14 LO Date.

The LO cover shall include the date of the LO at the bottom.

5.96.1.4.1.15 LO introduction.

The LO introduction shall contain the following statements/information, as applicable:

5.96.1.4.1.15.1 General statement(s)/Notes.

General statement(s)/notes shall be placed in the LO introduction and are applicable to the overall understanding of requirements of the LO procedures. The statement(s) shall include such information as adherence to lubrication intervals, explanation of interval symbols, maintenance levels, exceptional operational requirements, abbreviations, fittings, and parts cleaning. A statement concerning corrosion control shall be used as applicable. The statement shall provide instructions or reference corrosion control requirements provided in the applicable narrative publication.

5.96.1.4.1.15.2 Oil filter statement.

As applicable, a statement similar to the following shall be included:

"Oil filters shall be serviced/cleaned/changed as applicable, when:

- a. they are known to be contaminated, or clogged;
- b. service is recommended by Army Oil Analysis Program (AOAP) laboratory analysis;
- or
- c. at prescribed hardtime maintenance intervals."

5.96.1.4.1.15.3 Army Oil Analysis Program (AOAP) statements.

One of the following statements shall be included for all equipment falling under the AOAP.

5.96.1.4.1.15.3.1 Army Oil Analysis Program (AOAP) sampling interval statement.

A statement similar to the following shall be included:

"Engine oil/transmission oil/hydraulic fluids must be sampled at (*insert applicable hour/mileage time frame*) as prescribed by (*insert DA Pam 750-8 or DA Pam 738-751*)."

5.96.1.4.1.15.3.2 Army Oil Analysis Program (AOAP) not available/non-enrolled statement.

When a component/equipment is not enrolled in the AOAP, or oil analysis support is not available, a statement similar to the following shall be used:

"This (*enter name of component/equipment*) is not enrolled in the Army Oil Analysis Program. HARDTIME MAINTENANCE INTERVALS APPLY."

5.96.1.4.1.15.4 Warranty hardtime statement.

When applicable, the following statement shall be used:

"For equipment under manufacturer's warranty, hardtime oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions such as longer than usual operating hours, extended idling periods, extreme dust, etc."

5.96.1.4.1.16 Lubrication procedures.

Lubrication procedures shall be prepared and shall include all applications, procedures, authorized lubricants, intervals, man-hour requirements, lubrication points, and AOAP requirements. Unless otherwise specified by the contracting activity, the lubrication procedures shall be presented in grouped sequence by interval so as to enable the

user to receive, lubricate, and return to an acceptable performance standard all components of the equipment in a minimum of time with the skills, tools, test equipment, and spare parts authorized by the LPD or the MAC. Unless otherwise specified by the contracting activity, lubrication procedures shall be based upon the principles of RCM logic.

5.96.1.4.1.17 Grouped lubrication points.

When grouped lubrication points require the same lubricant at the same interval, the type and number of points shall be identified and described by one of the following methods:

- a. Multi-headed arrows. Multi-headed, solid-shafted arrows shall point to each of the lubrication points.
- b. Lubrication point notes. Lubrication point notes shall provide instructions for applying lubricants, taking into account the following factors:
 - (1) Type, grade, availability, and properties of prescribed lubricant.
 - (2) Expected temperature.
 - (3) Lubrication gun and tools available to authorized maintenance level.
 - (4) Types of lubrication fittings.
 - (5) Possible ill effects of excessive or insufficient lubrication.

Caution shall be stressed where over or under lubrication of a part will damage that part or closely associated parts. Such cautionary notes shall be included either as a portion of the point note, or as a special note (refer to [5.96.1.4.1.23](#)).

5.96.1.4.1.18 Washing and natural drying.

If applicable, instructions shall be given for washing and natural drying of finely machined and dirt-sensitive parts before re-lubricating. Use of compressed air jets or temperatures above 212 degrees Fahrenheit shall not be prescribed.

5.96.1.4.1.19 Preservation information.

If preservation procedures are required for the LO, reference shall be made to the related maintenance publication containing preservation procedures. Any special preservation procedures needed for the LO that are not covered in the related maintenance publication may be included in the LO.

5.96.1.4.1.20 Lubricants and military symbols.

Unless otherwise specified by the acquiring activity, lubricants shall be identified by standard military symbols, in accordance with MIL-HDBK-113 and MIL-HDBK-275. The lubricant symbols and interval symbols shall be contained in a table. These columns shall be headed by the words "Lubricant" and "Interval." Those lubrication points that are serviced or lubricated by checking the level, replenishing the lubricant, or draining and refilling shall be indicated by the lubricant's symbol at the point on the illustration that is designated for replenishing or refilling. The amount of lubricant required shall be given either in the point note or in the "Capacity" column of the table, if applicable.

5.96.1.4.1.21 Lubricant table.

As applicable, a table(s) shall be prepared to provide information needed to select the proper lubricant for various temperature ranges and uses. The size and location of the table(s) shall be tailored to meet layout requirements and shall include as applicable, information on temperature range, lubricant, military symbol, NATO code, specification, national stock number, capacity, interval between service, and man-hours required to complete all service by type stated to the nearest tenth for all lubricants prescribed by the lubrication order.

5.96.1.4.1.22 Notes to tables.

As necessary, when specific restrictions, preferred grades, and other conditions exist, notes shall be annotated on table(s). For example: 1/"When MIL-PRF-2104 lubricant is authorized, use 15W-40 (OE/HDO-15/40) when available and applicable temperature range exists," or 2/"15W- 40 oil is not authorized in this particular (*insert component name*). Where applicable, the statement "For Arctic Operation, refer to TM 4-33.31" shall be included as a note.

5.96.1.4.1.23 Special notes.**5.96.1.4.1.23.1 Pertinent lubrication point information.**

As applicable, additional pertinent lubrication point information shall be incorporated into the lubrication order. When applicable, the lubrication order shall contain a special note referencing, but not repeating, instructions in technical manuals.

5.96.1.4.1.23.2 Effect of extreme conditions.

If applicable, pertinent instructions relevant to the effect of extreme conditions such as temperature, humidity, or altitude on lubrication requirements for the equipment shall be included as a special note.

5.96.1.4.1.23.3 Authentication information.

An authentication information, provided by the acquiring activity, shall be included in the LO. Distribution information, as applicable, shall be placed below the authentication information.

5.96.2 Army business rules.

None.

5.96.3 Project decisions.**5.96.3.1 Level of detail to be provided in the technical descriptions in Equipment information sets.**

BRDP-S1-00427: Decide what level of detail to provide in the functional and technical descriptions.

5.96.3.2 Use of wiring Schema in Equipment information sets.

BRDP-S1-00428: Decide whether the Wiring data Schema and the Wiring data description Schema are to be used or not. Interactive wiring publication functionalities are only to be made available if the Wiring Schema is used. Refer to Chap 3.9.5.2.9.

5.96.3.3 Level of detail to be provided in the maintenance and servicing data modules in Equipment information sets.

BRDP-S1-00429: Decide what level of detail to provide in the maintenance and servicing data modules.

5.96.3.4 Use of consolidated lists for Support equipment, Consumables, materials, expendables, etc, in Equipment information sets.

BRDP-S1-00430: Decide whether to use consolidated lists for Support equipment, Consumables, materials, expendables, etc.

5.96.3.5 Use of equivalent substitutes in Equipment information sets.

BRDP-S1-00431: Decide whether to allow the use equivalent substitutes for support equipment, consumables, materials and expendables.

5.96.3.6 Level of detail to be provided in the IPD data modules in Equipment information sets.

BRDP-S1-00432: Decide what level of detail to provide in the IPD modules.

5.96.3.7 Data module types and information codes.

BRDP-ARMY-00154: The project shall decide the data module types (typically procedural) and information codes to use when preparing auxiliary equipment maintenance.

5.96.3.8 Determination of supplemental data.

BRDP-ARMY-00155: The project shall determine if and what COTS supplemental data is required for COTS manuals.

5.96.3.9 Identifying Technical Publication Sheet.

BRDP-ARMY-00156: The project shall determine if the contractor shall prepare an Identifying Technical Publication Sheet.

5.96.3.10 Cover contents.

BRDP-ARMY-00157: The project shall determine if the federal item name, NSN, P/N, model number, and applicable contractor number shall be overprinted on the cover or the title page of the manual.

5.96.3.11 List of Effective Data Modules (LOEDM).

BRDP-ARMY-00158: The project shall determine if a LOEDM that will include the basic manual and the supplemental data shall be prepared.

5.96.3.12 LO page size.

BRDP-ARMY-00159: The project shall decide between logbook and standard page size for the LO.

5.97 S1000D Chapter 5.2.1.11 - Common information sets - Cargo loading information.**5.97.1 Army content requirements.****5.97.1.1 On-vehicle equipment loading plan.**

Data Module Type: Descriptive Information Code: 160C

On-vehicle equipment loading plan information set shall be prepared when applicable to the equipment. The loading plan shall include information provided by the acquiring activity.

5.97.1.2 Scope.

A brief scope statement shall be prepared explaining the purpose of the loading plan and identifying the equipment covered by the on-vehicle equipment loading plan information set.

5.97.1.3 Locator graphic.

An illustration identifying and locating the on-vehicle equipment shall be included. External and internal views shall be used, if necessary. As applicable, both tactical and non-tactical situation loading configurations shall be shown.

5.98 S1000D Chapter 5.2.1.13 - Common information sets - Role change information.**5.98.1 Army content requirements.****5.98.1.1 Modification Work Orders (MWOs).****5.98.1.1.1 General.**

The MWO information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.98.1.1.2 Text.

The technical data required for the MWO shall be contained in the following standard titled paragraphs. These paragraphs shall be numbered consecutively and presented in the sequence prescribed herein. The words "Not applicable" shall follow each standard paragraph title when the technical data is not required.

- a. Purpose.
- b. Priority.
- c. End item(s) or system(s) to be modified.
- d. Module(s), (components, assemblies, subassemblies, boards, and cards) to be modified.
- e. Part(s) to be modified.

- f. Application.
- g. Technical publications affected/changed.
- h. MWO kit(s)/part(s) and their disposition.
- i. Special tools, tool kits, jigs, TMDE, and fixtures required.
- j. Modification procedures.
- k. Calibration requirements.
- l. Weight and balance data.
- m. Quality assurance requirements.
- n. Recording and reporting of the modification.
- o. Materiel change number.
- p. Modification identification.

5.98.1.1.3 Paragraph 1 - Purpose, and Paragraph 2 - Introduction (Priority).

Data Module Type: Descriptive Information Code: 018A

5.98.1.1.3.1 Paragraph 1.

Paragraph 1 shall contain a brief explanation as to the purpose of the modification, e.g., what the modification will accomplish and how it will benefit the user.

5.98.1.1.3.2 Paragraph 2.

Paragraph 2 shall contain one of the following statements as selected and specified by the contracting activity:

- a. "This modification is classified ROUTINE."
- b. "This modification is classified URGENT as a result of a Safety of Use/Flight Message (*cite message reference*). Operating restrictions provided therein remain in effect until this modification is applied."
- c. "This modification is classified EMERGENCY as a result of an Emergency Safety of Use/Flight Message (*cite message reference*) which deadlined/grounded the equipment. The restriction remains in effect until this modification is applied."

5.98.1.1.4 Paragraph 3 - End item(s) or system(s) to be modified, Paragraph 4 - Module(s) (components, assemblies, subassemblies, boards, and cards) to be modified, and Paragraph 5 - Part(s) to be modified.

Data Module Type: Descriptive Information Code: 616A

5.98.1.1.4.1 Paragraph 3.

Paragraph 3 shall contain information to identify the end item(s) or system(s) to be modified. This information may be presented in a tabular format, whenever practicable and shall include, but not be limited to, the nomenclature, NSN, P/N, CAGECs, type or model number, and serial number(s) or serial number ranges of the end item(s) or

system(s) to be modified. When a large number of units is to be modified and the exempt number of units is small, the serial numbers of the exceptions shall be listed rather than the serial numbers of the units to be modified.

5.98.1.1.4.2 Paragraph 4.

Paragraph 4 shall begin with the following statement: "The following items, whether installed or in PLL/ASL or depot stock, shall be modified." This paragraph shall contain a listing of items to be modified, identified by nomenclature, NSN, CAGEC, P/N, and where applicable, by serial number(s) or ranges of serial numbers.

5.98.1.1.4.3 Paragraph 5.

Paragraph 5 shall begin with this statement: "The following item(s), whether installed or in PLL/ASL or depot stock, shall be modified. Stocked parts shall be modified prior to issue and shall be marked so that it can be easily determined that modification has been accomplished." This paragraph shall include a listing of items to be modified, including item identification by nomenclature, NSN, CAGEC, P/N, and, where applicable, by serial number(s) or range(s) of serial numbers.

5.98.1.1.5 Paragraph 6 - Modification application.

Data Module Type: Descriptive Information Code: 670D

This paragraph shall include:

- a. The following time compliance statement: "Time compliance schedule: MWO effective date is (*insert date*) and completion date is (*insert date*)." The same MWO effective date/completion date statement shall be printed on the cover/title page of the MWO.
- b. A level of maintenance statement indicating the lowest level of maintenance authorized to apply the MWO.
- c. Work force and man-hour requirements for application of the MWO to a single unit, end item, or system.
- d. A listing of all MWOs that shall be applied prior to or concurrently with the application of this MWO. This listing shall include MWOs required for other end items, systems, and TMDE that impact on this MWO.
- e. Any additional information deemed necessary to assist in the application of the MWO.

5.98.1.1.6 Paragraph 7 - Technical publications affected/changed.

Data Module Type: Descriptive Information Code: 017N

This paragraph shall list, by publication module code and date, all the technical publications (i.e., TMs, DMWRs, etc.) that have been or are being changed as a result of this MWO.

5.98.1.1.7 Paragraph 8 - Kit parts list.

Data Module Type: Descriptive Information Code: 607C

This paragraph shall contain general information as to MWO kits, parts, and bulk material needed to apply the MWO and shall specifically address the following:

- a. Kit(s)/part(s) needed to apply the MWO. All kits needed to apply the MWO shall be listed and identified by NSN, nomenclature, CAGEC, and P/N. Additionally, security classification of the MWO kit along with shipping data, e.g., weight, dimensions, and cubic displacement, shall be provided.
- b. Contents of MWO kits. Complete content of each MWO kit shall be listed, providing the nomenclature, NSN, CAGEC, P/N, and the quantity of each item needed for the modification. This data may be provided in a tabular format and shall include the appropriate figure numbers for each item listed when illustrations are used to clarify the MWO kit contents information.
- c. Bulk and expendable material. When applicable, a listing of all bulk and expendable material needed to apply the MWO shall be provided. The listing may be presented in a tabular format and shall include information as to the nomenclature, NSN, CAGEC, P/N, and the quantity of the material needed to accomplish a single MWO application.
- d. Parts disposition. Instructions covering the disposition of replaced/removed parts/components and those items in excess of the requirements for the completion of the MWO shall be provided.
- e. Mandatory Replacement Parts. When applicable, this paragraph shall contain a list of parts that shall be replaced during the modification.

5.98.1.1.8 Paragraph 9 - Special support equipment and tools (Special tools; tool kits; jigs; Test, Measurement, and Diagnostic Equipment (TMDE); and fixtures required).

Data Module Type: Descriptive Information Code: 304B

This paragraph shall contain a list of tool kits, special tools, jigs, fixtures, and TMDE, including associated test program sets, and software, that are required for the application of the MWO. This listing shall identify the item(s) by nomenclature, NSN, CAGEC, P/N, and quantity. When applicable, this paragraph shall contain instructions for the disposition of the special tools, tool kits, jigs, TMDE, and fixtures after application of the MWO.

5.98.1.1.9 Paragraph 10 - Modification procedures.

Data Module Type: Procedural Information Code: 670B

This paragraph shall provide instructions for the application of the MWO. Instructions for disassembly/assembly of the end item/assembly/system to be modified shall be provided by referencing appropriate TMs or DMWRs. Instructions may be included when a stand-alone document is necessary for the expeditious accomplishment of the modification. Illustrations shall be in detail adequate to support the written procedures. Additionally, the modification procedures paragraph shall provide the following information:

- a. Include instructions for operational checks before application and upon completion of the entire MWO or portion of the MWO. Instructions for operational checks shall be provided in the text or by reference to appropriate technical manual(s) and shall include values of all pertinent performance characteristics and tolerances.
- b. In cases of complex and lengthy modification procedures and when specifically authorized by the contracting activity, provide the modification procedures instructions as an appendix to the MWO and reference the appropriate appendix within this paragraph.
- c. When parts are to be removed and not used in reassembly, the procedures shall state: "Remove and set aside for disposition per para 8." The term "discard" shall not be used in the modification procedures.
- d. When there are Item Unique Identification (IUID) markings used on the equipment being modified, any procedures for adding, changing, or preserving these markings shall be included in the modification procedures.
- e. Include any instructions for verifying correct application of the modification and operability of the modified equipment.

For abbreviated MWOs, this paragraph shall contain just a reference to the applicable DMWR/NMWR, engineering drawings, and other technical data.

5.98.1.1.10 Paragraph 11 - Calibration requirements.

Data Module Type: Descriptive Information Code: 017E

This paragraph shall identify all calibration requirements upon completion of the MWO and shall reference the appropriate publications prescribing the calibration procedures and schedules. The level of calibration support required shall be specified for each separate calibration action and affected item(s) shall be identified by nomenclature and NSN. For abbreviated MWOs, this paragraph shall contain just a reference to the applicable DMWR/NMWR, engineering drawings, and other technical data.

5.98.1.1.11 Paragraph 12 - Weight and balance data.

Data Module Type: Descriptive Information Code: 169F

Whenever weight and balance affect the performance of the equipment to be modified, this paragraph shall include instructions for weight and balance procedures and the completion of appropriate DD Form 365, Record of Weight and Balance Personnel. These instructions shall be provided by referencing applicable publications. This paragraph shall not duplicate weight and balance information contained in the referenced documents. When weight and balance do not affect the performance of the equipment or the change made is negligible, this paragraph shall contain the following statement: "Weight and balance are not significantly affected."

5.98.1.1.12 Paragraph 13 - Quality assurance requirements.

Data Module Type: Descriptive Information Code: 315A

This paragraph shall contain information as to the quality assurance techniques and methods necessary to assure proper application of the MWO. General quality assurance inspection criteria cited shall be in accordance with TM 750-245-4. For abbreviated MWOs, this paragraph shall contain just a reference to the applicable DMWR/NMWR, engineering drawings, and other technical data.

5.98.1.1.13 Paragraph 14 - Recording and reporting of the modification, Paragraph 15 - Materiel change number, and Paragraph 16 - Modification identification.

Data Module Type: Descriptive Information Code: 670C

5.98.1.1.13.1 Paragraph 14.

Paragraph 14 shall contain the following information:

- a. Records and reports. Detailed recording and reporting procedures shall be provided by referencing AR 750-10 and if necessary, DA Pamphlet 750-8 or DA Pamphlet 738-751. AR 750-10 contains the mandatory reporting/recording requirements for MWO applications. DA PAM 750-8 and DA PAM 738-751 contain the general reporting/recording requirements and provide detailed instructions for the completion of the various maintenance historical records.

- b. Marking equipment. Specific instructions shall be provided for marking the modified item(s) to facilitate MWO application identification.
- c. Identification data. When the modification results in a change in NSN and model designation, information about the nomenclature, model number, CAGEC, P/N, and NSN changes on each affected item (end item, system, assembly, component, or part) shall be provided. This data may be presented in the following format:

TABLE LXVII. Identification data presentation.

	Before Modification	After Modification
Nomenclature		
Model No.		
CAGEC/Part No.		
NSN		

5.98.1.1.13.2 Paragraph 15.

Paragraph 15 shall contain the following statement:

"This MWO is authorized by materiel change number (*insert complete materiel change number*). The materiel change number shall be provided by the preparing activity.

5.98.1.1.13.3 Paragraph 16.

Paragraph 16 shall contain a narrative description and supporting illustration(s) of the completed modification to aid in physical inspection of the materiel to verify the modification has been completed.

5.98.1.1.13.4 Appendices.

When specified by the acquiring activity, complex modification procedures may be included in an appendix. When used, the appendix(es) shall follow the modification identification paragraph. Each appendix shall consist of the following:

- a. Appendix title
- b. Task title
- c. Setup
- d. Procedures

5.98.1.1.13.5 Abbreviated Modification Work Orders (MWOs) (short form).

When specified by the contracting activity, the MWO shall be prepared in an abbreviated format. An abbreviated MWO shall satisfy the content requirements of specified standard prime paragraphs by referencing. In an abbreviated MWO, the requirements of "Paragraph 9 - Special tools; tool kits: jigs: test, measurement, and diagnostic equipment (TMDE): and fixtures required", "Paragraph 10 - Modification procedures", "Paragraph 11 - Calibration requirements", and "Paragraph 13 - Quality assurance requirements" shall be satisfied by referencing the appropriate portion (s) of the applicable DMWR, engineering drawings, other technical data, or contract. Additionally, "Paragraph 6 - Application" shall be abbreviated to include only the time compliance schedule and the level of maintenance information.

5.98.1.2 Demilitarization of surplus military items.

5.98.1.2.1 General.

Demilitarization of Surplus Military Items information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.98.1.2.2 Printing.

Unless otherwise specified by the contracting activity, Demilitarization of surplus military items publications prepared in horizontal format shall be printed head to foot with holes punched at the bottom of even numbered pages and at the top of odd numbered pages. Except for pocket TMs, the PMC shall appear on the upper right corner of all pages. The upper pages shall have even numbers, and the lower pages shall have odd numbers.

5.98.1.2.3 Foldouts.

Foldout/fold up pages shall not be used in Demilitarization of surplus military items TMs.

5.98.1.2.4 Content.

The technical manual for demilitarization of surplus military items shall consist of the following:

- a. Front matter.
- b. General information.
- c. Methods of Demilitarization.
- d. Detailed Instructions for Demilitarization.
- e. References.
- f. Rear Matter.

5.98.1.2.5 Front matter.

Refer to [5.111.1.1](#) for front matter content requirements.

5.98.1.2.6 General information.

Data Module Type: Descriptive Information Code: 010B

The General Information data module shall consist of information as described in the following paragraphs (as required).

5.98.1.2.6.1 Scope.

The scope paragraph shall contain the following statement:

"This manual provides additional technical instructions covering the methods and degree of demilitarization of surplus military items as required by DoD 4160.21, Volumes 1-4. DoD 4160.21, which contains the basic information on demilitarization and shall be used in conjunction with this manual. Where this manual conflicts with DoD 4160.21, the latter takes precedence. Additional data may be obtained from DoD 4160.21, Defense Technical Information Center (DTIC) Defense Disposition Manual."

5.98.1.2.6.2 Authorization.

This paragraph shall contain the following statement:

"Demilitarization of surplus military materiel shall be limited to that which the National Inventory Control Points (NICP) has identified as requiring demilitarization. Demilitarization of those items that are not normally physically accepted by a Defense Reutilization and Marketing Officer (DRMO) will be accomplished by the activity having physical custody of the property upon completion of all required utilization and donation screening. Such action will be coordinated with a DRMO. Where appropriate, demilitarization of this property may be accomplished as a condition of sale, provided that there are effective controls and surveillance to assure proper demilitarization. Where the DRMO is the custodian of the property and is unable to perform required demilitarization, DRMO may require demilitarization as a condition of sale, with proper inspection and surveillance, or may obtain assistance from activity turning in the property."

5.98.1.2.6.3 Certification.

This paragraph shall contain the following statement:

"I certify that *(indicate items)* were demilitarized in accordance with *(cite specific instructions which were complied with; for example, Defense Demilitarization Manual, DoD 4160.21, and/or publication number)*."

5.98.1.2.6.4 Reporting demilitarization.

This paragraph shall contain any necessary reporting requirements concerning the accomplishment of demilitarization. If none, this paragraph shall be omitted.

5.98.1.2.6.5 Special information.

This paragraph shall be used to present any general information not covered elsewhere within the specification. If no such information is required, this paragraph shall be omitted.

5.98.1.2.7 Methods of demilitarization.

Data Module Type: Descriptive Information Code: 997F

When included, this data module shall contain a brief description of the methods used to demilitarize surplus equipment, parts and supplies. For each method, it shall include a list of equipment required, warning and safety instructions, and the procedures to be followed. Only those methods which are actually used to demilitarize the equipment covered in the manual shall be included. Where only one method is used and the method is a simple one, this data module may be combined with the detailed instructions.

5.98.1.2.7.0.A Descriptive methods of demilitarization.

Descriptive methods shall be prepared when general descriptions of demilitarization are included. Examples of these methods are crushing, cutting, burning, welding, smelting, shearing, torching, chemical neutralization, or a combination thereof.

5.98.1.2.7.0.B Procedural methods of demilitarization.

Procedural methods shall be prepared when more detailed descriptions of the demilitarization process are included. Examples where more detailed instructions may be needed include use of explosives or processes potentially hazardous to the environment.

5.98.1.2.8 Detailed instructions for demilitarization.

Data Module Type: Procedural Information Code: 997G

This data module shall include detailed information on the demilitarization of individual or types of items. This information shall include a description of the operation, identification of the methods to be used and their points of application, inspection, warnings, and safety precautions. The methods selected shall be the most practical and economical way of destroying the military offensive or defensive advantages inherent in the materiel being demilitarized. Illustrations may be used if necessary for clarity.

5.98.1.2.8.0.A Procedures.

Procedural steps shall be used to present detailed step-by-step instructions for demilitarizing surplus military items. Subordinate steps may be used to differentiate an expert step from a novice step. When subordinate steps are used in combination with an expert step, the subordinate steps should appear indented under the expert step.

5.98.1.2.9 References.

Data Module Type: Descriptive Information Code: 017B

This data module shall list all publications referenced in the manual and required by the user to demilitarize the materiel covered in the manual. It shall consist of a scope and publication list(s).

5.98.1.2.9.0.A Scope.

A brief statement concerning the use and content of the references shall be prepared.

5.98.1.2.9.0.B Publication list.

Individual paragraphs shall be prepared for each publication type. All related/referenced publications, with the exception of those publications that are currently unpublished, shall be listed. The publications shall be listed in groups by publication types. This list shall identify the publication by number and title in alphanumerical sequence. If the publication is non-government, the source shall be given and the publications shall be listed alphabetically by title. When a List of Applicable publications (LOAP) is published, this data module shall reference the LOAP.

5.98.1.2.9.0.C Expendable and durable items list.

See [5.93.1.20.3](#).

5.98.1.2.9.0.D Tool identification list.

See [5.100.1.1.3](#).

5.98.1.2.10 Rear matter.

Refer to [5.111.1.3.1](#) for rear matter content requirements.

5.98.1.3 Destruction of equipment to prevent enemy use.**5.98.1.3.1 Scope.**

This info set establishes the technical content requirements for developing generic information and/or specific procedures regarding the destruction of equipment to prevent enemy use for major weapon systems and their related systems, subsystems, equipment, assemblies, components, SRUs, and LRUs. The information contained herein is intended for compliance. The requirements are applicable for all maintenance levels/classes through "overhaul" (depot), including DMWRs and NMWRs.

5.98.1.3.2 General.

There are several approaches in preparing manuals for destruction of Army materiel. These include, but are not limited to:

- a. Instructions or procedures based for a particular stock class as identified by its FSC.
- b. Procedures that provide detailed destruction instructions for specific weapons systems or equipment and any installed subsystems.
- c. Simple standardized destruction methods based on the assumption that time and demolition materials may not always be available for carrying out complicated demolition or other destruction procedures.

5.98.1.3.3 Types of manuals.

Each weapon system or major item of equipment shall have destruction procedures prepared that cover the approaches in [B](#) and [C](#) above. Equipment managers may direct that a generic destruction manual be developed for assets they control that are not covered in a weapons system specific manual. Equipment managers and weapons system program managers should work together to ensure that destruction procedures do not provide conflicting destruction requirements or overly duplicate destruction procedures. Duplication of destruction procedures is allowed for components in a weapons system, but only those specific procedures for the component shall be duplicated. Duplication of this information is preferred to having users in a combat situation looking for destruction information in multiple publications.

5.98.1.3.4 Destruction manuals for a Federal Supply Classification (FSC).

When directed by an AMC supply class custodian or manager, a separate destruction publication shall be prepared. The manual shall contain generic destruction procedures and when possible should include specific procedures for each item in the stock class.

5.98.1.3.5 Destruction manuals/data modules for weapon systems.

Each weapons system shall have destruction procedures developed. If a separate manual is used, these procedures will be contained in a minimum of two data modules. The first shall be general information containing the information specified in [5.98.1.3.6.1](#). The second and any succeeding data modules shall contain specific destruction procedures specified in [5.98.1.3.7](#).

5.98.1.3.6 General destruction rules.

When preparing any destruction manual, the following priority guidelines shall be followed. These are provided to ensure a common approach to destruction of material.

- a. Any cryptographic equipment or material shall be destroyed first.
- b. Classified equipment or material is to be destroyed after any cryptographic assets. A statement to this effect shall be included in the introductory material. The statement destruction of classified material statement is required regardless of the classification of the material covered in the current publication.
- c. Essential material shall be destroyed when time precludes the destruction of the entire system. In this case, essential material consists of that material identified for the system or stock class in the manual being prepared. The system manual shall include a list of essential material. A statement shall be included stating that essential material be destroyed in the order provided and that the same material be destroyed on each system (refer to [5.98.1.3.6.5](#)).
- d. Any repair parts that may be on the verge of capture shall be destroyed in the same order as the essential material.

5.98.1.3.6.1 Destruction general information.

Data Module Type: Descriptive Information Code: 997D

5.98.1.3.6.2 General information.

A general information work package shall be prepared. At a minimum, it shall contain a scope statement containing the following verbatim text:

"This manual is for the guidance of those whose duty it is to render inoperable or destroy equipment that is in imminent danger of capture by an enemy."

For destruction procedures that will implement any international standards, the following text shall be included. For a stand-alone destruction manual, the statement shall be in the scope paragraph. For destruction procedures included in a weapon system manual, this statement shall be included in the "How to Use" (italicized text within parentheses shall be replaced with the appropriate information).

"Certain provisions of this technical manual (*identify by data module, paragraph, or similar manner; if appropriate*) are the subject of international standardization agreement (*insert the ABCA or ASCC standard number; the NATO, STANAG, NETR, or NEPR number; or appropriate documentary reference*). When revision or cancellation of this technical manual is proposed that will modify the international agreement concerned, the technical manual management activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations."

5.98.1.3.6.3 Authority to destroy materiel.

The following paragraph shall be included verbatim.

"Authorization. Only division or higher commanders have the authority to order destruction of equipment. They may however, delegate this authority to subordinate commanders when the situation demands it."

5.98.1.3.6.4 Reporting destruction.

A paragraph shall be included that requires any destruction activity be reported through command channels.

5.98.1.3.6.5 General destruction information.

Text shall be included that provides the user with information that is generic to most destruction processes. This data shall include, but is not limited to, the following types of information:

- a. Information on types of destructive process such as burning, use of explosives, burying, or self destruction devices/techniques. This explanation shall include the advantages and disadvantages of each process.
- b. For complex weapons systems, the reason to perform any subordinate destruction procedures in conjunction those for the weapons system.
- c. Any considerations relative to physical location or weather related (wind, rain, temperature) that users should consider when destroying materiel.
- d. Explanations on the priority for materiel destruction (refer to [5.98.1.3.6.7](#)).

5.98.1.3.6.6 Degree of destruction.

The following information shall be included verbatim:

"Methods of Destruction. Choose methods of destruction that will cause such damage that it will be impossible to restore the equipment to a usable condition within the combat zone.

Classified Equipment. Classified equipment must be destroyed to such a degree as to prevent duplication by, or revealing means of operation or function to, the enemy.

Associated Classified Documents. Any classified documents, notes, instructions, or other written material pertaining to function, operation, maintenance, or employment, including drawings or parts lists, must be destroyed in a manner to render them useless to the enemy."

5.98.1.3.6.7 Essential components and spare parts.

When specified by the acquiring activity, the destruction procedures may identify essential components whose destruction will incapacitate the weapons system. In certain conditions, the destruction of essential components may be used. If destruction of essential components is allowed, statements shall be included that for each weapons system, the same components will be destroyed. A similar statement shall be included that for any spare parts requiring destruction, the same essential spare parts shall be destroyed. If a weapons system operator determines the component parts to be essential, they should notify the components item manager so that they may identify those items for higher priority destruction in any item-level destruction procedures manual.

5.98.1.3.7 Parts list.

Data Module Type: Descriptive Information Code: 907B

When a weapons system publication contains a requirement to allow destruction of essential or spare parts, a list of essential components and spares shall be developed and included.

5.98.1.3.8 Specific destruction procedures.

Data Module Type: Descriptive Information Code: 997B

The destruction procedures data module(s) shall include specific destruction procedures for the weapons system or items (for item-level publications). When required, specific procedures to destroy subordinate components shall be included. Specific destruction procedures for subordinate components shall not be referenced. As applicable, the order in which the procedures should be applied and the results of applying in the wrong order shall be included. When destruction procedures are developed, authors shall ensure the procedures use resources a soldier in the field would have readily accessible. The following methods shall be included as applicable:

- a. Self destruction options.
- b. Explosive devices.
- c. Improper operation.
- d. Fire.
- e. Mechanical devices (e.g., sledgehammers, crowbars, cranes, etc.)
- f. Natural surroundings (e.g., rivers, lakes, caves, burying, hiding in vegetation, etc.)

As applicable, the procedures shall identify the points on the equipment that would be most advantageous to apply the previously described methods (e.g., where to place explosives or where to apply force with a mechanical device).

5.98.1.3.8.1 Classified equipment and documents.

Special instructions for destruction of classified equipment and documents shall be provided.

5.98.2 Army business rules.

None.

5.98.3 Project decisions.**5.98.3.1 Abbreviated Modification Work Order (MWO) format.**

BRDP-ARMY-00084: For Command-Authenticated MWOs only, the project shall determine if the MWO shall be prepared in an abbreviated format.

5.98.3.2 Stand alone. Deleted**5.98.3.3 Page layout. Deleted****5.98.3.4 Destruction of equipment to prevent enemy use information sets.**

BRDP-ARMY-00160: Destruction of equipment to prevent enemy use information sets may be produced as either a stand-alone publication/IETP or as part of a more comprehensive publication.

5.98.3.5 Generic destruction manual. Deleted**5.99 S1000D Chapter 5.2.1.14 - Common information sets - Battle damage assessment and repair information.****5.99.1 Army content requirements.****5.99.1.1 Scope.**

These requirements provide the technical content requirements for the preparation of BDAR procedures. This information set covers only assessment and repair of equipment failures occurring on the battlefield. This repair is sometimes limited to such means of fixing as bypassing, patching, or jury-rigging components, or the use of alternative procedures to restore the equipment/system performance to a minimum operating condition. Fix procedures in BDAR information are for use in combat only. Standard maintenance procedures are used as soon as practicable.

5.99.1.2 Maintenance level.

Unless otherwise specified, BDAR repair functions shall be accomplished by the following maintenance levels/classes:

- a. Field (Crew (operator)/AMC). Performed by crew (operator) or by a forward organizational maintenance team.
- b. Field (Maintainer/ASB). Performed by maintainer or ASB, when damage exceeds service repair capability. When required repair time or tactical conditions dictate, the damaged/failed item will be recovered or evacuated as appropriate.

5.99.1.3 Development.

The BDAR information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.99.1.4 Safety devices and interlocks.

Information shall be prepared pertaining to the purpose and location of all safety devices and interlocks in conjunction with the pertinent procedures.

5.99.1.5 Content.

When specified by the acquiring activity, a battle damage publication shall be prepared. Content shall be directed to fix-forward battlefield conditions; i.e., repairs must be made as quickly as possible and to the extent necessary to

restore or maintain the applicable equipment/system. The following statement shall appear at the beginning of each data module in the BDAR manual:

"BDAR FIXES SHALL BE USED ONLY IN COMBAT OR FOR TRAINING AT THE DISCRETION OF THE COMMANDER. (AUTHORIZED TRAINING FIXES ARE LISTED IN BDAR TRAINING PROCEDURES.) IN ANY CASE, DAMAGE SHALL BE REPAIRED BY STANDARD MAINTENANCE PROCEDURES AS SOON AS PRACTICABLE."

5.99.1.6 Operating procedures.

Operating procedures in BDAR data modules shall be restricted to testing a system, subsystem, or component for the purpose of damage assessment, or testing after a field expedient repair has been performed. If any change to normal operating procedures is made, the new procedures to be followed shall be given.

5.99.1.7 Battle Damage Assessment and Repair (BDAR) introduction (General information).

Data Module Type: Descriptive Information Code: 018G

5.99.1.7.1 General information.

A general information data module shall be prepared. It shall contain those elements required to support all Army publications. This may include, but is not limited to a scope (required), equipment improvement reporting, etc.

5.99.1.7.2 BDAR unique general information.

This data module shall contain information that is general in nature, but unique to a BDAR manual. It shall inform the user/reader of the purpose of the BDAR information and its relationship to user personnel, other publications, and the end item/system it supports. It shall also contain the BDAR fixes statement.

5.99.1.7.3 Standards and practices.

This paragraph shall contain information pertaining to standards and practices peculiar to combat conditions. It shall include, as a minimum, the following subparagraph headings and data (expanded as applicable):

- a. BDAR Characteristics. An explanation of the expediency of repair, reason for deviation from standard maintenance practices, need to take greater risks, and other characteristics specific to repair under combat conditions shall be included.
- b. Waiver of precautions. A reference to deviations from normal peacetime precautions shall be included. If such deviations are summarized in another portion of the BDAR information, reference shall be made to that portion.
- c. Operating characteristics. The minimum functional combat capability criteria for the applicable end item/system shall be listed.
- d. Training. The explanation/rationale concerning the use of BDAR fixes for training shall be addressed. It shall list all BDAR procedures that are authorized for training. The fix (training) procedures shall be grouped by major system(s) or components(s) as they appear in the BDAR information. Each procedure shall be cross-referenced to the data module where it appears. The following statement shall be included:

"After completion of training, the end item/system shall be returned to full serviceable condition using regular repair procedures as applicable."

5.99.1.7.4 Tasks and responsibilities.

This paragraph shall consist of tasks that may be required as a result of battlefield damage. The person/group responsible for each task shall be identified. The tasks shall appear in the order in which they should be performed. This information shall be presented in narrative form. This section shall include the following paragraphs:

- a. Tagging/identifying BDAR repairs. Instructions for identifying components affected by BDAR fixes shall be included.
- b. Reports. Instructions for completing reports resulting from BDAR fixes shall be addressed.

5.99.1.7.5 Combat Threats (Aviation only).

This paragraph shall consist of the description of damage from threats confronting aircraft while on combat missions from armor-piercing, armor-piercing incendiary projectiles, and high-explosive incendiary projectiles. It shall also describe damage from exposure to bombs, mortars, and artillery fragments and blasts when on the ground. The resulting effects to the metal airframe structure and follow-on effects should the mission be continued shall be given. The effects of secondary damage such as cracks, crippling, or buckling and loss or damage to mechanical fasteners shall also be given. Structure damage modes shall be defined for the type of materials and structure affected.

5.99.1.8 General fault assessment tables (Battle damage assessment tables).

Data Module Type: Descriptive Information Code: 410E

There shall be multiple battle damage assessment data modules. Each of these data modules shall contain an introduction and fault assessment tables. The data modules shall be organized as follows:

- a. End item. These shall be a battle damage assessment data modules pertaining to the overall end item or major subsystems and its capability to perform its mission essential functions.
- b. Major functional group. Unless otherwise specified by the acquiring activity, these data modules shall be titled, arranged, and correspond to the functional groups as they appear in the MAC and the parts information. The total number of data modules in the BDAR information shall be determined by the number of major functional groups applicable to the equipment/system covered by the manual.
- c. Auxiliary Equipment. As required, there shall be battle damage assessment data modules for any auxiliary equipment.

Each battle damage assessment data module shall contain the information in [5.99.1.8.1](#) through [5.99.1.8.2](#).

5.99.1.8.1 Introduction.

The primary purpose of this paragraph shall be to introduce the assessment table(s). It shall contain paragraphs that will cover the scope and application of assessment tables.

5.99.1.8.2 Fault assessment tables.

This paragraph shall contain assessment tables that lead the user to a repair procedure or another chart/table that will further aid in analyzing/assessing damage. As specified by the acquiring activity, the format of assessment tables shall be either a troubleshooting procedure or a table. The assessment procedures shall be developed and arranged so that logical and expedient methods are used to locate trouble.

5.99.1.9 Battle damage repair.

Unless otherwise specified by the contracting activity, these data modules shall provide information for battlefield repair of end items, components, etc. The following types of repair data modules shall be included in the BDAR information:

5.99.1.9.1 General repair.

Data Module Type: Procedural Information Code: (unspecified)

As required, procedures shall be provided for items that are not necessarily associated with a specific component or subsystem of the end item.

5.99.1.9.2 End item repair.

Data Module Type: Procedural Information Code: (unspecified)

Procedures for repair of the overall end item shall be provided.

5.99.1.9.3 Major functional group repair.

Data Module Type: Procedural Information Code: (unspecified)

Unless otherwise specified by the acquiring activity, these data modules shall be titled, arranged, and shall correspond to the functional groups as they appear in the MAC and the parts information. Each major functional group shall have at least one and may have more than one.

5.99.1.9.4 Auxiliary equipment.

Data Module Type: Procedural Information Code: (unspecified)

As required, procedures for repair of battle damage to auxiliary equipment shall be provided.

5.99.1.9.5 Introduction.

This paragraph shall contain subparagraphs as follows:

- a. Scope. A brief statement that describes the purpose and application of the overall coverage of the data module.
- b. Repair procedure index. A list of all procedures shall be contained. The procedures shall be listed in the order in which they appear. Procedures authorized for training and listed in the training fixes shall be boxed in.

5.99.1.9.6 Repair procedure.

This paragraph shall contain the repair procedure for the item(s) covered in the data module. The format and content of these paragraphs shall be as follows:

- a. General - remarks concerning general nature and causes related to the damage and repair of the item. These remarks shall be brief.

- b. Item name, trouble - item name and the trouble shall be used as the subparagraph side head. The side head shall be followed with a general statement(s) concerning the particular type of trouble and repair to be made. Statement(s) shall be brief and as concise as possible. Subparagraphs shall be as follows:
- (1) Limitations - this statement(s) shall identify the limits that would be imposed on the equipment/end item, in relation to operational capability, if the fix that follows is performed.
 - (2) Procedural steps - each step shall be listed numerically and placed in the sequential order in which it will be performed. The last procedural step for every BDAR fix shall be: "Record BDAR action taken. When mission is complete, as soon as practical, repair the equipment/system using standard maintenance procedures."
- c. Options - When more than one method of making the same repair/fix exists, multiple options shall be included. Options shall be listed in order of effectiveness and listed consecutively as option 1, option 2, etc. Each option provided under the item name/trouble paragraph side head shall contain the subparagraphs required by [5.99.1.9.6b](#). Alternatives that do not include fixes shall also be listed as options.
- d. Item name, category - when the basic item, identified in the section title, is divided into categories or types, each specific item shall be titled and covered within a separate paragraph. Each of these paragraphs shall contain only the information that applies to that specific item. For example: Information or procedures under a heading "high pressure" shall pertain to high pressure; low pressure information/procedures (if applicable) shall appear under the heading, "low pressure."

5.99.1.10 References.

Data Module Type: Descriptive Information Code: 017B

References for BDAR information shall be included in the references for the IETP. BDAR shall not have its own references data module.

5.99.1.11 Support equipment and tools (Special or fabricated tools).

Data Module Type: Descriptive Information Code: 605B

The special or fabricated tools data module shall contain a list of all tools and test equipment that are required for BDAR procedures and that are not common. This list shall be prepared in accordance with the requirements for a tool identification list in paragraph [5.100.1.1](#). When fabrication of tools is required for BDAR, this shall also contain fabrication instructions for those tools. The fabrication instructions shall be prepared in accordance with the requirements for an illustrated list of manufactured items contained in paragraph [5.90.1.20](#).

5.99.1.12 Expendable and durable items list.

Data Module Type: Descriptive Information Code: 070D

This data module shall be prepared and shall include the expendable and durable items required for BDAR.

5.99.1.13 Substitute materials/parts.

Data Module Type: Descriptive Information Code: 607D

The substitute materials/parts data module shall list materials and parts that may be used for BDAR fixes. Lists or tables shall include the primary material/part, the substitute/alternate material/part, and remarks (when applicable) that

identify the limitations or degradation effected by use of the substitutes. It shall be divided into paragraphs by material type. When paragraphs are required, the first paragraph shall be titled introduction and shall provide a general explanation of the purpose and content of the other paragraphs. When applicable, a paragraph shall be dedicated to Petroleum, Oil, and Lubricant (POL) substitutes.

5.99.2 Army business rules.

None.

5.99.3 Project decisions.

5.99.3.1 Format of assessment data.

BRDP-ARMY-00087: The project shall decide if the format of assessment tables will be prepared as either a troubleshooting procedure (with the fault isolation data module type) or a table (with the descriptive data module type).

5.99.3.2 Separation of product frame and engine BDAR information in the BDARP.

BRDP-S1-00433: Decide whether to separate the BDARP into product frame and engine BDAR information.

5.99.3.3 Separate data modules for utilization degradation in BDAR information sets.

BRDP-S1-00434: Decide whether to prepare separate data modules for degradation information, or to include this information in the damage assessment data modules.

5.99.3.4 Interactive BDARP.

BRDP-S1-00435: Decide whether to produce an interactive BDARP and define the required functionalities.

5.100 S1000D Chapter 5.2.1.15 - Common information sets - Illustrated tool and support equipment information.

5.100.1 Army content requirements.

5.100.1.1 Tool identification list (Maintainer/AMC and above).

Data Module Type: Descriptive Information Code: 062B

5.100.1.1.1 General.

This data module shall be prepared and shall include a list of all the common and special tools/kits authorized to the levels of maintenance covered in the narrative portion of the publication and as referenced by the preliminary requirements. A tool identification list shall include sets, kits or outfits and the tools used from these sets, kits, or outfits and referenced within the preliminary requirements. For DMWRs/NMWRs, a list of all common and special tools/kits and TMDE not contained in lower level publications or in the parts data and required to perform the procedures in the DMWR/NMWR shall be included. This list shall include any special inspection equipment used only for

the item that the DMWR/NMWR covers. If there are no tools required for maintenance of the equipment, the following statement shall be included in the tool identification list data module in lieu of the tool list table:

"No tools are required for the maintenance of (*insert the system name*)."

5.100.1.1.2 Introduction.

The following introduction shall be prepared and included verbatim in the tool identification list data module:

"TOOL IDENTIFICATION LIST

INTRODUCTION

Scope

This lists all common tools and supplements and special tools/fixtures needed to maintain the (*insert equipment name*)."

OR

"This lists special tools and equipment needed to maintain the (*insert equipment name*)." **(DMWRs/NMWRs only)**

"Explanation of Columns in the Tool Identification List

Column (1) Item No. This number is assigned to the entry in the list and is referenced in the preliminary requirements to identify the item.

Column (2) Item Name. This column lists the item by noun nomenclature and other descriptive features (e.g., Gauge, belt tension).

Column (3) National Stock Number (NSN). This is the National Stock Number (NSN) assigned to the item; use it to requisition the item.

Column (4) Part Number/(CAGEC). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.

Column (5) Reference. This column identifies the authorizing supply catalog or illustrated parts list for items listed in this information set." **(Not required for DMWRs/NMWRs)**

5.100.1.1.3 Tool identification list.

Applicable information for the Tool identification list shall be prepared and include the following information:

a. Item number

b. Item name and nomenclature

c. NSN

d. P/N

e. CAGEC

f. Reference

Item names shall be in alphabetical order. A lead-in paragraph to the tool identification list may be included.

5.101 S1000D Chapter 5.2.1.16 - Common information sets - Service bulletins.

The information referenced in S1000D Chapter 5.2.1.16 is not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements. This S1000D provided information set does not support existing Army requirements. Any project desiring to acquire technical data matching this information set shall coordinate with LDAC to ensure consistent implementation across the Army.

5.101.1 Army business rules.

None.

5.101.2 Project decisions.

5.101.2.1 Use of external material information in service bulletins.

BRDP-S1-00436: Decide whether material information must be a part of the "core" SB data module or if it can (depending on the volume) be presented in one or more referenced separate SB data modules. Refer to Fig 2.

5.101.2.2 Treatment of alert and standard Service bulletins.

BRDP-S1-00437: Decide whether or not to allow classifying Service bulletins as Alert.

5.101.2.3 Service bulletin compliance categories.

BRDP-S1-00438: Decide whether to use the four compliance categories or to define others.

5.101.2.4 Minimum impact on weight in Service bulletins.

BRDP-S1-00439: Decide the threshold for minimum impact on weight that must be reported in a Service bulletin.

5.101.2.5 Minimum impact on balance in Service bulletins.

BRDP-S1-00440: Decide the threshold for minimum impact on balance that must be reported in a Service bulletin.

5.101.2.6 Minimum impact on electrical load to be reported in Service bulletins.

BRDP-S1-00441: Decide the threshold for minimum impact on electrical load that must be reported in a Service bulletin.

5.101.2.7 Definitions and use of maintenance and operational publications in Service bulletins.

BRDP-S1-00442: Decide on the precise definitions of "maintenance publications" and "operational publications" and whether to separate them into different listings in the Impact on publications.

5.102 S1000D Chapter 5.2.1.17 - Common information sets - Material data.

5.102.1 Army content requirements.

5.102.1.1 General.

Ammunition and Munition Equipment Data Sheets information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.102.1.2 Front matter.

Refer to [5.111](#) for front matter content requirements.

5.102.1.3 General information.

A general information data module shall be prepared. At a minimum, scope; maintenance forms, records, and reports; and a list of abbreviations/acronyms shall be included.

5.102.1.4 Introduction.

The data sheets introduction data module shall explain the purpose and use of the data sheets. For ammunition data sheets publications, the data module shall contain a statement similar to the following:

"This manual is a reference document published as an aid in training, familiarization, and identification of (*insert commodity item*). This manual is not authorization for requisitioning, stockage, maintenance, or issue of the material described herein."

5.102.1.5 Data sheets.

Data Module Type: Descriptive Information Code: 030D

A data sheets data module shall contain, as applicable, but in the order in which it is presented herein, the following information.

- a.** Figure of ammunition or munitions equipment item
- b.** Use
- c.** Description
- d.** Functioning
- e.** Differences between models
- f.** Tabulated data
- g.** Performance
- h.** Temperature limits
- i.** Drawings/specifications
- j.** Packing configuration
- k.** Packing data

- l. Shipping and storage data
- m. Logistics data
- n. Limitations
- o. Remarks
- p. References
- q. Associated equipment
- r. Kits

5.102.1.5.1 Figure of ammunition or munitions equipment item.

As required by the acquiring activity, a figure of the item shall be included on the data sheet.

5.102.1.5.2 Use.

This section shall describe the use of the item (e.g., purpose, intended audience, applicable weapons from which the item is fired).

5.102.1.5.3 Description.

This section shall describe the general description, characteristics, capabilities, and features of the item. Color coding information for ammunition items shall be included, as applicable.

5.102.1.5.4 Functioning.

This section shall describe how the item functions. The description shall explain what functional affect it has on other components (e.g., from trigger pull to target).

5.102.1.5.5 Differences between models.

This section shall identify the physical or functioning differences in configurations or models when more than one configuration or model is described.

5.102.1.5.6 Tabulated data.

This section shall list descriptive data of the item and its components. Ammunition items shall describe, as a minimum, Department of Defense Ammunition Code (DoDAC), National Stock Number (NSN), type, weight, dimensions, explosive/energetic information, and color. Munitions equipment shall describe, as a minimum, Ammunition Peculiar Equipment (APE) number, unit of issue, installation data, utilities required, and production capacity.

5.102.1.5.7 Performance (ammunition data sheets publication only).

This section shall list information describing the normal use or operation of the item (e.g., chamber pressure, velocity, maximum range, trace).

5.102.1.5.8 Temperature limits (ammunition data sheets publication only).

This section shall list the operational and storage temperature limits of the item. Dummy/inert items do not require firing temperature limits.

5.102.1.5.9 Drawings/specifications (ammunition data sheets publication only).

This section shall list applicable ammunition drawings (e.g., Combination of Adopted Items (COAI), top drawing, packing and marking drawings, specification, unitization) for the item.

5.102.1.5.10 Packing configuration (ammunition data sheets publication only).

This section shall describe how the item is packed, including all levels of packaging from item to pallet, for each NSN.

5.102.1.5.11 Packing configuration (ammunition data sheets publication only).

This section shall describe how the item is packed, including all levels of packaging from item to pallet, for each NSN.

5.102.1.5.12 Shipping and storage data.

For ammunition data sheets publications, this section shall list, at a minimum, DoD hazard class/division, Department of Transportation (DOT) reference number, compatibility group, proper shipping name, United Nations (UN) number, and net explosive weight. This section is not applicable for dummy/inert items. For munitions equipment data sheets publications, this section shall list the physical dimensions, weight, and cube of the equipment.

5.102.1.5.13 Logistics data (ammunition data sheets publication only).

This section shall list logistics data for each NSN. The logistics data may contain information such as class of supply, controlled inventory item code, NSN established date, official nomenclature, standard study number, shelf life, type classification, and unit of issue.

5.102.1.5.14 Limitations (ammunition data sheets publication only).

This section shall provide any restrictions or weaknesses associated with the item.

5.102.1.5.15 Remarks (ammunition data sheets publication only).

This section shall provide any other information deemed pertinent.

5.102.1.5.16 References (ammunition data sheets publication only).

This section shall list, citing only publication numbers, related publications (i.e., publications that use the item).

5.102.1.5.17 Associated equipment (munition equipment data sheets publication only).

This section shall list any additional APE that is used in conjunction with the described munitions equipment.

5.102.1.5.18 Kits (munition equipment data sheets publication only).

This section shall list any APE accessory equipment not normally supplied with the end item.

5.102.1.6 Supporting information.

Supporting information data modules shall be added to a data sheets publication, as applicable, in the order in which they are presented herein.

5.102.1.6.1 References.

This data module shall be prepared in accordance with [5.90.1.25.7.1](#).

5.102.1.6.2 Deleted items (munition equipment data sheets publication only).

Data Module Type: Descriptive Information Code: 003D

A deleted items data module shall appear in all editions of a munition equipment data sheets TM subsequent to the first edition. The data module shall consist of an alphabetical list of all items deleted from this data sheets publication as a result of a technical committee action or Materiel Status Record (MSR). On first editions that contain no deleted items, this data module shall contain the statement:

"Since this is the first edition, there are no deleted items."

5.102.1.6.3 Operational index (munition equipment data sheets publication only).

Data Module Type: Descriptive Information Code: 942E

When specified by the acquiring activity, the munition equipment data sheets publication shall contain an operational index. The index shall provide a cross-reference between ammunition items and the APE items needed for function testing, inspecting, maintenance, renovation, and demilitarization of the ammunition item.

5.102.1.6.4 Preparation and handling of ammunition peculiar for shipment and storage (munition equipment data sheets publication only).

Data Module Type: Descriptive Information Code: 810D

When specified by the acquiring activity, the munition equipment data sheets publication shall contain a preparation and handling of APE for shipment and storage data module. The data module shall contain an introduction (scope and definitions), general requirements (program requirements, levels of protection, and basic requirements), and detailed requirements section, as applicable, and requirements for checking for and removal of explosive contamination.

5.102.1.6.5 Other supporting information.

This data module shall be prepared in accordance with [5.5.1.3](#). When specified by the acquiring activity, other supporting information data modules may be added to the data sheets publication.

5.102.1.7 Rear matter.

Refer to [5.111.1.3](#) for rear matter requirements.

5.103 S1000D Chapter 5.2.1.18 - Common information sets - Common information and data.**5.103.1 Army content requirements.****5.103.1.1 Supporting information - General.****5.103.1.1.1 General.**

Supporting information shall be prepared for weapon systems, major equipment, components and applicable support and interface equipment. Supporting information requirements are included for the preparation of technical data that supplements the specific operation and maintenance information contained in the TM/IETP. This supplemental information includes:

- a. References (refer to [5.103.1.1.2](#))
- b. MAC (refer to [5.94](#))
- c. COEI (refer to [5.93.1.17](#))
- d. BII (refer to [5.93.1.18](#))
- e. AAL (refer to [5.93.1.19](#))
- f. Expendable and durable items list (refer to [5.93.1.20](#))
- g. Tool identification list (refer to [5.100.1.1](#))
- h. Mandatory replacement parts list (refer to [5.93.1.21](#))
- i. CSI (refer to [5.93.1.22](#))
- j. Support items (refer to [5.103.1.1.3](#))

Not all of the above listed supporting information is required in all cases. Refer to the business rules for the individual lists for details.

5.103.1.1.2 References.

Data Module Type: Descriptive Information Code: 017B

This data module shall be prepared and list all publications referenced in the publication that are required by the user to operate and/or maintain the equipment. It shall consist of a scope and a publication list(s).

5.103.1.1.2.1 Scope.

Information concerning the use and content of the references data module shall be prepared.

5.103.1.1.2.2 Publication list.

Individual paragraphs shall be prepared for each publication type. All related/referenced publications, with the exception of those publications that are currently unpublished/unauthenticated, shall be listed. This list shall identify the publication by number in alphanumeric sequence and shall also include the title. If a publication is non-government, the source shall be given and all such publications shall be listed alphabetically by title. If a LOAP exists, it may be referenced.

5.103.1.1.3 Support equipment and tools (Support items).

Data Module Type: Descriptive Information Code: 061B

This data module shall be prepared as directed by acquiring activity and shall combine any the supporting lists described in c through i, as applicable. This data module shall be developed when the data contained in these supporting lists are minimal and creating a separate data module for each list is unnecessary. The data module may include an introduction and the applicable lists described in c through i.

5.103.1.1.4 Additional supporting information.

Data Module Type: Descriptive Information Code: unspecified

When specified by the acquiring activity, additional data modules shall be prepared when the data modules previously described herein do not support the data/information to be presented.

5.103.1.2 Warranty Technical Bulletins (WTBs).**5.103.1.2.1 General.**

The WTB information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.103.1.2.2 National Stock Numbers (NSNs).

NSNs shall not be used in the procedures or the narrative portion of the WTB. Unless essential for identification, manufacturer's part numbers shall not be used in procedures or the narrative portion of the WTB.

5.103.1.2.3 References.

Reference to other documents and information within the WTB shall be held to a minimum. Reference shall not be made to other documents unless they are normally available to the user.

5.103.1.2.4 Order of presentation.

The content of WTBs shall be formatted as follows:

- a. Cover/title page.
- b. General.
- c. Explanation of terms.

- d. Coverage - specific.
- e. Contractor responsibilities.
- f. Government responsibilities.
- g. Design/performance specifications (if specified by the contracting activity).
- h. Nullification.
- i. Claim procedures.
- j. Storage/shipment/handling.
- k. Appendixes.
- l. DA Form 2028 (Recommended Changes to Publications and Blank Forms).

5.103.1.2.5 Front matter.

Refer to [5.111](#) for front matter content requirements.

5.103.1.2.6 General.

Data Module Type: Descriptive Information Code: 028A

The project shall determine the page layout (portrait/landscape) and format for printed manuals.

5.103.1.2.6.1 Paragraph 1. General.

This paragraph shall state the general intent and coverage of the WTB and shall identify the type of warranty (performance, time and material, workmanship, reliability, design). Subparagraphs such as applicability, limitations, and purpose shall be included when appropriate. When the warranty covers major components of an end item, the end item shall be identified. These subparagraphs, however, shall not include any detailed specifics that are normally part of paragraph 3 (refer to [5.103.1.2.6.3](#)).

5.103.1.2.6.2 Paragraph 2, Explanation of terms.

All terms used within the WTBs that are peculiar to warranty and contract terminology shall be explained. Terms shall be listed in alphabetical order. Terms not used in the WTB shall not be listed. As a minimum, all applicable terms used in the following list shall be included:

5.103.1.2.6.2.1 Abuse.

The improper use, repair, or handling of warranted items such that the warranty may become void.

5.103.1.2.6.2.2 Acceptance date.

The date an item of equipment is accepted into the Army's inventory by the execution of the acceptance block and signing of a DD Form 250 or approved acceptance document, by an authorized representative of the government.

5.103.1.2.6.2.3 Acquiring command or activity.

An activity which procures the items or materiel for a user.

5.103.1.2.6.2.4 Alterations/Modifications.

Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.

5.103.1.2.6.2.5 Consolidated warranty technical bulletin.

A WTB that covers a multiple number of equipment systems that are not covered by separately numbered TMs.

5.103.1.2.6.2.6 Contractor support.

Those services that are to be performed and those responsibilities that are placed upon the contractor by the government as specified in the warranty contract/provisions. This support, which may include such things as labor, parts, tools, training, technical packages, etc., will be used in support of the warranted equipment during the specified warranty period.

5.103.1.2.6.2.7 Defect.

Any condition or characteristic in any supplies or services furnished by the contractor under the contract that is not in compliance with the requirements of the contract.

5.103.1.2.6.2.8 Failed item.

A part, component, or end item that fails to perform its intended use.

5.103.1.2.6.2.9 False return rate.

The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.

5.103.1.2.6.2.10 Manufacturer's recall.

- a. Safety recall. A manufacturer recalls an item to repair or replace a defective part or assembly which may affect public safety.
- b. Service recall. A manufacturer recalls an item to repair or replace a defective part or assembly which does not affect the safe use of the item.

5.103.1.2.6.2.11 Primary damage.

The damage suffered by a part, component, or end item itself upon its failure.

5.103.1.2.6.2.12 Prime contractor.

A party that enters into an agreement directly with the United States to furnish part or all of a weapon system.

5.103.1.2.6.2.13 Reimbursement.

A written provision in a warranty contract whereby the user may make the necessary repairs with or without prior approval of the contractor and the Government will be reimbursed for the repair parts and/or labor costs.

5.103.1.2.6.2.14 Repair.

To restore an item to serviceable condition without affecting the warranty.

5.103.1.2.6.2.15 Repairable.

An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.

5.103.1.2.6.2.16 Secondary damage.

The damage suffered by an item because of a failure of another item within the same configuration.

5.103.1.2.6.2.17 Serviceable.

The condition of an item which may be new or used that meets all the requirements and performs the functions for which it was originally intended.

5.103.1.2.6.2.18 Subcontractor.

Any supplier, distributor, vendor, or firm that furnishes supplies or service to or for a prime contractor or another subcontractor.

5.103.1.2.6.2.19 Tailoring.

The process of evaluating individual potential requirements to determine their pertinence and cost effectiveness for a specific system or equipment acquisition, and modifying these requirements to ensure that each contributes to the optimal balance and cost. The tailoring of data requirements should consist of determining the essentialness of potential Contract Data Requirements List items and should be limited to the exclusion of information requirement provisions.

5.103.1.2.6.2.20 Turnaround time.

The amount of time that is permitted for an item to be replaced/repaired by the contractor/ maintenance repair facility and returned to the user. The time is measured from the time the contractor/repair facility receives the request.

5.103.1.2.6.2.21 Validation.

The process by which the contractor tests/measures the WTB to assure its accuracy as it pertains to the warranty item (s).

5.103.1.2.6.2.22 Verification.

The process of determining the accuracy and adequacy of the WTB provided by the contractor. This process is performed by the Government/user.

5.103.1.2.6.2.23 Warranty.

A promise or statement of fact from a seller to a purchaser on the nature, usefulness, or condition of the supplies or performance of services to be furnished. The main purposes of a warranty in a government contract are to outline the rights and obligations of the contractor and the government for defective items and services. It also serves to foster quality performance by the contractor, but is not a substitute for an adequate quality assurance program.

5.103.1.2.6.2.24 Warranty claim.

Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.

5.103.1.2.6.2.25 Warranty Control Office (WARCO).

WARCOs are established at the intermediate General Support/Director of Industrial Operations level or equivalent and serve as the intermediary between the troops owning the equipment and the local dealer, contractor, or manufacturer. All warranty claim actions will be processed through the WARCO.

5.103.1.2.6.2.26 Warranty period.

Time during which the warranty is in effect. Normally measured as the maximum number of years, months, days, miles, or hours used.

5.103.1.2.6.2.27 Warranty start date.

The date the warranty is put into effect.

5.103.1.2.6.3 Paragraph 3, Coverage - Specific.

This paragraph shall cover all information necessary to identify the item(s) covered and the terms of coverage. Each component/part of the item(s) having different coverage, such as time coverage or limited coverage, shall be clearly identified. When possible, tables shall be developed to identify all pertinent information. More than one table shall be developed when it will make it easier to distinguish different coverage applicable to the warranty. Each separate table shall key on a particular subject such as: extent/duration of coverage (components covered for 1 year or 50,000 miles, or components covered for 15,000 hours of operation). Tables shall include all data listed below, if applicable:

- a. Nomenclature
- b. Line item number
- c. Model numbers
- d. NSNs
- e. Manufacturer and part number (use CAGEC)
- f. Serial numbers (identification numbers)
- g. Contract number(s) - prime contractor
- h. Applicable dates, hours, mileage, length of time coverage
- i. Type of coverage

5.103.1.2.6.4 Contractor responsibilities.

This paragraph shall contain the obligations imposed on the contractor. It shall address how the warranty claims will be handled by the contractor. It shall state the extent of coverage involved such as: "The item(s) determined to be defective, due to defective material or workmanship, shall be replaced with a new item(s) at no cost to the Government" or "at the option of the contractor the defective equipment shall be replaced or repaired, with the contractor assuming all expenses." Handling and shipping costs (both ways), and time allowed for the contractor to settle legitimate claims shall be addressed. When detailed responsibilities for handling, shipping, and others are explained in other paragraphs, reference shall be made to those paragraphs. When responsibilities apply to subcontractor(s) rather than the prime contractor, the responsible subcontractor shall be identified. When contractor support is not available or planned, reference shall be made to instructions provided under government responsibilities. A complete and current worldwide listing of applicable contractors, subcontractors, and their associated claim/service addresses shall be provided. When this data is excessive (more than one page of printed material), an appendix shall be prepared and referenced in this paragraph.

5.103.1.2.6.5 Government responsibilities/identification.

The Life Cycle Management Commands (LCMCs), contracting activity, or other Government activity responsible for administrative functions relative to assuring that the pertinent warranty program is effective shall be identified. As a minimum, this identification shall include the command(s) name, telephone number (Defense Switched Network (DSN) and commercial), business hours (e.g., 0800-1630 EST), point of contact (Continental U.S. (CONUS) and outside CONUS (OCONUS)), and emergency contact information. The responsibilities of the activity(s) shall be listed.

- a. Government maintenance. When the provisions of the warranty allow the Government to perform corrective maintenance on warranty items, the maintenance functions and the maintenance level that may perform these functions on these warranty items shall be listed or referenced. These maintenance functions shall be the same level as authorized in the maintenance allocation chart of the applicable TM/IETP. Normal care, servicing, and preventive maintenance procedures required to keep the warranty effective shall be included in this paragraph. Any authorized deviation from normal maintenance and repair procedures shall be listed. An explanation covering evacuation, shipping, or handling details shall be made when contractor support is not available. When these details are covered in another paragraph of the WTB or another document (e.g., TM or TB), reference shall be made to the applicable paragraph or document.
- b. Owning unit responsibilities. This paragraph shall include responsibilities of the owning unit. When these responsibilities are identified elsewhere within the WTB, reference shall be made to the paragraph where these responsibilities are identified.
- c. Warranty Control Office (WARCO) responsibilities. paragraph shall describe the responsibilities of WARCO pertaining to the specific warranty contract. When responsibilities of the LCMC or installation warranty control office are different from the activity WARCO, separate subparagraphs shall be included to distinguish these differences.
- d. Army Oil Analysis Program (AOAP). This paragraph shall identify warranty items enrolled in the AOAP. It shall specify the oil and oil filter change interval required by the warranty contractor and reference applicable AOAP documents that direct AOAP sampling. Instructions shall be provided to indicate what action shall be taken when AOAP sample reveals incipient failure or the AOAP laboratory recommends maintenance action(s) that may negate the warranty.
- e. Alterations/modifications. This paragraph shall contain the following statement:

"Alterations and modifications shall not be made unless expressly authorized or directed by: *(insert name, address, and telephone number (DSN and commercial) of the authorizing command)*."

5.103.1.2.6.6 Design/performance specifications.

When design performance specifications are clearly defined in the contract, this paragraph shall describe or identify the physical and performance specifications of the warranty item(s) that the accepting command should verify to determine whether or not the specifications are met. A description or illustration showing content and location of warranty labels identifying warranty items shall be made. This description shall include content and location of any bar coded warranty information concerning the item of equipment. When they are shown in other available publications, reference shall be made to these publications. The methods for testing or measuring the actual design performance of item(s) shall be described or identified either by placing details in this paragraph or by reference to document(s) containing these details. Testing and measuring methods shall be identified with the maintenance level capable of performing these functions. These testing or measuring methods shall apply to the initial acceptance criteria as well as item/equipment performance for the duration of the warranty. When acceptance criteria and continued performance criteria differ, they shall be clearly identified.

5.103.1.2.6.7 Nullification.

This paragraph shall identify any action taken by the Government that may nullify the warranty such as: certain maintenance/repair, improper use or operation, abuse, improper environmental exposure, and method of installation. The nullification actions identified shall be specific enough to avoid misunderstanding. Also, actions that shall be taken to keep the warranty in effect or prevent the warranty from becoming void shall be provided or referenced in this paragraph.

5.103.1.2.6.8 Abuse determination.

This paragraph shall state what action shall be taken, and by whom, when abuse is not obvious, but suspected. This action shall indicate the responsibility of both the warranty contractor and the Government in making a determination as to whether or not abuse has taken place. When abuse is determined, the action required to keep the item functional shall be stated.

5.103.1.2.6.9 Claim procedures.

This paragraph shall include all procedures necessary to process claims and shall identify who shall perform these procedures. As a minimum, these procedures shall include identification of failed items, disposition, reimbursement for Army repair, claim denial/disputes/reporting, and identification of the command hot line (DSN or commercial). Reference shall be made to DA PAM 750-8.

- a. Identification of failed items. This paragraph shall state that failed warranty items shall be tagged/identified to prevent improper repair or use. Documents that describe the use of DA Form 2402, Exchange Tag, and DA Form 2407, Maintenance Request, shall be referenced. Items requiring special handling, storage, or shipment during the processing of claims shall be identified.
- b. Disposition. This paragraph shall include procedures for handling, repair, and evacuation of failed warranty items. These procedures shall identify who will do what, when, and where. Procedures shall include documentation required and how to document or refer to instructions for completion of documentation.
 - (1) False returns. An explanation shall be provided to warn that when items returned to the contractor for repair are found to be serviceable, the submitting Government unit will be penalized (cost, loss of time, non-availability of item, etc.) Also, a statement shall be made that false returns will be monitored by the responsible activity (usually the commodity command).
 - (2) Receipts/verification of contractor repairs. Instructions shall include actions to be taken, and by whom, when contractors repair and return a warranty item. Instructions shall include, but not be limited to, procedures for recording and reporting the action and verification of repair.
 - (3) Special area requirements. When limitations exist and adjustments or changes are required at different commands, theaters, or locations; these conditions shall be identified. When the list of these exceptional conditions is extensive, it shall appear in the WTB appendix and be referenced in the text.
- c. Reimbursement for Army repair. This paragraph shall describe the conditions and provide procedures for obtaining/requesting reimbursement when the Army performs authorized maintenance. These procedures shall state that reimbursement actions to support the claim shall be documented and submitted through the warranty control office.
- d. Claim denials/disputes. This paragraph shall describe the procedures that shall be performed when a warranty claim denial or dispute occurs. Specific elements or organizations within each geographical area to which disputes shall be referred for resolution shall be identified.
- e. Reporting. This paragraph shall state:

"Reporting or recording action on a failed item shall be as specified in DA PAM 750-8 or DA Pam 738-751. Contractor unique forms shall not be used."

5.103.1.2.6.10 Storage/shipment/handling.

When applicable, warranty requirements pertaining to storage, shipment, and handling shall be provided. When these requirements are provided in more detail in other available documents, reference shall be made to these documents.

- a. Storage. This paragraph shall include storage requirements that will pertain to the warranty contract. These storage requirements shall include the time prior to use of the materiel, regular storage, administrative storage, storage during maintenance and repair, and storage in the depot, installation, or field environment. Instructions shall include any special packing, preservation, and depreservation techniques required.
- b. Shipment. Shipment requirements, regular or special, associated with the warranty shall be identified. The responsibilities on the part of both the Government and the warranty contractor shall be specified. These responsibilities shall include cost and funding allocations as well as action required. A statement shall be made to indicate that no shipment shall be made without direct authority from the supporting warranty control office. Any additional authorization required shall be stated. If cost of transportation and shipment shall be recovered from the warranty contractor, recovery procedures shall be provided.
- c. Handling. When special handling of warranty items is necessary because potential hazards exist or damage may be caused to the items or other items/equipment when improperly handled, instructions shall be provided.

5.103.1.2.7 Appendices - Warranty tables.

Data Module Type: Descriptive Information Code: 023F

Appendices shall be used when it is not appropriate to use tables integrated within the text of the WTB. Extensive information such as an applicable worldwide list of warranty service and claim offices shall be placed within an appendix. These listings shall be arranged by geographical areas or a method that is self explanatory. When the TB is a consolidated TB, specific details such as a listing of all equipment names and models, NSNs, serial numbers, contract numbers, and effective dates shall be covered in an appendix titled Equipment Under Warranty. The format shall be that specified by the contracting activity. The number of appendixes used will be determined by the extent of the warranty.

5.103.1.2.8 Rear matter.

Refer to [5.111.1.3](#) for rear matter requirements.

5.104 S1000D Chapter 5.2.1.20 - Common information sets - List of applicable publications.

Data Module Type: Descriptive Information Code: 017B

5.104.1 Army business rules.

None.

5.104.2 Project decisions.

5.104.2.1 One consolidated or several separate publication list data modules for the LOAP.

BRDP-S1-00447: Decide whether to deliver the publications and documents listed in one data module/publication module (with one or more lists presented as tables) or as separate data modules/publication modules (eg, by operational publications or maintenance publications).

5.104.2.2 Inclusion of unpublished publications and documents in the LOAP.

BRDP-S1-00448: Decide whether to include publications and documents those are not published.

NOTE

When used as a contractual document, all publications and documents, published or not, must be included.

5.104.2.3 Include the manufacturer's part number or reference number in the LOAP.

BRDP-S1-00450: Decide whether to include and present the manufacturer's part number or reference number.

5.104.2.4 Markup of the publication entry as a link in the LOAP.

BRDP-S1-00449: Decide whether to markup the publication entry as a link when using the descriptive Schema.

5.104.2.5 Use of language in the LOAP.

BRDP-S1-00451: Decide whether to include and present the language of the publication or document in the entries.

5.104.2.6 Use of a set of publication list data modules or a publication module for the LOAP.

BRDP-S1-00445: Decide whether to use a set of publication list data modules or a publication module to list the applicable publications and other documents including individual data modules.

5.104.2.7 Schema to use for the publication list data modules of the LOAP.

BRDP-S1-00446: Decide whether to use the front matter Schema or the descriptive Schema for the publication list data modules.

5.105 S1000D Chapter 5.2.2.4 - Air specific information sets - Engine maintenance information.

5.105.1 Army business rules.

None.

5.105.2 Project decisions.

5.105.2.1 Additional information in parts lists for engine maintenance information sets.

BRDP-S1-00452: Decide whether to indicate additional information under the heading of the parts list "Remarks" (eg, modification number applicable to the item).

5.106 S1000D Chapter 5.2.2.7 - Air specific information sets - Aircrew information.

5.106.1 Army content requirements.

5.106.1.1 General.

Aircraft operator information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.106.1.2 Preparing data modules.

All aircrew descriptive information (except front and rear matter) shall be prepared with the Crew/Operator data module using the descriptive branch (element **<descrCrew>**).

5.106.1.3 Scope.

The operator's manual shall describe briefly and concisely the operation of the complete aircraft. Unmanned Aircraft Systems (UASs) shall include ground stations and other elements in addition to the actual air vehicles. The description of aircraft, aircraft systems, sub-systems, and components shall contain only that detail required to explain the operation, operational procedures, and checks necessary for the pilot to safely and efficiently operate the aircraft, aircraft systems, and mission equipment during flight and ground operation. Each operator's manual prepared in accordance with this specification shall be divided into the following sections:

- a.** Front Matter
- b.** Chapter 1 - Introduction
- c.** Chapter 2 - Aircraft and Systems Description and Operation
- d.** Chapter 3 Avionics
- e.** Chapter 4 - Mission Equipment
- f.** Chapter 5 - Operating Limits and Restrictions
- g.** Chapter 6 - Weight/Balance and Loading
- h.** Chapter 7 - Performance Data
- i.** Chapter 8 - Normal Procedures
- j.** Chapter 9 - Emergency Procedures
- k.** References
 - l.** Abbreviations and Terms
- m.** Index
- n.** Authentication Page

- o. DA Form 2028
- p. Foldouts (if included)

5.106.1.4 Hierarchical breakdown.

An Operator's Manual begins with: volumes (if required), chapters, and sections. Each division used should have at least two occurrences (for example where there is a Volume 1, there should be a Volume 2; where there is a Chapter 1, there should be a Chapter 2; etc.). Multiple volumes should be partitioned only between chapters.

5.106.1.5 Volume size.

Division into volumes shall occur when the number of printed pages (excluding pocket TMs) exceeds 1,000 pages or 500 sheets. Each volume shall not exceed 1,000 pages or 500 sheets. An Maintenance Test Flight manuals or checklist (4 ½ x 8 inches) volume shall not exceed 500 pages or 250 sheets. Foldouts are counted in page units (sheets).

5.106.1.6 Volume content.

Each volume of a series shall display the publication module code on its cover and all pages that make up the volume. Each volume of a series shall contain a title block page and table of contents. The first volume shall contain a complete (including all volumes information) table of contents.

5.106.1.7 Front matter.

Refer to [5.111](#) for front matter content requirements.

5.106.1.8 Aircraft operator's manual Chapter 1 - Introduction.

Data Module Type: Crew/Operator Information Code: 018A

This chapter shall consist, at a minimum, of introductory material that applies to the manual as a whole. A brief summary of the contents of the manual shall be provided.

5.106.1.8.1 Explanation of warnings, cautions, and notes.

Data Module Type: Crew/Operator Information Code: 012H

An explanation of the use of warnings, cautions, and notes that the operators will find in the TM/IETP and the importance of observing these safety alerts shall be provided. The following shall be included:

"Warnings, cautions, and notes are used to emphasize important and critical instructions and are used for the following conditions.

WARNING - Identifies and highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in injury to, or death of, personnel or long term health hazards to the person performing that procedure.

CAUTION - Identifies and highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.

NOTE - Highlights an essential operating or maintenance procedure, condition, or statement."

5.106.1.8.2 Theory of operation (Description).

Data Module Type: Crew/Operator Information Code: 042F

A succinct summary of the aircraft's description and primary mission, omitting any extraneous mission capabilities statements, shall be provided. The statement similar to the following shall be included:

"This manual contains the best operating instructions and procedures for the (*insert aircraft designation*), under most circumstances. The observance of limitations, performance, and weight/balance data provided is mandatory. The adherence to procedures is mandatory except when modifications are required because of multiple emergencies, adverse weather, terrain, etc. Basic flight principles are not included. THIS MANUAL SHALL BE ACCESSIBLE IN THE AIRCRAFT OR FOR UAS, KEPT IN THE GROUND CONTROL STATION DURING ALL FLIGHTS."

5.106.1.8.3 References.

Data Module Type: Crew/Operator Information Code: 017B

a. Army aviation safety program. The following statement shall be provided.

"Reports necessary to comply with the Army Aviation Safety Program are prescribed in AR 385-10."

b. Destruction of Army materiel. Information on procedures for destroying Army materiel to prevent enemy use shall be included. Reference shall be made to TM 750-244-1-5.

c. Forms and records. Flight records and aircraft maintenance records which are used by the operators and crewmembers shall be described. References shall be made to DA Pam 738-751 and TM 55-1500-342-23.

5.106.1.8.4 How to use this manual.

Data Module Type: Crew/Operator Information Code: 018B

Explanation of change symbols. An explanation of the use of change symbols shall be included. An example of this explanation shall be as follows:

"Changes to the text and tables, including new material on added pages shall be indicated by a vertical bar in the outer margin extending close to the entire area of the material affected. Pages with emergency markings, which consist of black diagonal lines around three edges, shall have the vertical bar or change symbol placed along the outer margins between the text and the diagonal lines. Change symbols show current changes only. A miniature pointing hand symbol is used to denote a change to an illustration. However, a vertical bar in the outer margin, rather than miniature pointing hands, shall be utilized when there have been extensive changes made to an illustration. Change symbols shall not be used to indicate changes in the following:

- a. Introductory material.
- b. Indexes and tabular data where the change cannot be identified.
- c. Correction of minor inaccuracies, such as spelling, punctuation, relocation of material, etc., unless such correction changes the meaning of instructive information and procedures.
- d. Blank spaces resulting from the deletion of text, an illustration, or a table."

5.106.1.8.4.1 Designator symbols.

An explanation of designator symbols, along with a table of symbols used in the TM/IETP shall be provided. Designator symbols shall be defined by the use of the element `<inlineSignificantData>` and the attribute `significantParaDataType` with the "psd55" (refer to [5.52.1.54](#)).

5.106.1.8.4.2 Explanation of the use of shall, should and may.

A statement similar to the following shall be included in the introduction:

Within this TM/IETP, use "shall" whenever a TM/IETP expresses a mandatory requirement. "Will" may be used to express a declaration of purpose or procedural result. Use "should" to indicate a non-mandatory, but preferred, method of accomplishment. The word "may" shall be used to indicate an acceptable method of accomplishment.

5.106.1.8.4.3 Additional introductory information.

Any additional introductory information that may be required such as explanatory information for appendices or indices shall be provided, as applicable.

5.106.1.9 Aircraft operator's manual Chapter 2 - Aircraft and systems description and operation.

5.106.1.9.1 General.

A description of the airframe and all aircraft systems and controls shall be provided in this chapter. Major assemblies such as fuselage, wings, and tail boom shall be described. Each compartment of the aircraft such as cockpits and cabins shall be described and illustrated as required. Individual sections (as noted in [5.106.1.9.2](#) through [5.106.1.9.16](#)) shall be developed for the description and operation of the aircraft and each aircraft system.

5.106.1.9.1.1 Unmanned Aircraft Systems (UASs).

UAS manuals shall provide a complete description and shall include the entire system by major such as Air Vehicle, Ground Control Shelter, Ground Control Station/Portable Control Station, Data Link and Launcher. The description of each system and associated controls and equipment shall be brief and concise. Illustrations shall be used to identify and locate the systems controls and equipments. Major UAS assemblies such as shelter, portable cases, and workstations shall be described. Each workstation of the ground control station shall be described and illustrated as required. Illustrations shall be used to identify and locate the systems, controls, and equipment.

5.106.1.9.1.2 Interactive displays.

For aircraft equipped with interactive displays, such as a multifunction display (MFD), the data management system, including the interactive display, shall be described in this chapter. For each section within this chapter that describes a subsystem, the appropriate top page of the interactive display, including each button, shall be fully described, and explained. When needed for clarity, illustrations of representative items displayed on the interactive display shall be included throughout the TM/IETP.

5.106.1.9.1.3 Controls.

Each control contributing to the operation of a system shall be described and its location given. The function of the control and the end result produced when the control is moved to each of its possible positions shall be included in the description. Any effect which this control may have on other systems, or which they may have on the control shall be stated. If movement of the control requires any special action because of locks, gates, etc., it shall be so stated. When feasible, a separate paragraph and illustration shall be devoted to each control. It shall be preferable to divide the control description into two portions, normal controls, and emergency controls, if emergency capabilities exist.

5.106.1.9.1.4 Indicators.

All indicators, instruments, and warning devices that are a part of the aircraft system shall be described and illustrated. This shall include location, function, power source, and interpretation of the indications.

5.106.1.9.2 Section I - Description (Aircraft).

Data Module Type: Crew/Operator Information Code: 043J

This section shall provide a complete but concise description of the aircraft. At a minimum, the following subjects and illustrations shall be included.

5.106.1.9.2.1 General.

A description of the airframe shall be included. Major assemblies such as fuselage, wings, and tail boom shall be described. Each compartment of the aircraft such as cockpits and cabins shall be described and illustrated as required.

5.106.1.9.2.2 Illustrations and tables.

The following illustrations and tables shall be included in Section I.

- a. The aircraft's general arrangement shall depict all access openings that will be checked during preflight of the aircraft. The general arrangement shall be placed as near to the beginning of Section I as practicable. These

diagrams shall not include individual controls or aircraft systems. Diagrams that are needed for clarity shall be used. Two or more of these illustrations, such as crew movement diagrams and compartment diagrams, may be combined into one.

- b. Illustrations showing minimum turning radius, ground clearance, dimensions and danger areas shall be included. The minimum turn shall be based on a turn permitted on one wheel (tire hub), with and without power steering assist. Minimum ground clearance shall also be shown. The turning radius for skid equipped aircraft shall be based on turning the aircraft on an identifiable reference point on the aircraft or an identifiable reference point on the ground. An illustration shall be included showing danger areas around the aircraft for all modes of operations on or near the ground. Areas to be avoided to prevent damage to equipment or injury to personnel shall be depicted or described. These figures shall be provided for idle and maximum power. For rotary wing aircraft, illustrations shall be based on hover power required at maximum gross weight. Danger areas of main rotors, tail rotors, or propellers shall also be depicted.
- c. Significant differences in design and operation between each aircraft series included in the manual shall be provided. Special emphasis shall be placed on features that will affect recognition and operation of the various series. This information shall be contained in a table.
- d. Each major compartment, such as cockpit or cabin, that can carry payload or that can be entered by personnel shall be illustrated and identified.

5.106.1.9.2.3 Unmanned Aircraft System - (UAS-) specific illustrations and tables.

As specified by the acquiring activity, the following illustrations and tables shall be provided for UAS manuals:

- a. The ground control station or portable ground control stations general arrangement shall depict all access openings. These diagrams shall not include individual controls or systems. Diagrams that are needed for clarity shall be used. Two or more of these illustrations, such as crew movement diagrams and compartment diagrams, may be combined into one.
- b. Danger areas around the ground control station for all modes of operations shall be illustrated. Areas to be avoided to prevent damage to equipment or injury to personnel shall be depicted or described.
- c. Significant differences in design and operation between each ground control station series included in the manual shall be provided. Special emphasis shall be placed on features that will affect recognition and operation of the various series. This information shall be contained in a table.
- d. The Ground Data Terminal/Antenna System general arrangement shall depict all areas that will be checked during preflight of the system. The general arrangement shall be placed as near to the beginning of Section I as practicable. These diagrams shall include all components of the Ground Data Terminal/Antenna System. Diagrams that are needed for clarity shall be used.
- e. Illustrations showing setup distance, dimensions and danger areas shall be included. Minimum setup distance from the UAS system or other structures shall also be shown. An illustration shall be included showing danger areas around the Ground Data Terminal/Antenna System. Areas to be avoided to prevent damage to equipment or injury to personnel shall be depicted or described.
- f. Significant differences in design and operation between each Ground Data Terminal/Antenna System series included in the manual shall be provided. Special emphasis shall be placed on features that will affect recognition and operation of the various series. This information shall be contained in a table.

5.106.1.9.2.4 Landing gear system.

Information describing the landing gear system shall be presented in detail for the operator's use. The following shall also be included.

- a. The steering system, including any special or unusual features, shall be described.

- b. The brake system, including all emergency provisions, shall be described. Brake provisions for aircraft equipped with floats shall be described as well.

5.106.1.9.2.5 Instruments, panels, and consoles.

All instruments, panels, and consoles shall be described and illustrated. UAS instruments, panels, and consoles include those on or within the ground control station and on or within the Data Link System. Several configurations may be covered by one illustration labeled typical. Minor variations in number or type of controls and instruments shall be indicated by detailed views to the illustration and by notations in the key. The panels or console shall be shown more than once when major changes in configuration are involved.

5.106.1.9.2.6 Canopies.

The canopies shall be described and illustrated. Several configurations may be covered by one illustration labeled typical. All normal and emergency canopy controls, both external and internal, shall be described and illustrated.

5.106.1.9.2.7 Doors.

All doors to include ramps, hatches, etc., controls for normal and emergency operations, and their sources of power shall be described.

5.106.1.9.2.8 Seats.

Pilot and other flight compartment seat controls shall be described and illustrated. Emergency and ejection seat controls, inertia reels, harnesses, and seat belts shall be described and illustrated in detail, emphasizing how they are affected by other systems.

5.106.1.9.2.9 Ground data terminal/Antenna systems.

As required, this section shall provide a complete but concise description of the UAS System specific Data Link systems used in transmitting flight control and payload information between the Ground Control Station and the Air Vehicle. These may include systems such as Ground Data Terminals, Portable Ground Data Terminals, Tactical Common Data Link System, or Tactical Automated Landing Systems. At a minimum, the following subjects and illustrations shall be included.

5.106.1.9.2.9.1 Data link system (UAS only).

An overall description and general arrangement of the Data Link System shall be included. Major assemblies such as shelters, portable cases, and workstations shall be described. Each workstation of the ground control station shall be described and illustrated as required. Diagrams needed for clarity shall be used.

5.106.1.9.2.10 Emergency recovery system (UAS only).

All emergency equipment used in the recovery of unmanned aircraft shall be described. (i.e., parachute systems, dead stick landing systems.)

5.106.1.9.3 Section II - Emergency equipment.**5.106.1.9.3.1 Description (General).**

Data Module Type: Crew/Operator Information Code: 043J

All emergency equipment, except that which forms part of a complete system, shall be described. For example, emergency landing gear controls shall be treated under the landing gear system and emergency fuel pumps under the fuel system. Emergency equipment in this section shall include, but shall not be limited to, hand fire extinguishers, engine fire extinguishers, emergency alarms, pyrotechnic equipment, axes, emergency hatches, signal lamps, ditching jackets, first aid kits, and survival kits. Emergency procedures shall be described only in Chapter 9 (refer to [5.106.1.16](#)).

5.106.1.9.3.2 Illustrations.

Illustrations showing locations of emergency equipment or systems shall be shown as needed but only in Chapter 9 (refer to [5.106.1.16](#)).

5.106.1.9.4 Section III - Description (Engines and related systems).

Data Module Type: Crew/Operator Information Code: 043J

The engine and its related controls, as outlined in the following paragraphs shall be described.

5.106.1.9.4.1 Engines.

The most important characteristics and special features of the engine shall be described. Model designation shall be included for all engines used in the subject aircraft. The following engine systems shall be described:

- a. Cooling system and controls such as cowl flaps and engine cooling fans.
- b. Engine/engine inlet anti-icing/deicing system.
- c. The engine fuel control system, which applies to jet and turbine powered aircraft and extends from the engine fuel control unit through the burner ring or combustor section. Where applicable, special emphasis shall be placed on the emergency fuel control systems. Any special or unusual characteristics of the system shall also be described. Theory of operation shall not be included. Discussion of the throttle/power lever shall be included, as well as all systems affected by throttle/power lever operation.
- d. Information on all controls affecting the oil system.
- e. Ignition system controls.
- f. Starter controls.
- g. Infrared suppression system.
- h. Engine instruments and indicators. For the purpose of the operator's manual, the fuel and oil supply systems shall be treated as ending at the point where they deliver the fluid to the carburetor, fuel control unit, or the engine-driven oil pump.

5.106.1.9.5 Section IV - Description (Fuel system).

Data Module Type: Crew/Operator Information Code: 043J

5.106.1.9.5.1 General.

A full description of the fuel system shall be given. Coverage of drop tank release controls shall be included. Reference shall be made to fuel grades and specifications in Section XV, Servicing (refer to [5.106.1.9.16](#)). Diagrams of the typical courses of fuel flow, including fuel system control positions for takeoff, cruising, landing, and emergency operation shall be included.

5.106.1.9.5.2 Controls and indicators.

Fuel system controls and indicators shall be described.

5.106.1.9.5.3 Fuel system management.

The fuel system management process shall be described, including auxiliary fuel, booster pump use, fuel transfer procedures, tank selection procedures, and courses of fuel flow. All possible courses of fuel flow, such as inoperative engines and failed boost pump, shall be included. The sequence in which fuel tanks shall be used shall be stated with corresponding reasons (strength or balance). When applicable, reference shall be made to the pertinent portion of Chapter 6 (refer to [5.106.1.13](#)) when weight distribution becomes a problem. The required sequence of use of tanks to maintain a favorable Center-of-Gravity (CG) shall be described in detail. Remarks shall also be included regarding control of the aircraft if the transfer system fails and results in an unbalanced condition because of improper fuel distribution.

5.106.1.9.6 Section V - Description (Flight control system).

Data Module Type: Crew/Operator Information Code: 043J

5.106.1.9.6.1 General.

The flight control system and its location in the aircraft or UAS shall be described in its entirety. Flight controls, indicators, trim tabs, force trim, control locks, UAS data links, etc., shall be discussed as stated in [5.106.1.9.2](#) through [5.106.1.9.2.10](#). In addition, all other controls located on the control sticks, wheels, yokes, pedals, cyclic and collective, shall be discussed. Illustrations shall be provided for each control column or control stick. Details shall be shown for switches and control buttons, friction devices, locks, etc. Variations in controls between aircraft series or serial numbers, or both, shall also be shown.

5.106.1.9.6.2 Automatic flight control system.

Detailed coverage of automatic stabilization equipment, stability augmentation control system, autopilot, and UAS automatic flight modes shall be provided. All modes of operation shall be described. If any additional systems are required to operate in conjunction with the stabilization equipment, a statement shall be included to that effect. Applicable precautionary data shall be included for conditions of partial or temporary electrical power failure, manual override, etc. When applicable, reference shall be made to navigation equipment descriptions and operations contained in Chapter 3 (refer to [5.106.1.10](#)).

5.106.1.9.7 Section VI - Description (Hydraulic and pneumatic systems).

Data Module Type: Crew/Operator Information Code: 043J

A description of all hydraulic and pneumatic systems shall be provided. At a minimum, test switches, indicators and gauges, caution/warning lights, and controls shall be discussed.

5.106.1.9.8 Section VII - Description (Power train system).

Data Module Type: Crew/Operator Information Code: 043J

The power train system shall be described in detail to include the transmission and gearbox systems, drive shafting, system controls, and indicators.

5.106.1.9.9 Section VIII - Description (Rotors or propellers).

Data Module Type: Crew/Operator Information Code: 043J

The propellers or rotors, as applicable, and their functions shall be described, including a detailed description of operation.

5.106.1.9.10 Section IX - Description (Utility systems).

Data Module Type: Crew/Operator Information Code: 043J

A description of the defrosting, anti-icing/deicing, pressurization, oxygen, and rain removal systems, and miscellaneous equipment shall be provided. Coverage shall be brief and shall focus on the location of the equipment and its controls, source of power, illustration of the controls (if not covered previously), and a brief discussion of function and operation. Control/switch panels that control several different utility systems shall only be illustrated once, if feasible. Information shall be included on all non-emergency equipment which is not part of a system. All miscellaneous equipment and normal and emergency operation procedures shall be included. Miscellaneous equipment shall include, but shall not be limited to, seats (other than pilot and flight engineer), hatches, heated blanket provisions, data case, beaching gear, night flying curtains, ladders, relief equipment, food warmers, water containers, and tool kits. Items covered as aircraft loading equipment in Chapter 6 (refer to [5.106.1.13](#)) shall not be included here. Items dealing with aircraft servicing and ground handling shall be contained in servicing, parking, and mooring, Section XV (refer to [5.106.1.9.16](#)).

5.106.1.9.11 Section X - Description (Heating, ventilation, cooling, and environmental control systems).

Data Module Type: Crew/Operator Information Code: 043J

The heating, ventilation, cooling, and environmental control systems shall be described. The description, normal operation, and emergency operation for each of these systems shall be discussed under separate paragraphs, as applicable.

5.106.1.9.12 Section XI - Description (Electrical power supply and distribution systems).

Data Module Type: Crew/Operator Information Code: 043J

The electrical power supply and distribution systems and controls shall each be described and illustrated. Where pertinent, reference shall be made to auxiliary power systems that are described elsewhere. The external power source

and the interaction between the auxiliary power plant and the electrical system shall be described. General arrangement and order of the primary system shall be covered first, followed by the secondary system.

5.106.1.9.12.1 Direct Current (DC) power supply system.

DC power supply systems shall include battery; starter-generators, generators, alternators and converters; indicators, gauges, and controls; circuit breaker and junction boxes; auxiliary power; and ground power.

5.106.1.9.12.2 Alternating Current (AC) power supply system.

These systems shall include inverters and alternators; indicators, gauges, and controls; AC circuit breaker and junction box diagram; auxiliary power; and ground power.

5.106.1.9.12.3 Breakers.

The location of each circuit breaker panel shall be shown, and on standardized installation, each circuit breaker in the panels shall be identified. The illustration shall depict a typical installation of both systems (AC/DC) that may be combined on one illustration. In those instances where a standardized circuit breaker location does not exist, the location of circuit breakers or fuses shall be given.

5.106.1.9.13 Section XII - Description (Auxiliary power unit).

Data Module Type: Crew/Operator Information Code: 043J

A description of the auxiliary power unit, controls, and its interaction with other systems shall be provided. Starting, stopping, and in-flight operating procedures shall be contained in Chapter 8 (refer to [5.106.1.15](#)) and emergency procedures in Chapter 9 (refer to [5.106.1.16](#)).

5.106.1.9.14 Section XIII - Description (Lighting).

Data Module Type: Crew/Operator Information Code: 043J

Information shall be provided for, but shall not be limited to, formation, landing, fuselage, cabin, instruments, wheel well, taxi, navigation, and anti-collision lights. Coverage shall concern itself largely with locations, controls, power sources, and a discussion of functions. Illustrations may be used if equipment is not depicted in Chapter 2 or elsewhere.

5.106.1.9.15 Section XIV - Description (Flight instruments).

Data Module Type: Crew/Operator Information Code: 043J

All flight instruments, indicators, gauges, and miscellaneous instruments and systems shall be described. Miscellaneous instruments and systems shall include such items as master caution systems, rpm high/low warning systems, trainer instrument panel, and clocks. Special problems, such as erroneous readings of the airspeed indicating system resulting from installation error or hovering, shall be included with references to correction charts, when applicable. Complex display systems shall be included under a separate primary heading. Line drawings shall be provided for all instruments. Each indicator, gauge, and control shall be shown. Each item shall be indexed or posted and references or links shall be used within the text as appropriate.

5.106.1.9.16 Section XV - Description (Servicing, parking, and mooring).

Data Module Type: Crew/Operator Information Code: 043J

5.106.1.9.16.1 General.

Servicing shall include, but shall not be limited to, flight crew oriented instructions for normal and closed circuit refueling and for replenishment of fuel, oil, hydraulic fluid, other fluids, and air in tires. Servicing shall also include all other such items involved in servicing the aircraft that a crew could be expected to perform while away from military maintenance support. Safety precautions to observe in servicing a particular tank or reservoir, such as grounding and prevention of fire hazards, shall be stated clearly. Servicing instructions shall be supplemented with a diagram showing locations of regular and alternate servicing points. NO STEP areas on walkways leading to tanks shall be indicated, with necessary precautions. Reference shall be made to graphs or data in other parts of the manual pertinent to servicing, such as tire pressure versus gross takeoff weight.

5.106.1.9.16.2 Servicing diagram.

The servicing diagram shall depict each servicing point, including, but not limited to, tanks, reservoirs, filler caps, receptacles, oxygen bottles, and accumulators and shall be shown as viewed. Illustrations of site gauges and other indicators shall clearly depict proper servicing levels.

5.106.1.9.16.3 Servicing information.

Servicing data shall be in tabular form. Each item of equipment including, but not limited to, engine, transmission, gearboxes, reservoirs (hydraulic, anti-icing), auxiliary power unit, and oxygen systems shall be listed under "System." Under the heading of "Specification," the military specification for the fuel, oil, fluid, or lubricant shall be listed, including references to any notes on temperature ranges, mixing of oil, etc. Fuel capacities shall also be listed to include total, servicing capacity, and usable capacity in U.S. measurements to the nearest tenth of a gallon, and metric equivalents.

5.106.1.9.16.4 Approved fuels.

A tabular listing of primary, alternate, and emergency fuels shall be included, to include NATO and commercial brand names authorized for use in the aircraft for which this manual applies. Warnings and cautions regarding additives shall be presented in the table. Also, restrictions on the use of any fuels shall be stated. The fuels contained in this listing shall only be those authorized for use by TB 55-9150-200-24 and by the acquiring activity. This information shall not be repeated in the manual.

5.106.1.9.16.5 Additional servicing instructions.

Information shall include a listing of acceptable commercial engine oils as indicated in TB 55- 9150-200-24 and as authorized for use in the aircraft.

5.106.1.9.16.6 Ground handling.

Instructions and necessary precautions for ground handling of the aircraft shall be provided, including any information needed in extreme cold, heat, humidity, and dust. A description and instructions for operating any ground handling equipment involved shall also be provided. Left and right turning limits while towing (with or without external

stores) shall be listed. Aircraft ground handling procedures relating to electronics equipment shall be stated when applicable.

5.106.1.9.16.7 Parking and mooring.

Instructions for parking and mooring and the installation and stowage of aircraft covers, control locks, chocks, and tie down devices shall be described and illustrated. If feasible, ground handling, parking, and mooring may be shown on a single page illustration.

5.106.1.9.16.8 Additional sections.

Additional sections may be added as required by the procuring activity, i.e., Unique Equipment.

5.106.1.10 Aircraft operator's manual Chapter 3 - Avionics.

5.106.1.10.1 Section I - Introduction (General).

Data Module Type: Crew/Operator Information Code: 018A

Except for mission avionics, a general overall description covering the avionics equipment configurations installed on a specific aircraft shall be provided. It shall include a brief description of the avionics equipment, its technical characteristics, capabilities, and locations. Mission avionics equipment shall be covered in Chapter 4 (refer to [5.106.1.11](#)).

5.106.1.10.2 Sections II through IV.

For each item of avionics equipment contained within Sections II, III, and IV, the following information shall be included, as applicable. Additional sections shall be added by the acquiring activity when required.

- a. Description.
- b. Controls and functions.
- c. Operation.
- d. Emergency operation (if applicable).
- e. Power source (if applicable).

5.106.1.10.2.1 Description.

Avionics equipment shall be described in detail, including controls, indicators, instruments (if applicable), jacks, switches, and control panels, etc. Antenna locations shall be shown on appropriate illustrations. Antenna arrangement illustrations shall be included in Section I and referenced or linked when required or may be included in the applicable section where discussed. The proper techniques and procedures to be employed when operating the equipment shall also be described.

5.106.1.10.2.2 Controls and functions.

- a. For systems with MFD, the Control/Indicator table may be omitted or altered at the discretion of the procuring activity. The location and function of each control, including built-in test capability, contributing to the operation

of the avionics equipment shall be listed. Each control panel shall be discussed separately. Reference or links shall be made to illustrations in Chapter 2 regarding controls and control panels.

- b. A tabular listing may be included for each control panel. Each control or indicator shall be listed and its function defined in terms of what the operator of the control shall see, hear, or do as a result of the control setting. Terms of simple, immediate, and observable results shall be used. No attempt shall be made to give the operator the exact technical details about what happens when the control is used.
- c. A tabular listing may be included for each control display unit. Each key that shall be pressed shall be listed and a description of the function shall be included in the table.

5.106.1.10.2.3 Operation.

A description of the operating details for each item of avionics equipment shall be provided. Whenever standard operational avionics data exist within the government, such data shall be furnished by the acquiring activity. Complete operating procedures shall be included as follows:

- a. When separate modes of operation are available, i.e., when the equipment may serve two or more systems, each mode shall be described. These shall be listed as modes of operation and each shall be briefly described.
- b. The sequence of settings and the position to which the controls should be set to ensure proper results each time the equipment is energized shall be explained. Instructions shall be provided to prevent the possibility of damage through improper settings or sequence of operations. When appropriate, operating tolerances shall be called out. When operation of a unit is related to or dependent on the operation of a similar or independent control unit, this information shall be included in the operating procedure. Only those controls normally used by the operator shall be included; control adjustments that are the responsibility of maintenance personnel shall not be included.
- c. If the configuration provides for a parallel operation from various positions in the aircraft, similar, separate, and complete coverage for each position shall be provided. When the procedure is identical to a position previously covered, it shall be covered by a reference to the previous procedure.

5.106.1.10.2.4 Emergency operations.

When applicable, settings and operations of avionics equipment during emergency operations shall be described.

5.106.1.10.2.5 Power source.

When applicable, a brief description of the power sources for avionics equipment shall be provided, including any special procedures or limitations using, but not limited to, external power and battery power.

5.106.1.10.3 Section II - Description (Communications).

Data Module Type: Crew/Operator Information Code: 043J

Information for communications equipment installed in the aircraft shall be developed.

5.106.1.10.4 Section III - Description (Navigation).

Data Module Type: Crew/Operator Information Code: 043J

A description of all navigation systems and indicators shall be provided. When there is doubt as to whether the system should be covered under communications or navigation, the primary use of the system shall be the deciding factor. A suitable reference shall be made in the manual to aid the operator in locating the material.

- a. Automatic Direction Finder (ADF)
- b. Gyro compass and magnetic indicators
- c. Marker beacon
- d. Flight director
- e. (VHF) OMNI directional range
- f. Tactical Air Navigation (TACAN)
- g. Instrument landing system
- h. Doppler
- i. Inertial Navigation System (INS)
- j. Autopilot
- k. Other

5.106.1.10.5 Section IV - Description (Transponder and radar).

Data Module Type: Crew/Operator Information Code: 043J

All information for transponders, collision warning systems, and radar systems and indicators, as applicable, shall be provided.

5.106.1.10.6 Additional sections.

Data Module Type: Crew/Operator Information Code: 043J

Additional sections may be added as required by the procuring activity, i.e., Unique Equipment.

5.106.1.11 Aircraft operator's manual Chapter 4 - Mission equipment.

5.106.1.11.1 General.

A description of all standard mission equipment that may be utilized with the aircraft shall be provided. Coverage shall include description, controls and function, operating procedures, power sources, and illustrations. Controls, functions, and operating procedures shall be prepared as detailed in [5.106.1.10](#), as applicable. The sections listed below will be included if applicable. Sections shall be sequentially numbered. Additional equipment may be added at the discretion of the procuring activity.

5.106.1.11.2 Section I - Description (Mission avionics).

Data Module Type: Crew/Operator Information Code: 043J

Unclassified information regarding mission avionics equipment that is not a part of the standard flight communication, navigation, transponder, or radar equipment shall be provided. It includes electronic equipment such as radio

monitoring systems, Side Looking Airborne Radar (SLAR), infrared devices, and photographic equipment. Detailed information shall be given regarding the photographic equipment including, but not limited to, types of cameras, control stations, camera doors, and capabilities of the equipment. Gun camera equipment shall also be covered. Mission avionics equipment that requires extensive explanation of operating procedures shall be covered in this section or separately. An appendix for mission avionics equipment shall be included only if authorized by the acquiring activity. Classified information on mission avionics equipment shall be covered in a separate classified supplement to the manual.

5.106.1.11.3 Section - Description (Armament control systems).

Data Module Type: Crew/Operator Information Code: 043J

5.106.1.11.3.1 General.

The description of gunnery, rocket, tow target, control, and computer equipment and their interrelations when installed shall be provided. Armor protection shall be discussed along with the individual item that is being protected. Precautions and safety considerations shall also be included.

5.106.1.11.3.2 Armament control system.

Description and operating instructions for the armament control system shall be provided, if applicable. Also, information such as presentation on the scope or sight, when applicable, shall be included. Warm-up time and preflight, in-flight before landing and after landing checks shall be listed. Checklist format and style shall be in accordance with S1000D and these business rules.

5.106.1.11.3.3 Gunnery equipment.

Information shall be included on all guns and turrets, including quantity of ammunition that can be carried for each gun. When describing remote controlled turrets, the manual shall include, but shall not be limited to, the station from which the turret is operated, method of gaining control of the turret, and method of transferring control. All gunnery controls shall be covered, including gun sight and gun heater.

5.106.1.11.3.4 Rocket equipment.

Information shall be provided regarding the firing procedures, description and capability, controls, and types and number of rockets that can be carried. Typical combinations of rockets and firing order shall be covered. Special precautions, if any, shall be listed.

5.106.1.11.3.5 Missiles.

Information shall be provided regarding the firing procedures, description and capability, controls, and types and number of missiles that can be carried. Special precautions, if any, shall be listed.

5.106.1.11.3.6 Laser control system.

Description and operating instructions for the laser control system shall be provided, if applicable. Also, information such as presentation on the scope or sight, when applicable, shall be included. Warm-up time and preflight, in-flight before landing and after landing checks shall be listed. Checklist format and style shall be in accordance with S1000D and these business rules.

5.106.1.11.4 Section III - Cargo handling.

Data Module Type: Procedural

Information Code: 160F

Descriptions and procedures for cargo handling systems and equipment to include hoists, winches, and cargo hooks shall be provided.

5.106.1.11.5 Section IV - Description (Passive defense).

Data Module Type: Crew/Operator

Information Code: 043J

Passive defense equipment shall be described, procedures outlined, and controls and precautions listed. Employment methods shall also be discussed.

5.106.1.11.5.1 Description (Additional system coverage).

Data Module Type: Crew/Operator

Information Code: 043J

Additional sections shall be used as required, to describe systems not covered in other sections.

5.106.1.12 Aircraft operator's manual Chapter 5 - Operating limits and restrictions.**5.106.1.12.1 General.**

All important operating limits and restrictions that shall be observed during ground and flight operations shall be provided. Special emphasis shall be placed on any unusual restrictions which are particularly characteristic of the aircraft. All time limited operations shall include a time limit and the upper and lower boundaries.

5.106.1.12.2 Section I - Operating limits - General.

Data Module Type: Crew/Operator

Information Code: 043B

General information on aircraft limits and restrictions, including decals and placards shall be provided. The following statements shall be included:

- a. Purpose. This chapter identifies or refers to all important operating limits and restrictions that shall be observed during ground and flight operations.
- b. General. The operating limitations set forth in this chapter are the direct result of design analysis, tests, and operating experiences. Compliance with these limits shall allow the pilot to safely perform the assigned missions and to derive maximum utility from the aircraft.
- c. Exceeding operational limits. Any time an operational limit is exceeded, an appropriate entry shall be made on DA Form 2408-13-1. The entry shall state what limit or limits were exceeded, range, time beyond limits, and any additional data that would aid maintenance personnel in the maintenance action that may be required.
- d. Minimum crew requirements. The minimum crew required for flight is (fill in proper number). Additional crew members, as required, will be added at the discretion of the commander in accordance with pertinent DA regulations.

5.106.1.12.3 Section II - Operating limits - System.

Data Module Type: Crew/Operator Information Code: 043H

All aircraft system limits not covered elsewhere in this chapter that may restrict operation shall be provided.

5.106.1.12.3.1 Instrument, interactive display, or display operating ranges and markings.

Each instrument, interactive display, or display that indicates an operating limit(s) shall be illustrated and accurately reflect the actual markings/displays on the instrument, interactive display, or display. The information appearing on the illustration depicting markings or displays shall not be repeated in the text or table. The color coded markings/displays or interactive display graphic symbols shall be fully explained. If the instrument, interactive display, or display limits cannot be adequately explained in the space provided for the captions, explanations shall be included under the appropriate paragraph heading. The text shall state or describe all limit ranges, including gaps that may be shown in range markings.

5.106.1.12.3.2 Propeller limitations.

Propeller limitations shall be discussed including, but not limited to, reverse pitch and restricted Revolutions Per Minute (RPM).

5.106.1.12.3.3 Rotor limitations.

For rotary wing aircraft, rotor limitations during both flight and ground operation shall be discussed, covering such points as restricted rpm, auto-rotational rpm, limitations for startup and shutdown during high winds, and wind gust spread.

5.106.1.12.3.4 Additional limitations.

All system limits and restrictions not described by the instrument markings shall be included. Limits and restrictions that should be observed when operating utility, heating, ventilation, cooling, or rain removal systems shall also be included.

5.106.1.12.4 Section III - Operating limits - Power.

Data Module Type: Crew/Operator Information Code: 043C

Power limits shall include engine and drive train and idle limitations. Limitations that shall be observed when alternate fuel grades are used shall be included. Acceleration limits and restrictions that apply to the engine shall be covered. Limits shall be expressed in terms of observable indications that are available to the flight crew; e.g., 360°C, 46 lb., 10 psi. Terms such as military power or takeoff power shall not be used.

5.106.1.12.5 Section IV - Operating limits - Loading.

Data Module Type: Crew/Operator Information Code: 043D

5.106.1.12.5.1 General.

Loading limits pertaining to the aircraft shall be discussed in detail.

5.106.1.12.5.2 Center-of-gravity limitations.

Longitudinal limitations shall be described. Lateral limitations shall be described when specified by the acquiring activity. Also, a statement similar to the following shall be included: CG limits for the aircraft to which this manual applies and appropriate charts for computation of the CG are contained in Chapter 6 (refer to [5.106.1.13](#)).

5.106.1.12.5.3 Weight limitations.

All minimum/maximum aircraft weight limitations including parking, towing, taxiing, and takeoff and landing from prepared/unprepared fields shall be provided. For aircraft in which weight distribution is a problem (such as minimum fuel to be carried in the wings at various gross weights), coverage of the limitations involved shall be included. References or links shall be made to fuel management in Chapter 2 (refer to [5.106.1.9](#)), as necessary.

5.106.1.12.5.4 Turbulence.

Restrictions regarding flying in all levels of turbulence shall be discussed and limitations shall be covered.

5.106.1.12.5.5 Other limitations.

Other types of limitations that affect operations shall be covered, including the following:

- a. Additional restrictions to be observed when carrying stores. For aircraft equipped to carry a variety of external stores, information concerning the stores carried at each station and the maximum lateral unbalanced load that can be carried shall be included.
- b. Limitations as to the weight for external sling loads on rotary wing aircraft and speed restrictions, if any.
- c. Floor loading limits that are to be observed when carrying internal cargo.
- d. Restrictions on jettisoning external stores and sling loads.

5.106.1.12.6 Section V - Operating limits - Airspeed.

Data Module Type: Crew/Operator Information Code: 043E

5.106.1.12.6.1 General.

Airspeed limitations shall be discussed, including level flight airspeed, diving airspeed, airspeed for various degrees of flap extension, airspeed for various stabilator positions, airspeed for door opening, and airspeeds under various conditions of weight and configuration. For rotary wing aircraft, sideward and rearward airspeed limits and restrictions shall be discussed. Airspeeds shall be expressed as Knots Indicated Airspeed (KIAS), unless otherwise specified by the acquiring activity.

5.106.1.12.6.2 Airspeed operating limits chart.

This chart shall present operating limits for forward flight at various gross weights, pressure altitudes, Free Air Temperature (FAT), and KIAS.

5.106.1.12.7 Section VI - Operating limits - Maneuvering.

Data Module Type: Crew/Operator Information Code: 043F

5.106.1.12.7.1 General.

Maneuvering flight limitations to include acrobatic flight, if applicable, shall be described. Acceleration limitations shall also be covered, including maximum acceleration with tip tanks and maximum bank angle at high gross weight. Maximum permissible accelerations under various flight conditions at specific gross weights and fuel weights shall be detailed. For aircraft not equipped with G meters, G forces shall be expressed in terms that are recognizable by the pilot, such as airspeed and bank angle. Restrictions on control movements shall be listed. Material shall be presented on permissible bank angles and side slip. Prohibited maneuvers shall be listed as appropriate.

5.106.1.12.7.2 Flight envelope chart.

For aircraft with G meters, plots of load factor versus speed for the full range of gross weight shall be shown. The speeds at which maneuvers are restricted and unrestricted, as a function of load limit factors, shall be presented. When changes in configuration result in variations in airspeed position error, separate airspeed scales shall be shown. Where direct reading Mach meters are provided, charts for both Indicated Airspeed (IAS) and Indicated Mach Number (IMN) shall be provided.

5.106.1.12.8 Section VII - Operating limits - Environmental.

Data Module Type: Crew/Operator Information Code: 043G

5.106.1.12.8.1 General.

As applicable, altitude, temperature, rain, snow, ice, hail, and oxygen limits shall be provided. Material on maximum wind velocity and gust spread, maximum wind velocity for crosswind operations, wind from the critical azimuth, and normal operation shall be included. Operations under wind azimuth direction and wind velocity conditions that should be avoided shall be discussed. Where appropriate, charts shall be used to depict the preceding conditions.

5.106.1.12.8.2 Flight under Instrument Meteorological Conditions (IMC).

The definition of IMC and the criteria for such flights shall be provided. In addition, when applicable, information on when a particular aircraft is qualified for operation in instrument meteorological conditions, and when a certain aircraft is restricted to visual flight conditions shall be included.

5.106.1.12.8.3 Description (Additional sections).

Data Module Type: Crew/Operator Information Code: 043J

When specified by the acquiring activity, additional sections may be used to allow for added limits or restrictions to fit specific aircraft.

5.106.1.13 Aircraft operator's manual Chapter 6 - Weight/balance and loading.**5.106.1.13.1 Section I - Weight and balance (General).**

Data Module Type: Crew/Operator Information Code: 169A

5.106.1.13.1.1 General.

General statements about the importance of weight and balance calculations shall be provided. In addition, a note that Chapter 6 contains sufficient instructions and data so that an aviator, given the proper data, can compute any combination of weight and balance shall be included (refer to [5.106.1.13](#)). When weight and balance computers/calculators are provided for the aircraft, instructions and examples of their use shall be based on gear down configurations, with supplementary data for gear up conditions (when required). A statement similar to the following statement shall be included:

"Army (*insert assigned aircraft designation*) are in class (*insert class*). Additional directives governing weight and balance of class (*insert class*) aircraft forms and records are contained in AR 95-1 and AR 95-23."

5.106.1.13.1.2 Aircraft compartment and station diagram.

A general description of the aircraft compartments and a supporting diagram shall be provided. The diagram shall show the reference datum line, stations, butt lines, and water lines in inches.

5.106.1.13.2 Section II - Weight and balance data.

Data Module Type: Crew/Operator Information Code: 169F

Information necessary for the computation of weight and balance for loading of specific aircraft shall be provided. Instructions for completion of weight and balance forms (DD Form 365 series) shall not be provided in the manual; however, TM 55-1500-342-23 which provides these instructions shall be referenced. Sufficient information shall be provided to permit the flight crew to readily use the data presented in the other sections of this chapter to determine loading arrangements, fuel burn or transfer sequences, ordnance off-load sequences, and other weight and balance procedures to assure the aircraft remains within weight and balance limits for the entire flight.

5.106.1.13.3 Section III - Weight and balance - Fluids (Fuel/oil).

Data Module Type: Crew/Operator Information Code: 169B

5.106.1.13.3.1 General.

Fuel quantity data shall be in chart form. The names of the tanks on the charts shall be identical to the name appearing on the tank selector (a more explanatory title may be carried in parentheses if desired). Any group of tanks or cells that are interconnected to fill and drain shall be treated as a single tank. The chart shall include data on each tank (including droppable and ferry) that is designed for use with the aircraft. Tank volume shall be given in terms of usable fuel rather than total tank volume. Fuel quantities shall be given in gallons regardless of the type of instrumentation. All gallon figures shall be followed by the conversion to pounds. The grid lines within the chart shall be based on fuel weight in pounds of fuel. It shall be stated that the weights are based on a given specific gravity at standard day temperature.

5.106.1.13.3.2 Oil data.

When specified by the acquiring activity, a statement of usable oil capacity, equivalent in pounds, total moments, and fuselage station number shall be provided. Aircraft that have a large usable oil capacity shall have a tabular listing if oil loading computation is critical. It shall be noted that the weight shall be based on specific gravity at standard day temperature.

5.106.1.13.4 Section IV - Weight and balance - Personnel.

Data Module Type: Crew/Operator

Information Code: 169C

5.106.1.13.4.1 General.

All essential information and instructions for preparation, loading, and unloading of personnel, including airborne troops shall be provided.

5.106.1.13.4.2 Personnel compartment and entrances.

A general description of the personnel compartment and entrances, including profile and cross-section drawings showing all dimensions, in inches, shall be provided. In addition, a description shall be provided of any critical dimensions which limit full use of the personnel compartment.

5.106.1.13.4.3 Personnel loading and unloading.

Personnel loading and unloading shall include, but shall not be limited to, a checklist and description of steps necessary for loading and unloading troops as follows:

- a. Troop seat installation.
- b. A description and operation of safety belts and harness.
- c. A check of comfort and emergency provisions.
- d. Instructions for troop loading and unloading procedure.

5.106.1.13.4.4 Personnel weight.

When aircraft are operated at critical gross weights, the exact weight of each individual occupant, including the weight of the equipment shall be provided. In addition, if weighing facilities are not available, or if the tactical situation dictates otherwise, loads shall be included and computed as follows:

- a. Combat equipped soldiers - 240 pounds per individual.
- b. Combat equipped paratroopers - 260 pounds per individual.
- c. Litter and patient's weight - 265 pounds per patient.
- d. Crew and passengers with no equipment - compute weight according to each individual's estimate.

5.106.1.13.4.5 Personnel moments.

Personnel moments charts for personnel in any position shall be provided.

5.106.1.13.5 Section V - Weight and balance - Mission equipment.

Data Module Type: Crew/Operator

Information Code: 169D

Loading data charts for mission equipment shall provide a tabular listing containing the quantity, weight, and moment of each load item up to the maximum quantity for which provisions are available. Only items of load shall be listed. Items that are part of the basic weight shall not be part of this listing. Data shall be provided for all applicable mission system loads including, but not limited to, armament, avionics, sling, hoist, and litters. Listings shall provide weights and moments of required pylons and launchers. Tabular listing of rockets shall be inclusive for maximum capacity of launchers. Since rockets vary in weight by type, separate listings shall be required.

5.106.1.13.6 Section VI - Cargo loading.

Data Module Type: Procedural

Information Code: 160D

5.106.1.13.6.1 General.

Detailed information on cargo loading shall be provided.

5.106.1.13.6.2 Description and illustrations.

A general description of cargo compartments and entrances, including profile and cross-section drawings showing all dimensions (in inches) shall be provided. Also, descriptions of critical dimensions that limit full use of cargo compartments shall be included.

- a. A plan view showing dimensions of cargo floor, designation, location, and strength of tiedown fittings, and diagram and limitations on use of fittings, including the desirable cone of action when using fittings, shall be provided. Also, a plan view of cargo floor showing variations in floor strength and weight concentration limitations in various areas shall be included, as applicable.
- b. A suitable view of litter provisions showing location shall be presented.
- c. A general description of, and operating instructions for, aerial delivery systems shall be included, when applicable.
- d. A list and description of all cargo loading aids, unloading aids, cargo securing equipment (including, but not limited to, ramps, hoists, winching provisions, and tie-downs), and stowage provisions shall be provided.

5.106.1.13.6.3 Equipment loading and unloading.

Procedures and a checklist for loading and unloading vehicles and equipment shall be provided, as follows:

- a. Assembly of equipment needed for loading.
- b. Preparation of cargo compartment and floor and installation of fittings.
- c. Preparation of the aerial delivery system, when applicable.
- d. Including, but not limited to, operation of cargo doors, ramps, load assist devices, and aircraft support jacks, including installation and operation, as applicable. Instructions for checking landing gear shall be included, when appropriate.
- e. Assembly and checking of unloading aids and releasing of cargo tie-down devices.

5.106.1.13.6.4 Preparation of general cargo.

Pre-loading information shall be presented as follows:

- a. Instructions that loading personnel should assemble prior to loading data, such as weights, dimensions, CG locations, and contact areas of equipment for use in positioning the load shall be included.
- b. Reference or a link shall be made to the weight and balance computations in Section II, and the balance computer, if furnished, for the computation of final load positions in the aircraft.

5.106.1.13.6.5 Loading, securing, and unloading cargo.

General methods of loading, safe lashing, and unloading of cargo, vehicles, and equipment shall be provided. Rigging of cargo for aerial delivery shall be included, when applicable. The information shall be detailed enough to acquaint service personnel with the factors involved in properly loading, securing loads, and unloading the aircraft.

5.106.1.13.6.6 Cargo center-of-gravity.

A chart shall be provided showing approximate allowable cargo CGs versus known weights which may be used for planning purposes for various cargo loads. The chart shall be based on a range of aircraft basic weights and center of gravity locations to allow for anticipated variations in these values. The chart shall state that these data are for planning purposes only, that the results are approximate, and final loading shall be checked for the particular aircraft using weight and balance computations and the balance computer, if furnished.

5.106.1.13.6.7 Loading procedure.

A checklist of the actions required from the time the aircraft is prepared for loading until it is ready for flight shall be provided. It shall include instructions and notes on loading equipment into the aircraft, checking items with CG markings and items 10 feet or longer and placing them in position, determining the amount of shoring required for flight conditions, and general instructions for loading and lashing miscellaneous cargo. Reference shall be made to the appropriate regulations regarding handling of hazardous equipment.

5.106.1.13.6.8 Securing loads.

The following items shall be described.

- a. Approved restraint criteria including fore, aft, sideward and vertical restraints.
- b. Detailed tie-down instructions shall be provided only for equipment or cargo that is unique to a specific aircraft.

5.106.1.13.6.9 Unloading procedures.

Procedures for unloading the aircraft and stowing associated equipment shall be provided.

5.106.1.13.7 Section VII - Center-of-Gravity (CG).

Data Module Type: Crew/Operator Information Code: 169E

Longitudinal CG limitations shall be included, and lateral CG limits shall be shown as specified by the acquiring activity.

- a. Where possible, the gross weight and CG limitations of the aircraft shall appear on a single chart. However, additional charts may be used if necessary to adequately portray the various configurations of the aircraft.
- b. Explanatory text shall explain the purpose and components of the charts; illustrate the use of the charts; emphasize that charts are designed to illustrate degree of risk involved at various weights and CGs; and establish limitations.
- c. The chart shall be based on gross weight that is defined as the total weight of the aircraft and its contents. It shall include, but not be limited to, operating weight plus fuel, cargo, ammunition, missiles, and external auxiliary fuel tanks. The gross weight in pounds shall be shown on the left side of the chart, and shall range from the aircraft's minimum operating weight to maximum gross weight allowable.
- d. At least one example to illustrate the application of the chart shall be included.

5.106.1.14 Aircraft operator's manual Chapter 7 - Performance data.

5.106.1.14.1 General.

All the performance data charts required for the completion of preflight and in-flight mission planning shall be provided. The data presented shall cover the maximum range of conditions and performances for which the aircraft is qualified. Explanatory text applicable to the use of data presented shall be included for each model of aircraft. Performance data charts shall appear in the initial issue of the manual.

Information contained on the charts shall be based on, and shall be consistent with, the recommended operating procedures and techniques set forth elsewhere in the manual. Each section shall include an explanation of all applicable charts and a synopsis of pertinent terms used with each chart.

In addition to the draft TM, the acquiring activity may require submission of an aerodynamic report illustrating the derivation of the data entered on the charts included in the TM. The report should include an analysis leading to the establishment of lift and drag values used in the calculations, aircraft efficiency and compressibility correction factors, methods of computing power or thrust required and available, a discussion of duct loss and propeller efficiencies, and adequate references to appropriate wind tunnel or flight test data. Calculation methods need to be fully explained and a sample calculation given. The calculations should be presented in sufficient detail to permit ready review and check of conclusions and to enable additional calculations to be made.

5.106.1.14.2 Data basis.

Unless otherwise specified by the acquiring activity, the preparation of performance data charts shall be derived from flight test reports, when available. Exceptions to this may be authorized by the acquiring activity for new aircraft, provided adequate flight tests have been completed for the prototype. However, for these exceptions, an evaluation of all changes that affect performance shall be obtained by additional flight tests. The basis for data presented shall be clearly defined at the bottom of each chart to include data type and source data document. Army test reports shall be used when available. When flight test reports are not available, referenced estimates shall be clearly identified as such. Conservative estimates shall be used until verified by flight test data. Data that are not based strictly on the particular aircraft shall be explained in detail.

5.106.1.14.3 Identification.

Each chart shall be marked in the following manner:

- a. Titles shall be centered above the chart. The name of each chart shall define the type of information to be obtained from that particular chart.
- b. Condition headings ([5.12.1.1.8](#)) shall be centered below the title and, when required, shall contain the following types of information, when applicable:

- (1) Pressure altitude.
 - (2) Situation to which chart applies (takeoff, landing, sling load takeoff).
 - (3) Conditions of auxiliary equipment (ECU, bleed air, etc.).
 - (4) Configuration.
 - (5) Wing flap position.
 - (6) Rotor or prop rpm.
 - (7) Engine rpm.
 - (8) Fuel type.
 - (9) Hovering condition (in ground effect (IGE) or out of ground effect (OGE)).
 - (10) Power requirements.
 - (11) Runway conditions.
 - (12) Wind conditions.
 - (13) Gear up/down.
 - (14) Power required.
- c. Titles of figures shall match the title shown at the top of each chart.

5.106.1.14.4 Factors affecting data.

Conditions that affect the data but are not presented as variables on any specific chart shall be listed as "Conditions" under the title of the chart. An explanation of these factors shall be included in the text that describes that chart.

5.106.1.14.5 Configuration.

Unless otherwise specified by the acquiring activity, the baseline configuration for all presented data shall be the most probable combat configuration. This baseline configuration shall be labeled and presented as a condition on applicable charts. The baseline configuration shall be completely defined in the "Drag" section. Where inherent configuration variations exist (including, but not limited to, antenna variations, IR suppressers, and engine inlet configurations), the data shall be based on the most conservative configuration combination (highest drag, lowest power/thrust available, highest fuel consumption, etc.). The effects of altering these items shall be discussed in each section, as applicable.

5.106.1.14.6 Fuel.

All charts shall be based on the primary fuel for the engine/engines installed unless additional charts are required by the acquiring activity for alternate fuels.

5.106.1.14.7 Atmospheric conditions.

Where data are presented incrementally, they shall be presented to the next increment beyond the range of probable operating atmospheric conditions as found in MIL-HDBK-310, for guidance only, to permit interpolation. Unless otherwise specified by the acquiring activity, standard day, standard conditions, standard temperature, or density altitude shall not be mentioned or presented. The following formulas for converting pressure altitude (H_p) to static air pressure (P), and vice versa, shall be used:

$$P \text{ (in. Hg)} = 29.92125(1 - H_p/145,442.1)^{5.255376}$$

$$H_p \text{ (ft.)} = 145,442.1(1 - P/29.92125)^{1902632}$$

5.106.1.14.8 Allowances.

Allowance shall be made for all installation losses and a complete analysis of such allowances shall be included in the performance data substantiation report. The following allowances shall be included. An increased allowance of five percent shall be made for fuel consumption data only when data are based on estimates; however, this shall not be stated in the TM/IETP.

5.106.1.14.9 Limitations and restrictions.

Applicable operating limits shall be shown. Restricted operating regions shall be depicted by shaded areas. Data shall be extended to the next normal increment beyond operating limits to aid interpolation. Such data shall be represented by dotted lines. NOTE: maximum gross weight is an operating limit.

5.106.1.14.10 Definitions.

Definition of terms used including, but not limited to, takeoff speed, takeoff distance, and rotation speed shall be included in abbreviations and terms.

5.106.1.14.11 Rotary wing performance data.

Unless otherwise specified by the acquiring activity, the following performance data charts shall be created for rotary wing aircraft:

- a. Fuel flow ([FIGURE 1](#)).
- b. Maximum torque available (*insert condition/time*) ([FIGURE 2](#)).
- c. Hover ([FIGURE 3](#)).
- d. Takeoff ([FIGURE 4](#)).
- e. Drag ([FIGURE 5](#)).
- f. Cruise ([FIGURE 6](#)).
- g. Climb-descent ([FIGURE 7](#)).
- h. Airspeed calibration ([FIGURE 8](#) and [FIGURE 9](#)).

Additional charts peculiar to certain aircraft, such as multi-engine, shall be included as specified by the acquiring activity. These charts, if required, shall completely define the operation or restrictions of the aircraft.

5.106.1.14.12 Fixed wing performance data.

Unless otherwise specified by the acquiring activity, the following performance data shall be presented for fixed wing aircraft:

- a. Crosswinds - takeoff and landing ([FIGURE 10](#)).
- b. Idle fuel flow ([FIGURE 1](#)).
- c. Torque available for takeoff ([FIGURE 11](#)).
- d. Takeoff - normal ([FIGURE 12](#)).
- e. Normal rotation/takeoff airspeed ([FIGURE 13](#)).
- f. Acceleration check distance ([FIGURE 14](#)).
- g. Accelerate-stop distance ([FIGURE 15](#)).
- h. Accelerate after lift off ([FIGURE 16](#)).
- i. Minimum single engine control airspeed (flaps down and up, if applicable) ([FIGURE 17](#)).
- j. Single engine climb ([FIGURE 18](#)).
- k. Cruise climb ([FIGURE 19](#)).
- l. Drag ([FIGURE 5](#)).
- m. Cruise ([FIGURE 20](#)).
- n. Climb/descent ([FIGURE 21](#)).
- o. Approach speed ([FIGURE 21](#)).
- p. Landing ([FIGURE 23](#)).
- q. Airspeed calibration ([FIGURE 8](#) and [FIGURE 9](#)).

Additional charts peculiar to certain aircraft, such as multi-engine, shall be included as specified by the acquiring activity. These charts, if required, shall completely define the operation or restrictions of the aircraft.

5.106.1.14.13 Section I - Introduction.

Data Module Type: Crew/Operator

Information Code: 018A

An explanation of the performance data including the purpose, scope, limits, uses, and conditions shall be provided.

5.106.1.14.13.1 Purpose.

The following paragraph shall be included:

"The purpose of this chapter is to provide the best available performance data for the (*insert assigned aircraft designation*). Regular use of this information will allow you to receive maximum safe use of the aircraft. Although maximum performance is not always required, regular use of this chapter is recommended for the following reasons:

- a. Knowledge of performance margins will allow you to make better decisions when unexpected conditions or alternate missions are encountered.
- b. Situations requiring maximum performance will be more readily recognized.

- c. Familiarity with the data will allow performance to be computed more easily and quickly.
- d. Experience will be gained in accurately estimating the effects of conditions for which data are not presented.

The information is primarily intended for mission planning and is most useful when planning operations in unfamiliar areas or at extreme conditions. The data may also be used inflight, to establish unit or area Standard Operating Procedures (SOPs), including pilot aid cards, and to inform ground commanders of performance/risk tradeoffs."

5.106.1.14.13.2 General.

This paragraph shall contain a statement similar to the following:

The data presented cover the maximum range of conditions and performance that can reasonably be expected. In each area of performance, the effects of altitude, temperature, gross weight, and other parameters relating to that phase of flight are presented. In addition to the presented data, judgment and experience will be necessary to accurately determine performance under a given set of circumstances. The conditions for the data are listed under the title of each chart. The effects of different conditions are discussed in the text accompanying each phase of performance. Where practical, data are presented at conservative conditions. However, no general conservatism has been applied.

WARNING

Exceeding operating limits can cause permanent damage to critical components. Over-limit operation can decrease performance, cause immediate failure, or failure on a subsequent flight.

Applicable limits are shown on the charts. Performance generally deteriorates rapidly beyond limits. If limits are exceeded, minimize the amount and time. Enter the maximum value and time beyond limits on DA Form 2408-13-1 so proper maintenance action can be taken. Exceeding operating limits can cause permanent damage to critical components. Over-limit operations can decrease performance, cause immediate failure, or failure on a subsequent flight.

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Applicable limits are shown on the charts. Performance generally deteriorates rapidly beyond limits. If limits are exceeded, minimize the amount and time. Enter the maximum value and time beyond limits on DA Form 2408-13-1 so proper maintenance action can be taken. Exceeding operating limits can cause permanent damage to critical components. Over-limit operations can decrease performance, cause immediate failure, or failure on a subsequent flight.

5.106.1.14.13.3 Use of charts.

This paragraph shall contain a sample problem typical of a normal mission accomplished by the aircraft. The sample shall be included on or precede the first chart. Additional examples shall be prepared as required for other charts within a section. When possible, actual chart values shall be used throughout the problem. Data for the problem in which derivation may not be entirely clear shall be explained. Additional discussion, sample problems, or illustrations may be used throughout the chapter to clarify the usage of charts. The TM/IETP shall point out that the use of a

straight edge (ruler or page edge) and a hard fine point pencil is recommended to avoid cumulative errors. In addition to the primary use, other uses of each chart are explained in the text accompanying each set of performance charts. An example of an auxiliary use of the charts shall be shown by noting that although the hover chart is primarily arranged to find torque required, maximum skid height or maximum gross weight can also be found. The TM/IETP shall note that in general, any single variable can be found if all other variables are known. Also, the tradeoffs between two variables can be found.

5.106.1.14.13.4 Data basis.

This paragraph shall contain a statement similar to the following statements and definitions:

- a. The source of data used is indicated at the bottom of each performance chart under "Data Basis." The applicable report and date of the data are also given. The data provided generally are based on one of the following categories.
- b. Flight test data are obtained by flight tests of the aircraft at precisely known conditions using sensitive calibrated instruments.
- c. Calculated data are data based on tests, but not on flight tests of the complete aircraft.
- d. Estimated data are data based on estimates using aerodynamic theory or other means not verified by flight testing.

5.106.1.14.13.5 Specific conditions.

This paragraph shall contain a statement similar to the following: The data presented are accurate only for specific conditions listed under the title of each chart. Variables for which data are not presented, but which may affect that phase of performance, are discussed in the text. Where data are available or reasonable estimates can be made, the amount that each variable affects performance shall be given.

5.106.1.14.13.6 General conditions.

General conditions, in addition to specific conditions listed on each chart, shall be included. Examples of general conditions which might affect performance of the aircraft shall include, but shall not be limited to, rigging, pilot technique, sideslip, aircraft variation, engine variation, and instrument variation. Information shall be included which defines what effect the general conditions listed shall have on the performance data of the aircraft.

5.106.1.14.13.7 Performance discrepancies.

A statement similar to the following shall be included in the TM/IETP:

Regular use of this chapter will also allow monitoring of instruments and other aircraft systems for malfunctions, by comparing actual performance with planned performance. Knowledge will also be gained concerning the effects of variables for which data are not provided, thereby increasing the accuracy of performance predictions.

5.106.1.14.14 Section II and subsequent sections - Performance data.

Data Module Type: Crew/Operator

Information Code: 030E

5.106.1.14.14.1 General.

A separate section shall be created for each chart listed in [5.106.1.14.11](#) or [5.106.1.14.12](#), as applicable. The sections shall be titled using the applicable performance data chart title. In addition to the chart itself, each section shall contain, as a minimum, the following:

- a. Description. A description of the performance data including those parameters obtainable from the chart and information relative to any peculiarity of data presented shall be provided.
- b. Use of charts. Reference shall be made to examples used on each chart. Additional use of charts may be included when approved by the acquiring activity. Reference shall be made to related charts that may be used in conjunction with the chart and all information relative to peculiarities of data presented on the chart.
- c. Conditions. Each condition that has a direct or indirect effect on the chart data presented shall be discussed, explaining the effect it may have on the aircraft.

5.106.1.14.14.2 Rotary wing chart content.

Performance data charts for rotary wing aircraft shall conform to the requirements detailed in the following paragraphs:

5.106.1.14.14.2.1 Fuel flow chart.

The fuel flow chart (refer to [FIGURE 1](#)) shall show fuel flow at both the airframe idle throttle position and at normal rotor speed with flat pitch. The chart shall also present fuel flow conditions when the engine is operational at different configurations, e.g., bleed air On/Off. Pressure altitude and FAT shall be used as the criteria for fuel flow computations. Reference shall be made to other charts that present fuel flow data at cruise conditions. Fuel flow data shall be based on the primary fuel type. Information shall be included in the supporting text to define additional pertinent information which may affect fuel flow. All data shall be based on normal operating engine rpm.

5.106.1.14.14.2.2 Maximum torque available chart.

The charts for maximum torque available (refer to [FIGURE 2](#)) shall show the effects of altitude and temperature on the maximum torque available and shall take into consideration calibration factors used to correct for known errors in torque indicating systems. Separate charts shall be provided for each applicable set of time limited torque available data. For example, separate charts shall be provided for intermediate (30 minute) and one engine inoperative contingency (10 minute) torque available data. Data for continuous torque available shall not be provided unless they are also the maximum torque available. Information shall be provided to allow the operator to correct the data presented on the charts to account for variations in torque available due to operation of IR suppressers, systems requiring bleed air, or other similar operating conditions. Information shall also be provided to allow the operator to correct the data presented to account for known variations in the torque available of the individual engines installed in the aircraft compared to the standard or specification engines depicted by the charts.

5.106.1.14.14.2.3 Hover chart.

The hover chart (refer to [FIGURE 3](#)) shall present the torque required to hover at given conditions of skid height, gross weight, temperature, and altitude. Aircraft limitations shall be presented to include marginal areas of performance. When unsafe performance areas could be encountered, the full range of precautionary data shall be presented and safe limits presented to better clarify the use of the data. Basic IGE hover data shall be based on hovering over a level surface. If IGE hover data are presented for other than level surfaces, information shall be included in the supporting text or on the charts. Compressibility effects on hover power required may be presented as shown in [FIGURE 3](#).

5.106.1.14.14.2.4 Critical data chart.

Critical wind azimuth and velocities at varying gross weights, pressure altitudes, and FAT during hover and low speed flight shall be presented as required. A separate chart may be used.

5.106.1.14.14.2.5 Takeoff chart.

The takeoff chart shall consist of all takeoff data required to clear various obstacle heights and shall be based on all necessary parameters shown in [FIGURE 4](#). All approved techniques such as level acceleration, coordinated climb, and sling load techniques shall be covered on additional charts as required by the acquiring activity. The primary parameters used for takeoff performance shall be maximum hovering height capability, FAT, gross weight, and maximum torque available. Additional performance charts shall be referenced when required. Takeoff limits shall be stated and indicated on all charts. All takeoff conditions shall be based on calm winds, level hard surfaces, normal rotor/engine speeds, and optimum torque available.

5.106.1.14.14.2.6 Drag chart.

The baseline configuration for drag (refer to [FIGURE 5](#)) shall be completely defined. Inherent or basic equipment variations, existing or anticipated, and any external stores included in the baseline configuration shall be provided. Data shall be prepared to show each drag item and the drag area change in square feet based on additional engine torque or horsepower required. These data shall be prepared in tabular form or shall be conveyed in a manner more suitable for interactive viewing. Negative drag increments from baseline configurations shall be permissible. The drag data shall fall into one of these major categories: (1) inherent or basic aircraft modifications or basic equipment changes; (2) external stores and store combinations; (3) crew alterable configurations; and (4) for helicopters with sling capability, drag of various standard sling loads. A procedure shall be provided for estimating drag of sling loads for which data are not provided. Information to determine the change in maximum range or long range cruise to chart the airspeed with drag variations shall be provided. A supplementary graph on the cruise chart depicting torque/horsepower change for drag change shall be provided. It shall cover the airspeed range from minimum power to limit airspeed. It shall also cover a drag range to one-half the basic aircraft drag or the largest drag increment combination, whichever is larger. One or two alternate total configurations shall be depicted on these sub-graphs using special line coding with approval of the acquiring activity ([6.2](#)). If alternate configurations are depicted, they shall be completely defined using separate charts, as applicable.

5.106.1.14.14.2.7 Cruise chart.

Cruise charts (refer to [FIGURE 6](#)) shall present torque requirements for level flight at various airspeeds, gross weights, pressure altitudes, and FAT. The particular altitudes and temperatures at which cruise data are to be presented shall be specified by the acquiring activity. Indicated airspeeds for all airspeed systems used on the aircraft referenced shall be shown on the charts. Fuel flow shall be shown for different engine operations. Torque available shall be shown for maximum torque and continuous bleed air On/Off. When torque available is greater than the torque limit only, the torque limit shall be shown. Velocity never exceeded (V_{ne}) shall be shown on each chart, as appropriate. Airspeeds for maximum range, endurance, and rate of climb shall be included on each chart. This information shall be presented for each engine when performance data pertain to multi-engine aircraft. Maximum performance, precautionary, and limits data shall be shown on each chart and explained in the text. Other performance data charts related to the cruise charts shall be referenced. All cruise data shall be based on normal operational rotor and engine speed, on drag area changes, true airspeed, pressure altitude, and FAT. A drag area change table showing the change due to each possible configuration change shall be included.

5.106.1.14.14.2.8 Climb-descent chart.

The climb-descent chart (refer to [FIGURE 7](#)) shall show the torque required in excess of that needed for level flight to obtain the desired rate of climb. The torque decrease for a desired rate of descent shall also be shown. Desired rate of climb or descent and gross weight shall be used to compute the torque change required.

5.106.1.14.14.2.9 Airspeed calibration chart.

An airspeed calibration chart (refer to [FIGURE 8](#) and [FIGURE 9](#)), which defines the relationship between the pilot's indicated and calibrated airspeed for level flight, climb, and descent, shall be provided. Instructions and examples shall be provided to show the operator how to determine the level flight indicated airspeed value which corresponds to known indicated airspeeds in climb and descent. Instructions and examples for determining calibrated airspeeds corresponding to known indicated airspeed shall also be provided. Altimeter correction charts that provide position error correction versus indicated airspeed shall be provided for all normal and emergency altimeter systems. Data shall be provided for all applicable flap settings or other variations in configuration. A temperature conversion/correction chart that provides true FAT as a function of true airspeed and indicated temperature shall also be provided for aircraft capable of significant airspeeds. For those aircraft whose air data system position errors are insignificant, calibration data for airspeed, altitude, and temperature shall be omitted, with approval of the acquiring activity.

5.106.1.14.14.2.10 Optimum cruise.

When requested by the acquiring activity, data shall be provided to determine the altitude for maximum range and maximum endurance as a function of gross weight and ambient temperature. Information shall also be provided for optimum rotor/propeller rpm for maximum range and endurance. Where optimum rpm is different from that presented for the (normal) cruise data, information shall be provided to correct fuel flow for the different RPMs. Optimum cruise speed (maximum range or endurance) presented on the cruise chart shall be referenced and used. Airspeed and power schedules for climb and descent to maximize total range or endurance shall be described. A means shall be provided for estimating ambient temperature at optimum altitude. Also, a means shall be provided for comparing the effects of varying winds with altitude with the change in aircraft performance with altitude. Data shall cover the range of gross weights and ambient temperatures presented on the cruise charts, and the limits of altitude on the cruise charts (if required). If corrections to optimum altitude for configuration variations are significant and capable of being done, this information shall be provided.

5.106.1.14.14.3 Fixed wing chart content.

Performance data charts for fixed wing aircraft shall conform to the requirements in the following paragraphs.

5.106.1.14.14.3.1 Crosswind chart.

The crosswind chart (refer to [FIGURE 10](#)) shall show the takeoff or landing conditions under which a takeoff or landing is or is not recommended. Various wind velocities, runway wind angle, and rotation or touchdown airspeeds shall be shown. Additional charts to obtain required information shall be referenced. When more than one configuration is possible for the applicable aircraft, the differences shall be indicated and the charts adjusted appropriately or separate charts may be provided for each configuration.

5.106.1.14.14.3.2 Idle fuel flow chart.

The idle fuel flow chart shall show idle fuel flow pounds per hour at the airframe idle throttle position at various altitudes and ambient air temperatures. Additional charts, when applicable, depicting idle fuel flow at various idle conditions shall be included. Differences between idle fuel flow with bleed air On or Off and similar conditions shall also be shown when applicable. The type of fuel used in computation shall be shown in the subheading of this chart.

5.106.1.14.14.3.3 Torque available for takeoff chart.

This chart (refer to [FIGURE 11](#)) shall show the torque available for takeoff, per engine for multi-engine aircraft, at various ambient air temperatures and altitudes. Maximum torque limits shall be shown when applicable. The standards for which the chart was compiled shall be shown in the heading and defined in the supporting text. Allowable tolerances for available torque shall be stated when applicable.

5.106.1.14.14.3.4 Takeoff chart.

The takeoff chart (refer to [FIGURE 12](#)) shall show the ground roll distance and total takeoff distance required to clear different obstacle heights at various temperatures, altitudes, and aircraft gross weights. Wind conditions, aircraft configuration, power requirements, runway surface conditions, and other applicable information shall be given in the subheading and explained in the text. Additional charts required to obtain information shall be referenced. Each approved takeoff technique shall be covered on separate charts.

5.106.1.14.14.3.5 Rotation/takeoff airspeed chart.

The chart (refer to [FIGURE 13](#)) shall show the recommended normal rotation and takeoff airspeeds for the aircraft at various gross weights. Flap settings and other applicable information, as required by the acquiring activity, shall be given in the subheading or explained in the text. Each approved takeoff technique shall be covered on separate charts.

5.106.1.14.14.3.6 Acceleration check distance chart.

This chart (refer to [FIGURE 14](#)) shall show the relationship between indicated airspeed and ground roll distance during takeoff. The actual indicated airspeed required at any distance traveled along the takeoff airspeeds for various aircraft gross weights and the required ground roll distances for the aircraft shall be provided.

5.106.1.14.14.3.7 Accelerate-stop distance chart.

The accelerate-stop distance chart (refer to [FIGURE 15](#)) shall show the actual distance required to begin takeoff, accelerate to rotation speed, abort the takeoff, and bring the aircraft to a stop. Variables shall include ambient air temperature, pressure altitude, runway conditions, and gross weight.

5.106.1.14.14.3.8 Accelerate after takeoff chart.

The chart (refer to [FIGURE 16](#)) shall show the actual distance required to clear an obstacle after takeoff. Parameters shall include FAT, pressure altitude, takeoff weight, and velocity.

5.106.1.14.14.3.9 Minimum single engine control airspeed chart.

This chart (refer to [FIGURE 17](#)) is applicable to multi-engine aircraft and shall show the minimum controllable airspeed (V_{mc}), with parameters of FAT, pressure altitude, and gross weight, following engine failure during takeoff. The chart shall be based on the operating engine's capability to produce full takeoff power. The primary use of the chart shall be to provide V_{mc} at takeoff, not to provide single engine rate of climb information. All applicable limits shall be shown and explained in the text. Conditions such as flap setting, landing gear position, etc., shall be included in the subheading or explained in the text. The effect of engine failure on takeoff, climb, and cruising performance, the effect of wind-milling and feathered propellers on aircraft drag, and other adverse factors shall be described.

5.106.1.14.14.3.10 Single engine climb chart.

This chart (refer to [FIGURE 18](#)) shall present single engine airspeeds and rate of climb data for various temperatures, altitudes, and gross weights. Single engine rate of climb shall be based on takeoff airspeeds to include gear-up and gear-down configurations. When alternate aircraft configurations change the validity of information being presented, additional charts shall be prepared with an explanation of the alternate configuration provided in the subheading and within the text when necessary. Information indirectly obtained from the chart that would help in the determination of the best course of action to be taken shall also be included in the text. Reference shall be made to other charts related to single engine operations.

5.106.1.14.14.3.11 Cruise climb chart.

The cruise climb chart (refer to [FIGURE 19](#)) shall be used to find the time, fuel, and distance required to climb. Parameters shall include initial and final FAT, initial and final pressure altitude, and initial gross weight.

5.106.1.14.14.3.12 Drag chart.

The drag chart (refer to [FIGURE 5](#)) shall show additional shaft horsepower required at various airspeeds, altitudes, and temperatures due to drag increases caused by changes in external configuration. Additional shaft horsepower shall be given per engine for multi-engine aircraft. Charts used in connection with the drag chart shall be referenced in the text. Tabular data presenting each drag item and the drag area change in square feet shall be included in the text.

5.106.1.14.14.3.13 Cruise chart.

The cruise chart (refer to [FIGURE 20](#)) shall show the obtainable airspeed, required engine shaft horsepower, engine torque pressure, shaft horsepower increase required due to increases in drag, fuel flow and optimum propeller rpm for maximum range during cruise flight at various aircraft gross weights, altitudes, and temperatures. The particular altitudes, configurations, and temperatures at which cruise data are to be presented shall be specified by the acquiring activity. This information shall be presented for each engine when performance data pertain to multi-engine aircraft. When fuel flow variations exist due to alternate engine operations, fuel flow for each alternate condition shall be shown. Single engine data shall be placed on the same charts as multi-engine data only when approved by the acquiring activity. Maximum performance, precautionary, and limits data shall be shown on each chart and explained in the text. Indicated and true airspeed for each altitude shall be shown. When an altitude limitation prevents safe single engine cruise for multi-engine aircraft, the single engine graph shall be omitted. Additional charts related to cruise performance shall be referenced in the text.

5.106.1.14.14.3.14 Climb-descent chart.

The climb-descent chart (refer to [FIGURE 21](#)) shall show changes in torque and horsepower required to obtain a desired rate of climb or descent at a known gross weight and propeller rpm. For maximum rate of climb information, reference shall be made to the cruise charts. If the aircraft is other than baseline configuration, an increase in horsepower due to drag shall be computed from the drag chart and added to the horsepower required per engine. Charts used in connection with the climb-descent charts shall be referenced in the text and in the single engine climb chart.

5.106.1.14.14.3.15 Approach speed chart.

The approach speed chart (refer to [FIGURE 22](#)) shall present the recommended airspeeds during approach to landing for the full range of gross weights and flap settings for the aircraft. The chart shall be valid for all aircraft configurations, unless otherwise specified by the acquiring activity. Charts used in connection with the approach speed chart shall be referenced in the text.

5.106.1.14.14.3.16 Landing chart.

The landing chart (refer to [FIGURE 23](#)) shall show the total ground roll distance for landing with no reverse thrust at known gross weight, pressure altitude, and ambient air temperature. Landing distance shall be based on touching down at the approach speed obtained from the approach speed chart, full braking with 0 degrees, and normal landing flap settings. The correct approach speed is obtained from the approach speed chart. Landing performance shall be based on a dry, level, hard surface runway and calm wind conditions. This chart shall be valid for all stores configurations unless otherwise specified by the acquiring activity. The chart used in computing landing distances shall be described in the text.

5.106.1.14.14.3.17 Optimum cruise.

When requested by the acquiring activity, data shall be provided to determine the altitude for maximum range and maximum endurance as a function of gross weight and ambient temperature. Information shall also be provided for optimum rotor/propeller rpm for maximum range and endurance. Where optimum rpm is different from that presented for the (normal) cruise data, information shall be provided to correct fuel flow for the different rpm. Optimum cruise speed (maximum range or endurance) presented on the cruise chart shall be referenced and used. Airspeed and power schedules for climb and descent to maximize total range or endurance shall be described. A means shall be provided for estimating ambient temperature at optimum altitude. Also, a means shall be provided for comparing the effects of varying winds with altitude with the change in aircraft performance with altitude. Data shall cover the range of gross weights and ambient temperatures presented on the cruise charts, and the limits of altitude on the cruise charts (if required). If corrections to optimum altitude for configuration variations are significant and capable of being done, this information shall be provided.

EXAMPLE

WANTED

FUEL FLOW AT ENGINE IDLE AND AT
324 ROTOR/8600 ENGINE RPM WITH
FLAT PITCH

KNOWN

PRESSURE ALTITUDE = 11000 FEET,
FAT = 0°

METHOD

ENTER PRESSURE ALTITUDE
MOVE RIGHT TO (ENGINE IDLE) FAT
MOVE DOWN, READ ENGINE IDLE
FUEL FLOW = 223 LB/HR
REENTER PRESSURE ALTITUDE
MOVE RIGHT TO (FLAT PITCH) FAT
MOVE DOWN, READ FLAT PITCH
FUEL FLOW = 285 LB/HR

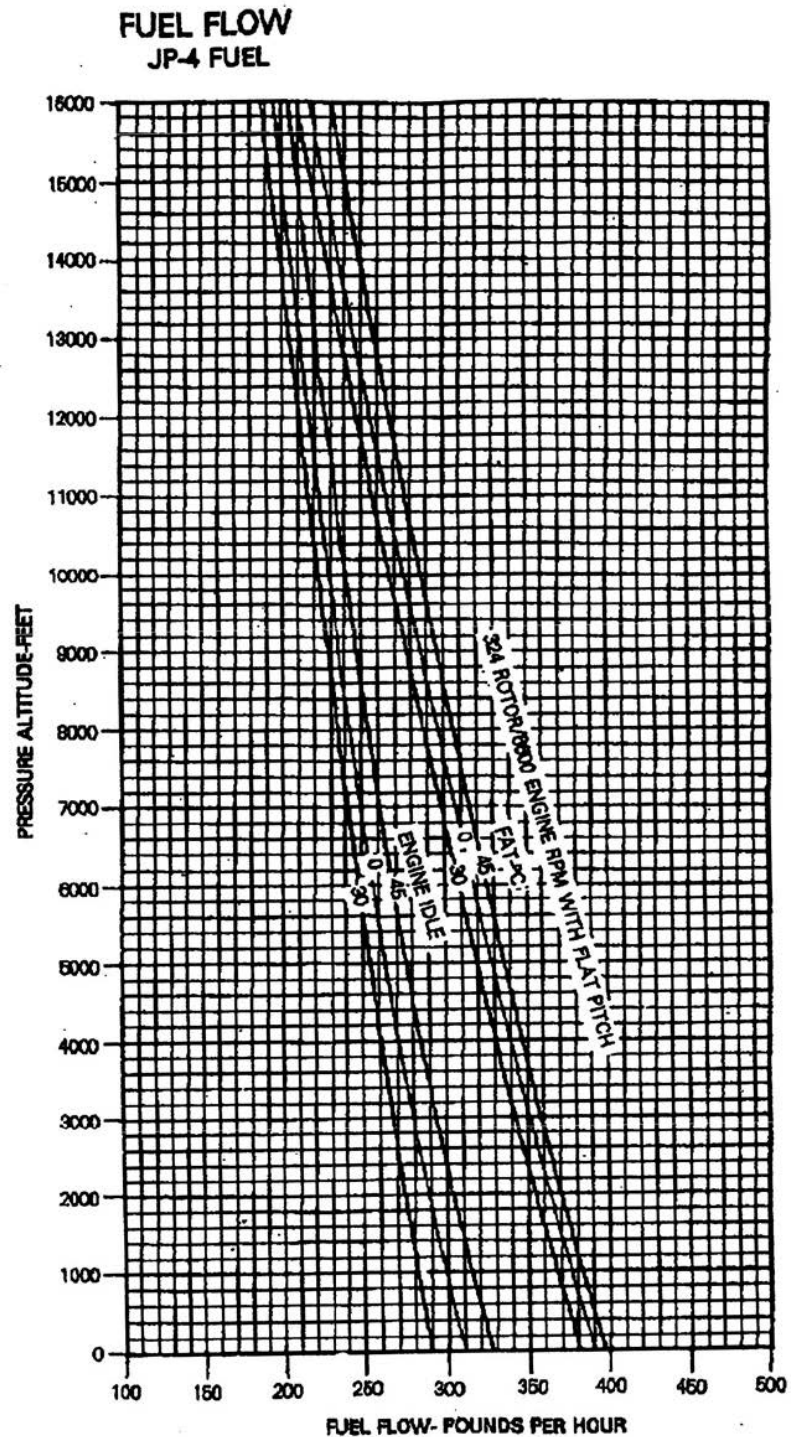


FIGURE 1. Fuel flow chart.

MAXIMUM TORQUE AVAILABLE
30-MIN LIMIT 100% N, ANTI-ICE OFF
ZERO AIRSPEED

MAXIMUM TORQUE
 AVAILABLE/1RP
 AH-64A
 T700-GE-701

EXAMPLE

WANTED

SPECIFICATION TORQUE AVAILABLE
 30-MIN. LIMIT.

KNOWN

FAT = +20 °C.

PRESSURE ALTITUDE = 4000 FT.

METHOD

ENTER AT KNOWN FAT = +20 °C.

MOVE RIGHT TO PRESSURE ALTITUDE

= 4000 FT. THEN MOVE DOWN

TO READ 97.5% TORQUE AVAILABLE

PER ENGINE. THIS DOES NOT EXCEED

2-ENGINE RED LINE. FOR DUAL

ENGINE OPERATION, TORQUE IS LIMITED

TO 100% PER ENGINE.

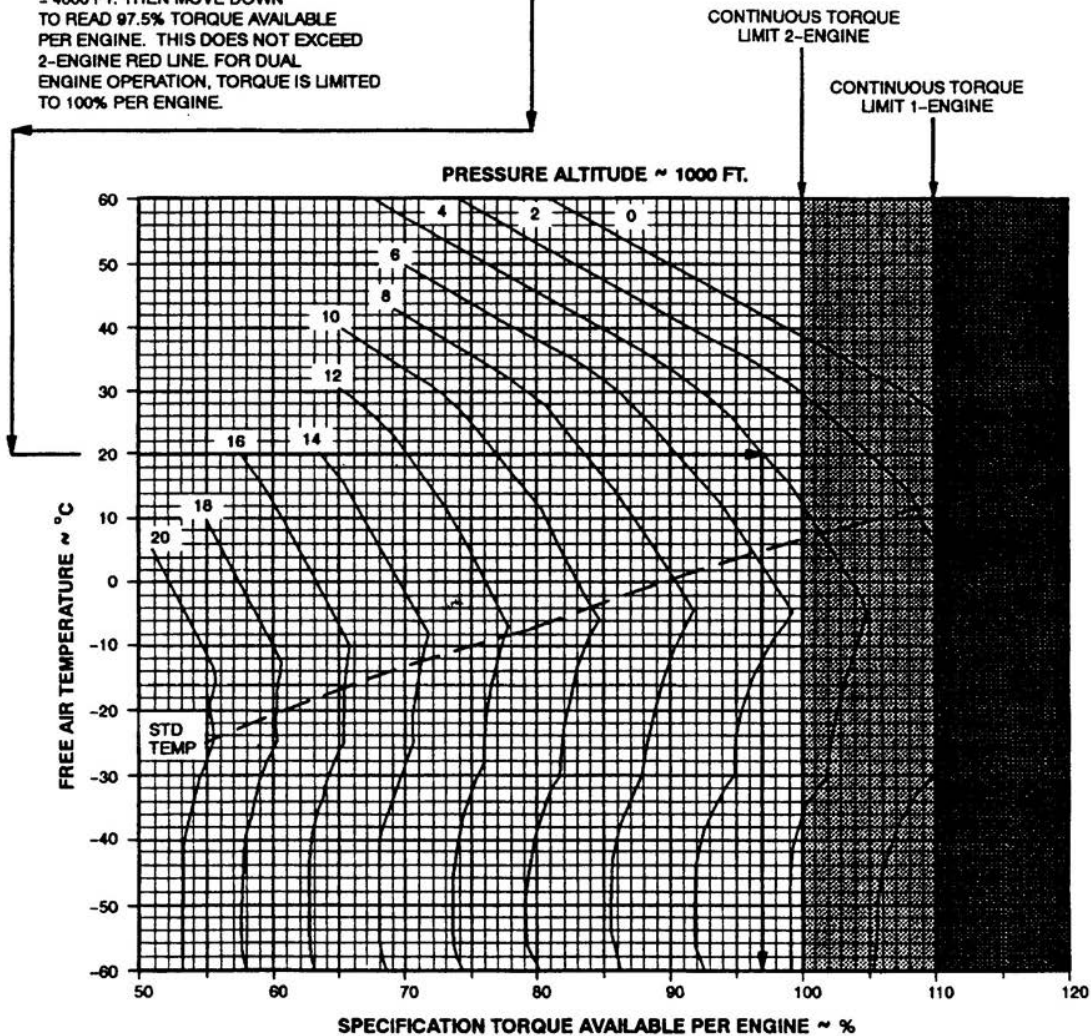


FIGURE 2. Maximum torque available chart.

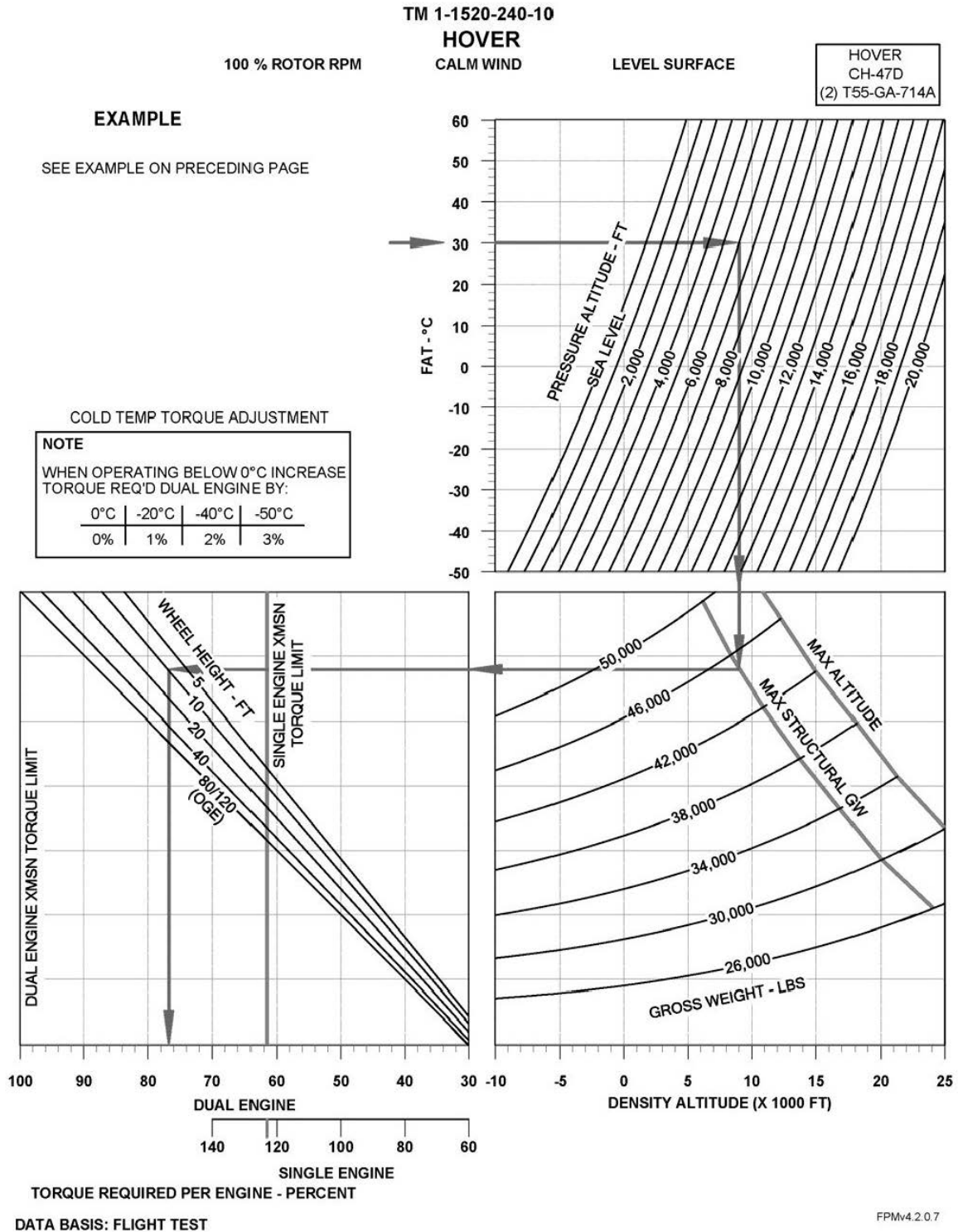


FIGURE 3. Hover chart.

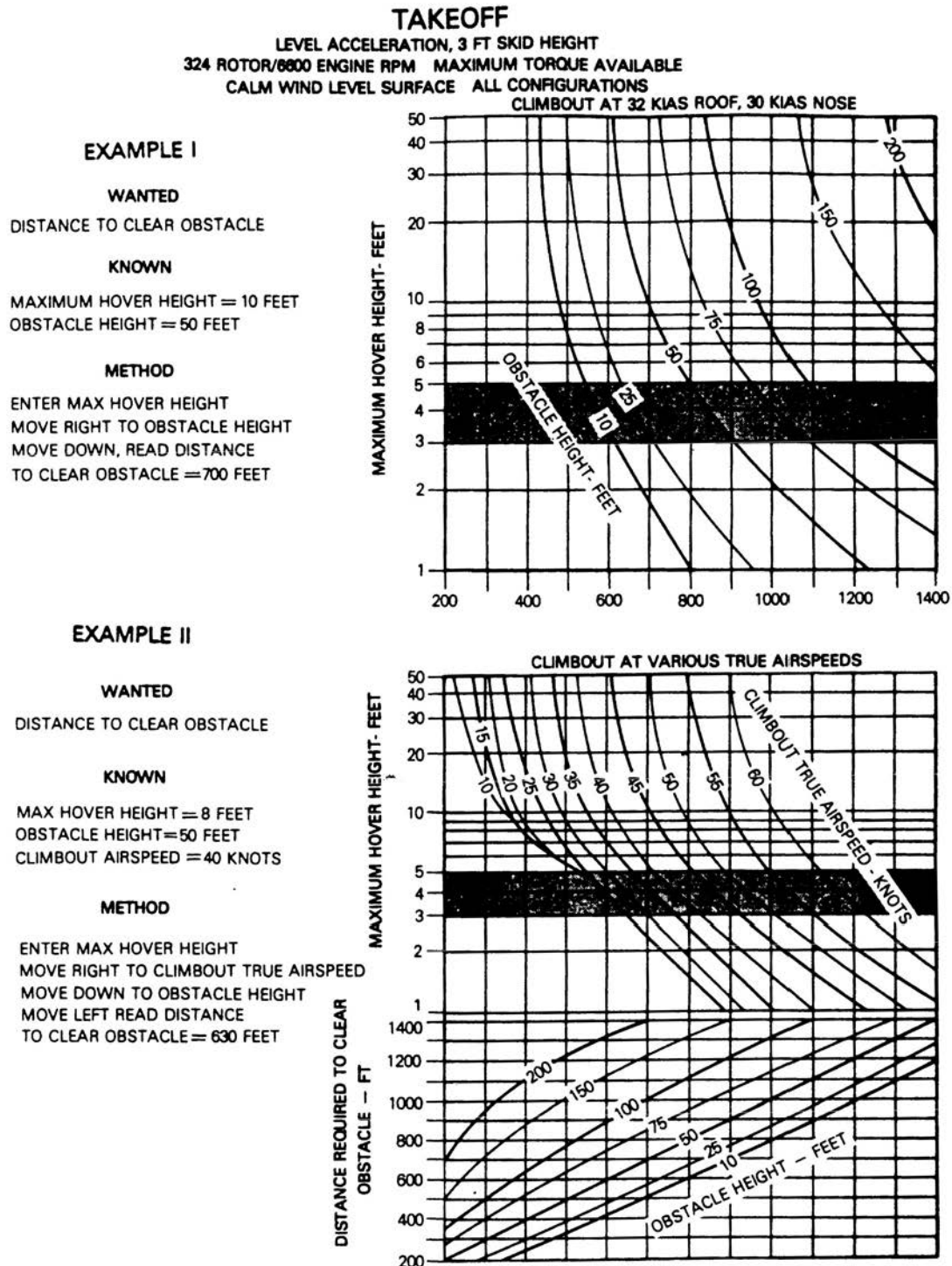


FIGURE 4. Takeoff chart.

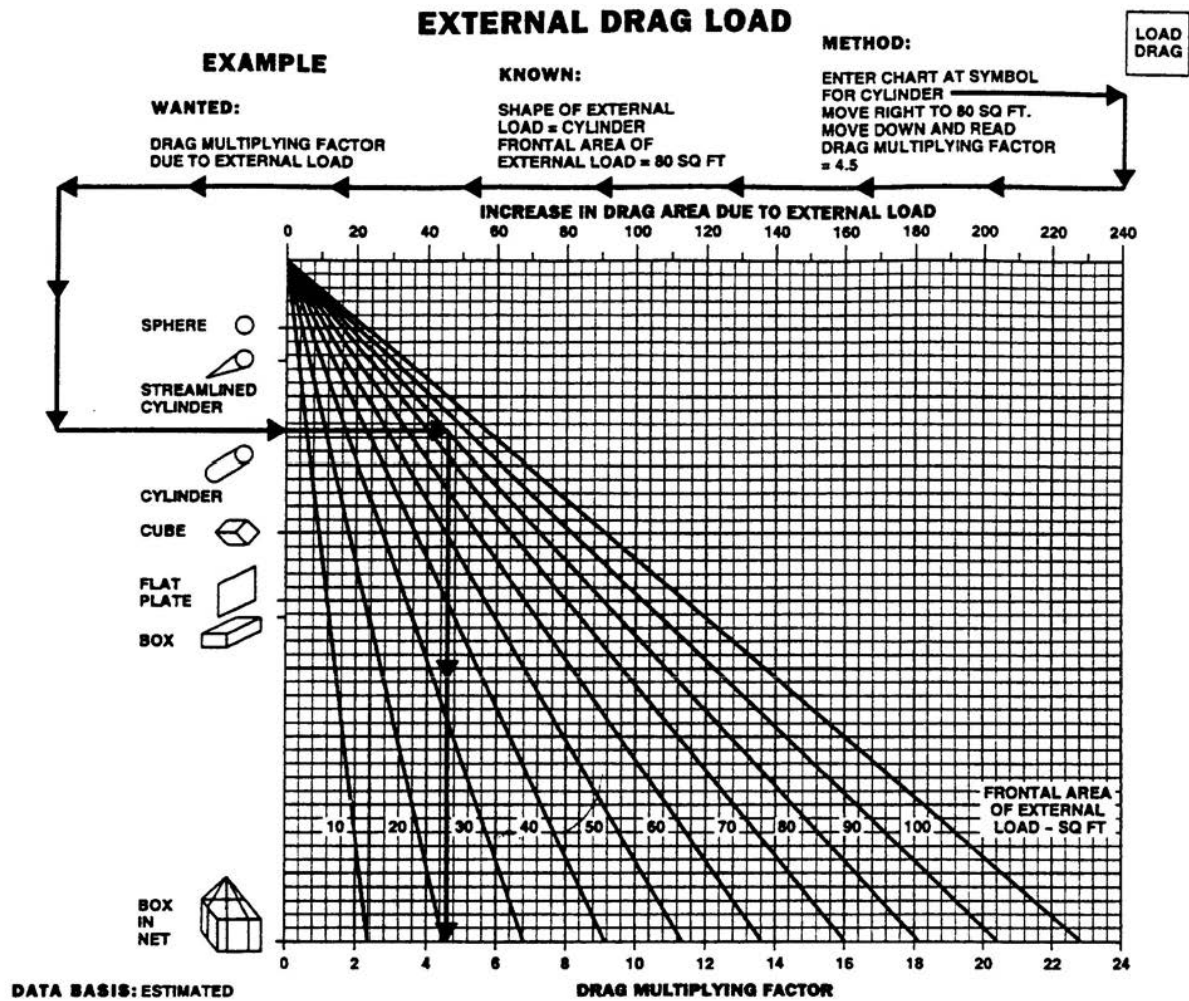


FIGURE 5. Drag chart (Sheet 1 of 3).

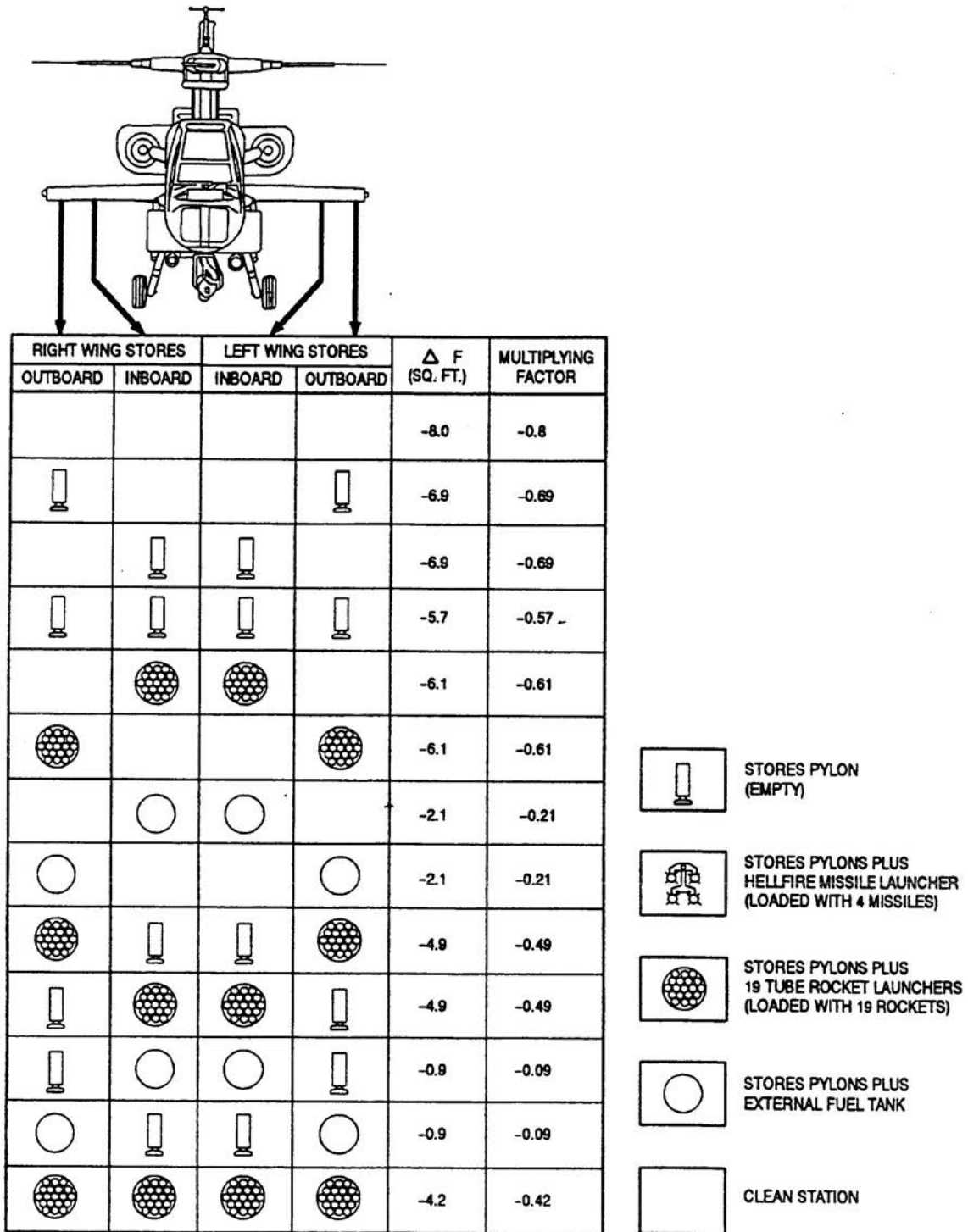


FIGURE 5. Drag chart (Sheet 2 of 3).

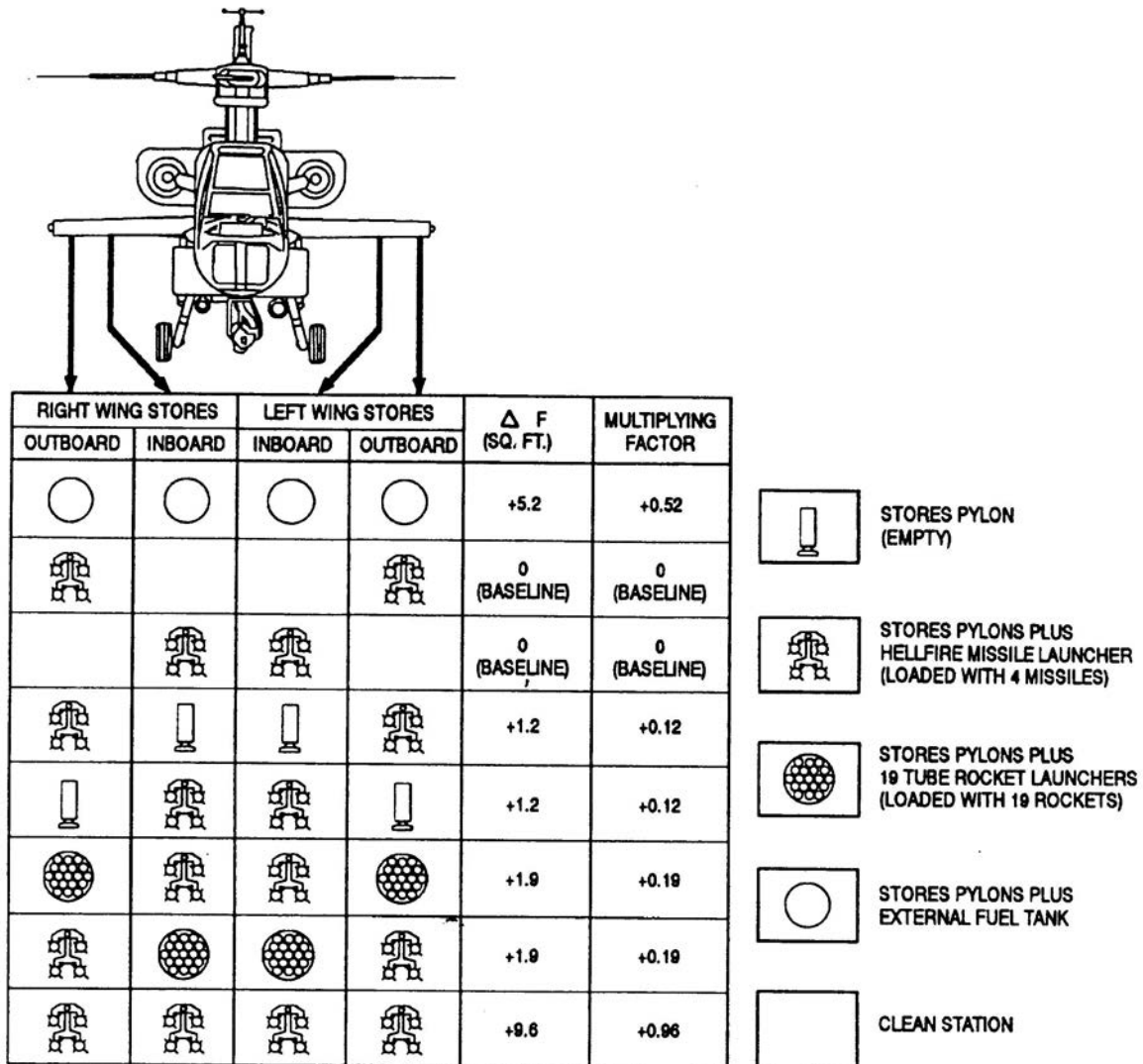


FIGURE 5. Drag chart (Sheet 3 of 3).

TM 1-1520-240-10

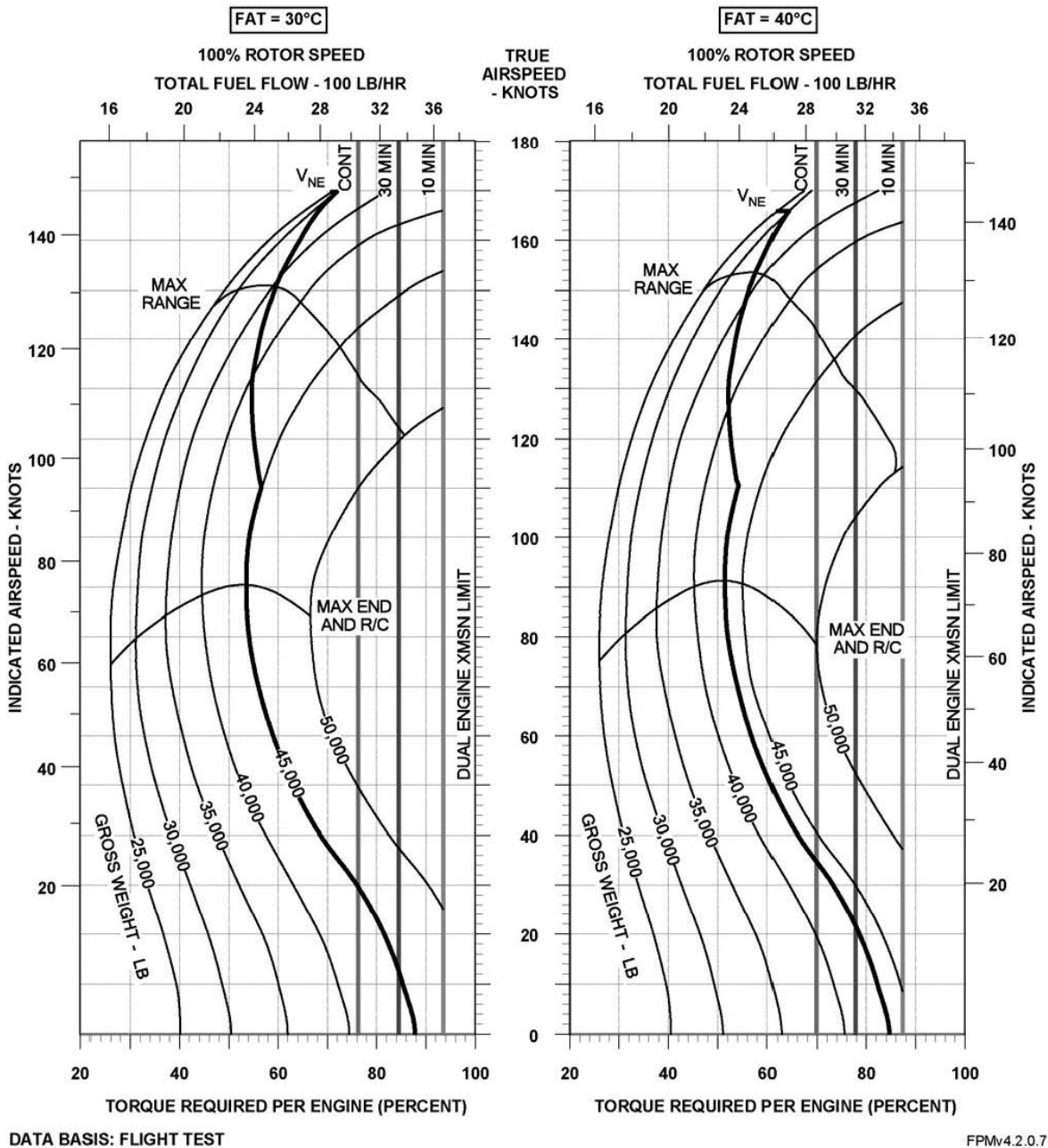
CRUISEPRESSURE ALTITUDE - 6,000 FT
CLEAN CONFIGURATIONCRUISE
CH-47D
(2) T55-GA-714A

FIGURE 6. Cruise chart.

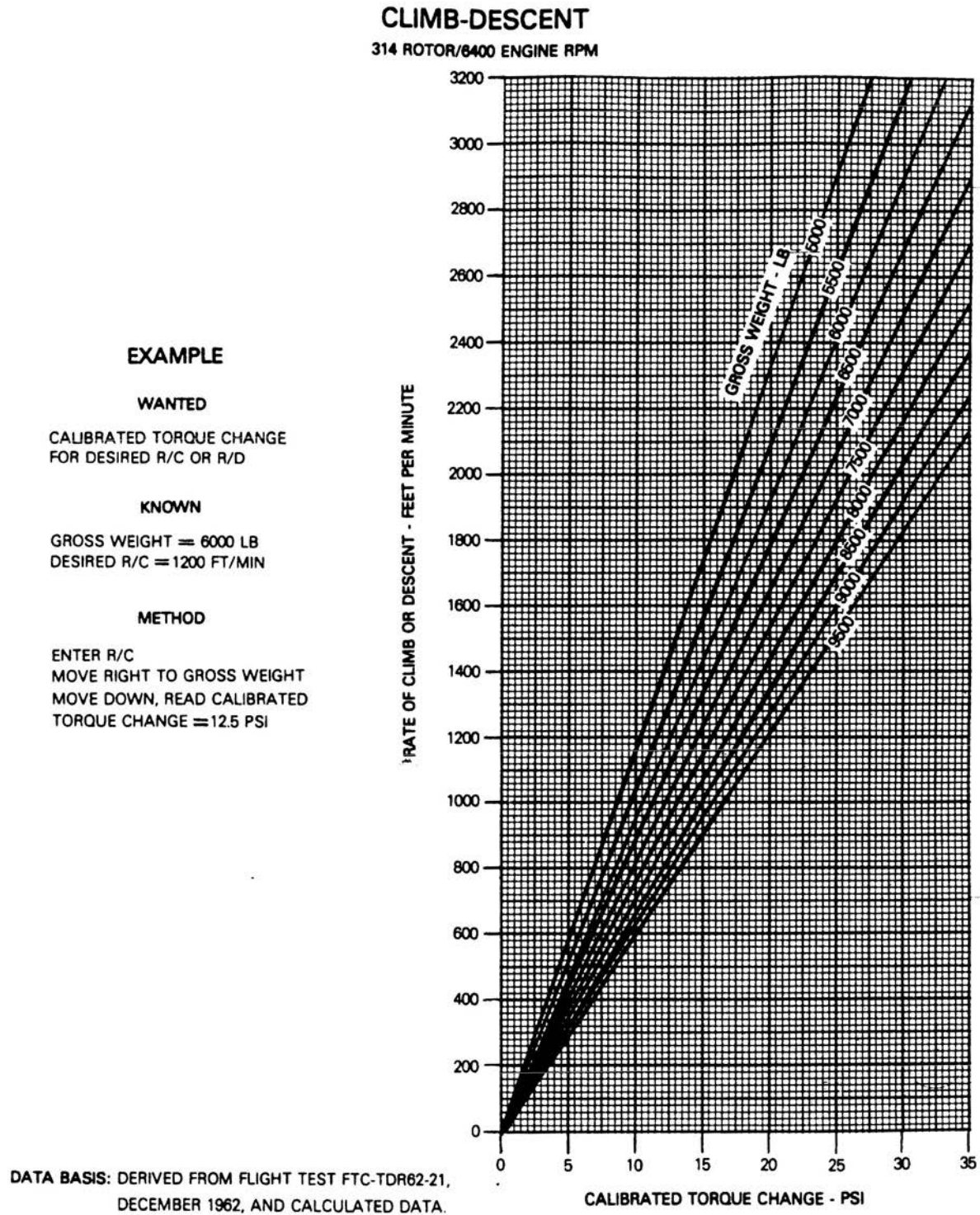
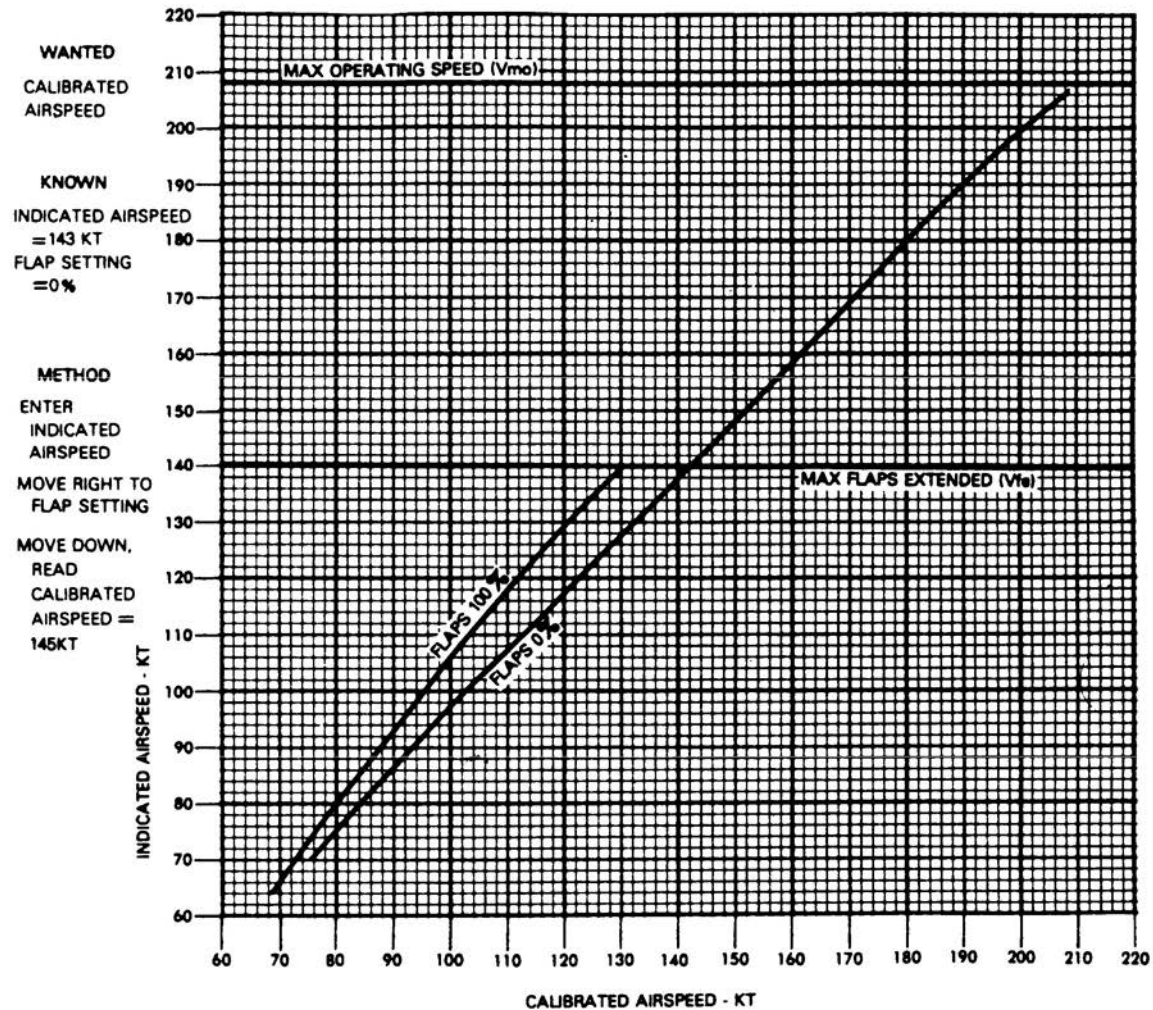


FIGURE 7. Climb-descent chart.

AIRSPEED CALIBRATION - NORMAL SYSTEM

EXAMPLE



DATA BASIS: DERIVED FROM FLIGHT TEST

FIGURE 8. Airspeed calibration chart (Sheet 1 of 2).

TEMPERATURE CONVERSION/CORRECTION

TEMPERATURE CONVERSION
/CORRECTION
RU-21A, RU-21D
T74-CP-700

EXAMPLE

WANTED

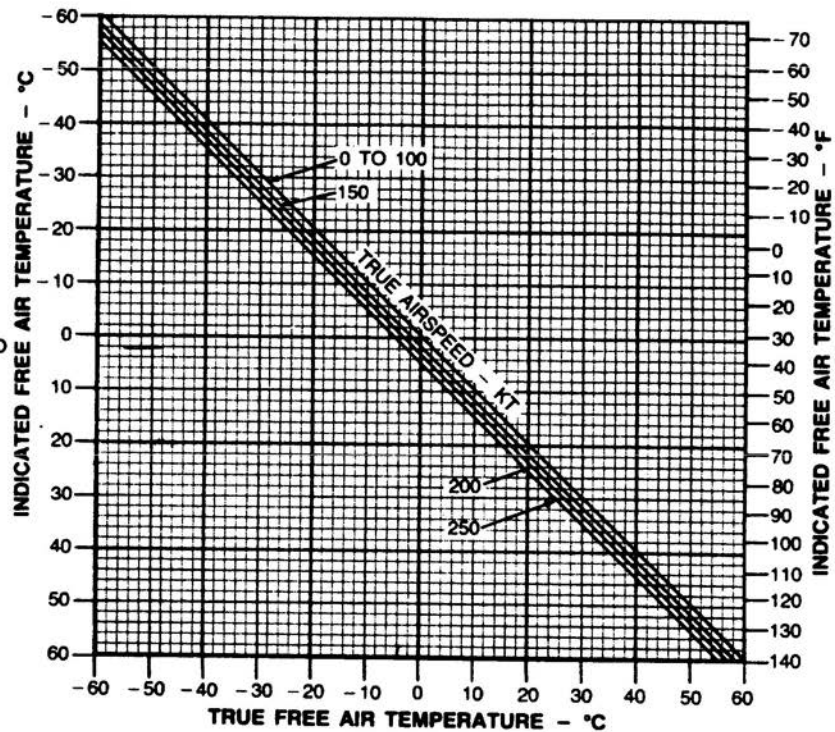
TRUE FAT

KNOWN

INDICATED FAT = -2°C
TRUE AIRSPEED = 154 KT

METHOD

ENTER INDICATED FAT HERE
MOVE RIGHT TO TRUE AIRSPEED
MOVE DOWN READ TRUE
FAT = -4°C



AP 001611

FIGURE 8. Airspeed Calibration chart (Sheet 2 of 2).

CROSSWIND - TAKEOFF OR LANDING

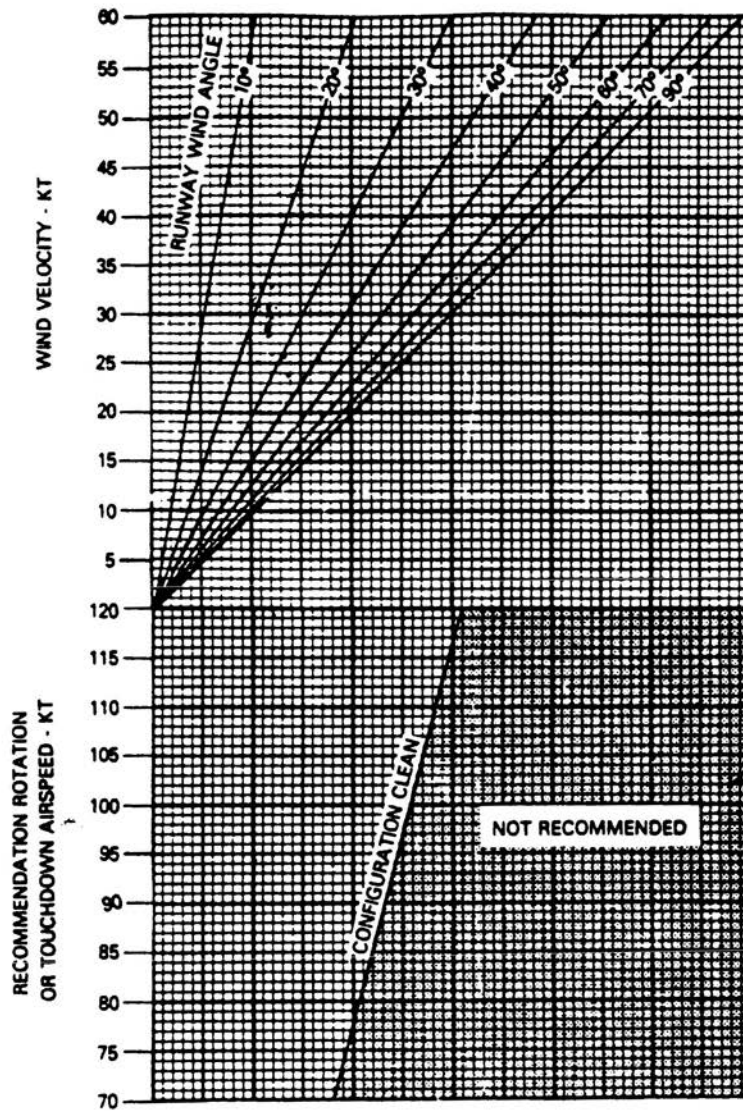
EXAMPLE

KNOWN

CLEAN CONFIGURATION
 RUNWAY 21
 WIND VELOCITY = 23KT
 WIND DIRECTION = 190°
 NORMAL ROTATION AIRSPEED = 93KT

METHOD

DETERMINE RUNWAY WIND ANGLE,
 $210^\circ - 190^\circ = 20^\circ$
 ENTER WIND VELOCITY
 MOVE RIGHT TO RUNWAY WIND
 ANGLE = 20°
 MOVE DOWN TO NORMAL ROTATION
 AIRSPEED LINE = 93 KTS
 THE INTERSECTION FALLS WITHIN THE
 RECOMMENDED AREA



DATA BASIS: FLIGHT TEST

FIGURE 10. Crosswinds - takeoff and landing chart.

TORQUE AVAILABLE FOR TAKEOFF

PROP SPEED 2200 RPM
FUEL JP-4 AIRSPEED 0 KNOTS

EXAMPLE

WANTED

TORQUE AVAILABLE
FOR TAKEOFF

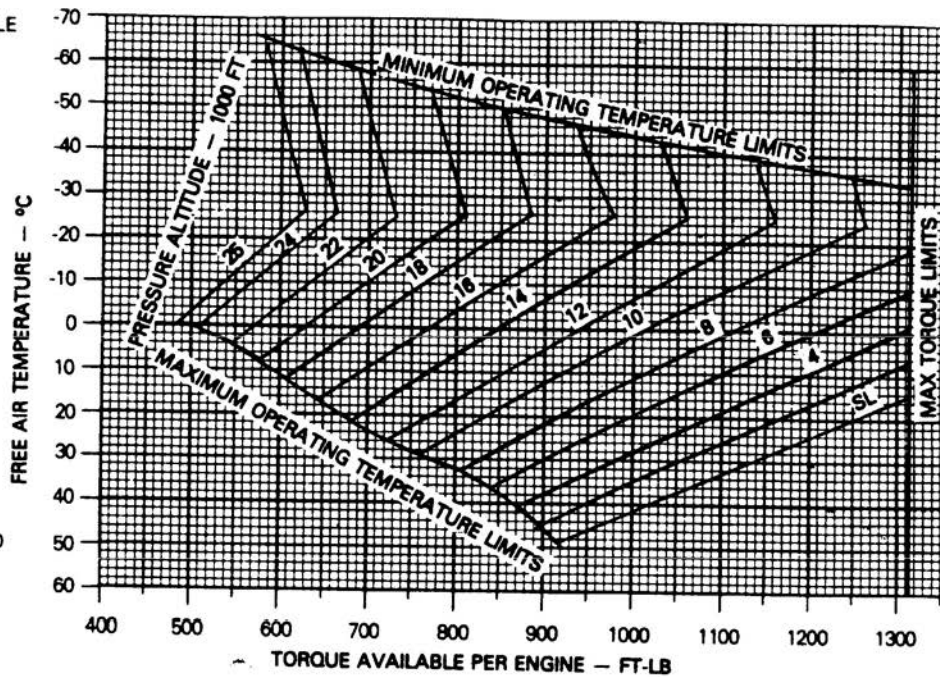
KNOWN

FAT=12°C
PRESSURE ALT-
ITUDE = 4307 FT

METHOD

ENTER FAT
MOVE RIGHT TO
PRESSURE ALT-
ITUDE = 4307 FT

MOVE DOWN, READ
TORQUE AVAILBLE
PER ENGINE=1159
FT-LB



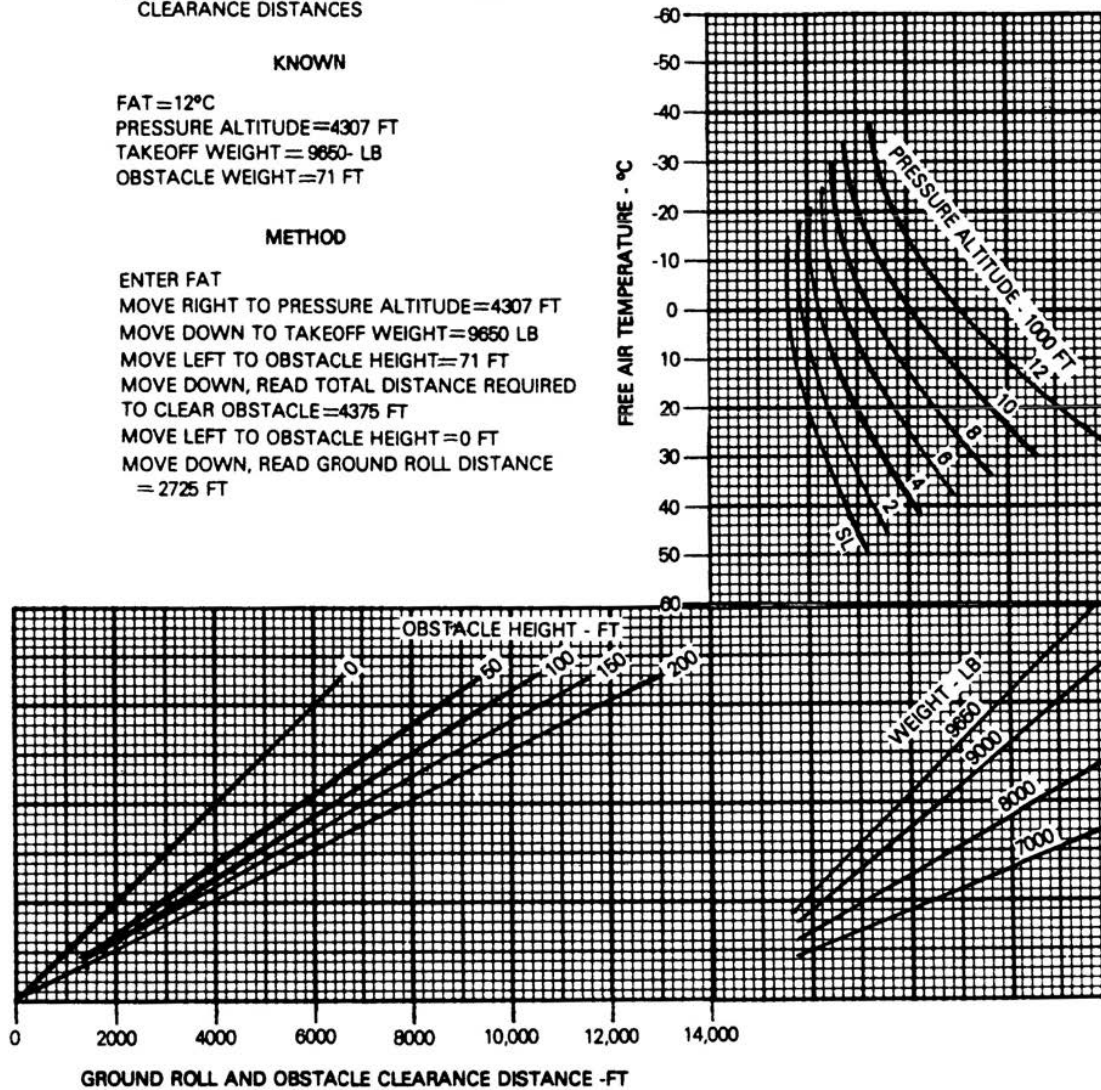
DATA BASIS: CALCULATED FROM ENGINE MODEL SPEC

FIGURE 11. Torque available for takeoff chart.

TAKEOFF - NORMAL

CALM WINDS FLAPS 0 PERCENT POWER - TAKEOFF

LEVEL HARD SURFACE

EXAMPLE**WANTED**REQUIRED GROUND ROLL AND OBSTACLE
CLEARANCE DISTANCES**KNOWN**FAT = 12°C
PRESSURE ALTITUDE = 4307 FT
TAKEOFF WEIGHT = 9650 LB
OBSTACLE HEIGHT = 71 FT**METHOD**ENTER FAT
MOVE RIGHT TO PRESSURE ALTITUDE = 4307 FT
MOVE DOWN TO TAKEOFF WEIGHT = 9650 LB
MOVE LEFT TO OBSTACLE HEIGHT = 71 FT
MOVE DOWN, READ TOTAL DISTANCE REQUIRED
TO CLEAR OBSTACLE = 4375 FT
MOVE LEFT TO OBSTACLE HEIGHT = 0 FT
MOVE DOWN, READ GROUND ROLL DISTANCE
= 2725 FT

DATA BASIS: CALCULATED

FIGURE 12. Takeoff - normal chart.

NORMAL ROTATION/TAKEOFF AIRSPEED FLAPS 0 PERCENT

EXAMPLE**WANTED**

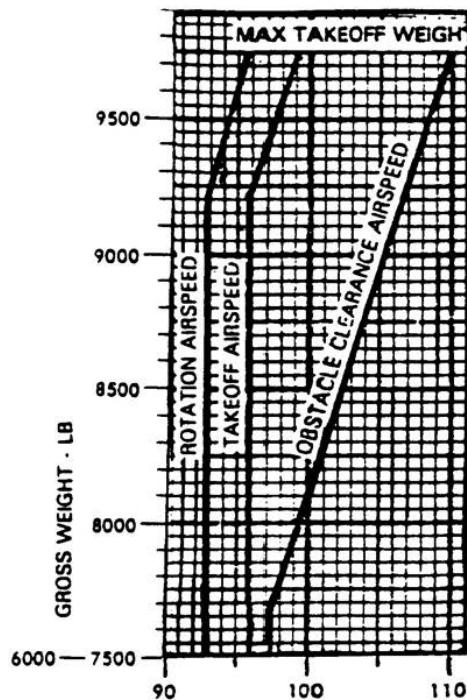
NORMAL ROTATION, TAKEOFF, AND OBSTACLE
CLEARANCE AIRSPEEDS FOR KNOWN TAKEOFF
WEIGHT

KNOWN

TAKEOFF WEIGHT = 9650 LBM

METHOD

ENTER TAKEOFF WEIGHT
MOVE RIGHT TO ROTATION AIRSPEED. TAKEOFF
AIRSPEED AND OBSTACLE CLEARANCE
AIRSPEED LINES
MOVE DOWN FROM ROTATION AIRSPEED LINE
READ INDICATED AIRSPEED FOR ROTATION 96 KT
MOVE DOWN FROM TAKEOFF AIRSPEED LINE,
READ INDICATED AIRSPEED FOR TAKEOFF 99 KT
MOVE DOWN FROM OBSTACLE CLEARANCE
AIRSPEED LINE, READ INDICATED AIRSPEED
FOR OBSTACLE CLEARANCE 110 KT



DATA BASIS: FLIGHT TEST

FIGURE 13. Normal rotation/takeoff airspeed chart.

ACCELERATION CHECK

POWER - TAKEOFF CALM WINDS
FLAPS 0 PERCENT LEVEL HARD SURFACE

ACCELERATION
CHECK
RU-21D
T74-CP-700

EXAMPLE**WANTED**

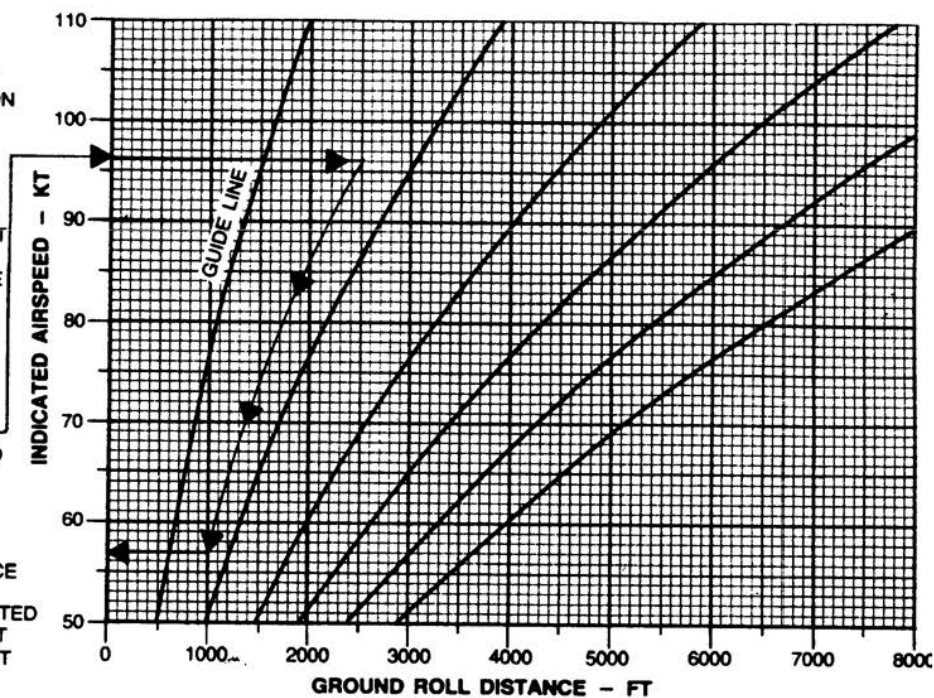
AIRSPED REQUIRED AT
VARIOUS ACCELERATION
CHECK POINTS

KNOWN

TAKEOFF AIRSPED FOR
KNOWN GROSS WEIGHT
OF 9,650 LB = 96 KT
GROUND ROLL DISTANCE
= 2500 FT

METHOD

ENTER INDICATED
AIR SPEED HERE
MOVE RIGHT TO GROUND
ROLL DISTANCE LINE
= 2500 FT
MOVE DOWN THE GUIDE
LINE TO THE 1000 FT
GROUND ROLL DISTANCE
LINE
MOVE LEFT, READ INDICATED
AIRSPED REQUIRED AT
1000 FT MARKER = 57 KT



DATA BASIS: ESTIMATED

G AP 001539

FIGURE 14. Acceleration check distance chart.



ACCELERATE-STOP DISTANCE

CALM WINDS FLAPS 0 PERCENT POWER-TAKEOFF
LEVEL HARD SURFACE

ACCELERATE-STOP
RU-21D
T74-CP-700

EXAMPLE

WANTED

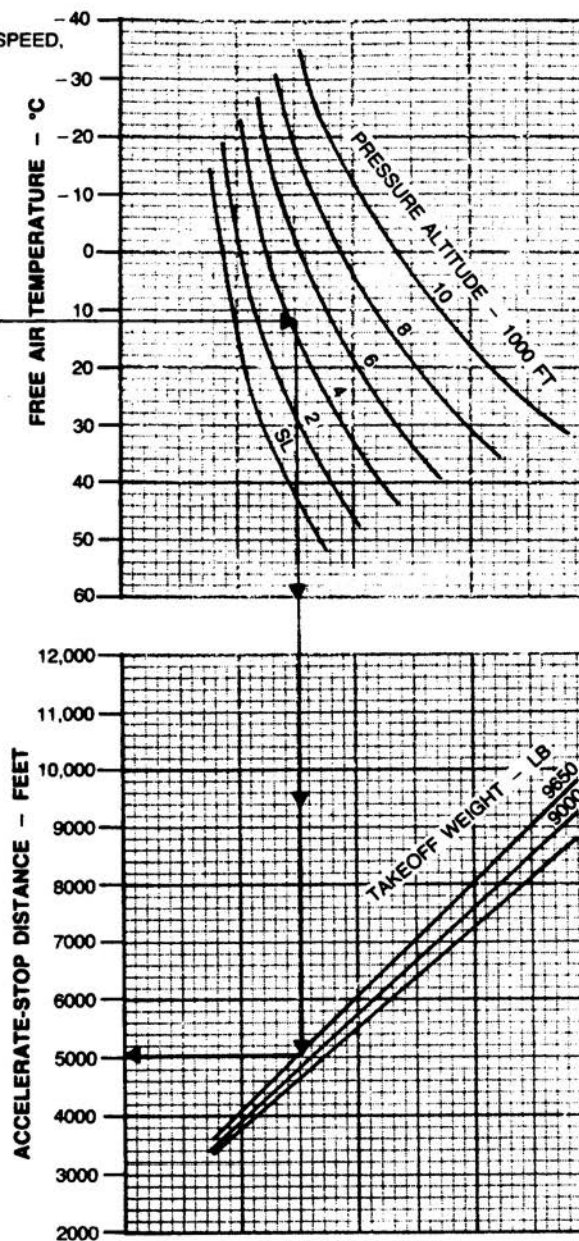
DISTANCE REQUIRED TO ACCELERATE TO TAKEOFF AIRSPEED,
THEN STOP

KNOWN

FAT = 12°C
PRESSURE ALTITUDE = 4307 FT.
TAKEOFF WEIGHT = 9650 LB

METHOD

ENTER FAT HERE →
MOVE RIGHT TO PRESSURE ALTITUDE = 4307 FT.
MOVE DOWN TO TAKEOFF WEIGHT = 9650 LB.
MOVE LEFT TO ACCELERATE-STOP DIST. = 5050 FT.



DATA BASIS: ESTIMATED

G
AP 003224

FIGURE 15. Accelerate-stop distance chart.

**Accelerate After Lift-Off
Flaps 40°
Power 100%**

EXAMPLE**WANTED**

GROUND ROLL DISTANCE AND
TOTAL DISTANCE OVER 50 FT,
OBSTACLE.

KNOWN

FREE AIR TEMPERATURE — 25°C
PRESSURE ALTITUDE — 3966 FT.
HEADWIND COMPONENT — 9.5 KTS
GROSS WEIGHT — 12500 LBS.

METHOD

ENTER AT FAT
MOVE RIGHT TO PRESSURE ALTITUDE
MOVE DOWN TO 1ST REF. LINE
FOLLOW GUIDE LINE TO GROSS WEIGHT
MOVE DOWN TO 2ND REF. LINE
FOLLOW GUIDE LINE TO WIND SPEED
MOVE DOWN TO 3RD REF. LINE
CONTINUE STRAIGHT DOWN
READ GROUND ROLL EQUAL 3300 FT.
FOLLOW GUIDE LINE TO 50 FT
READ TOTAL DISTANCE EQUAL 8550 FT.

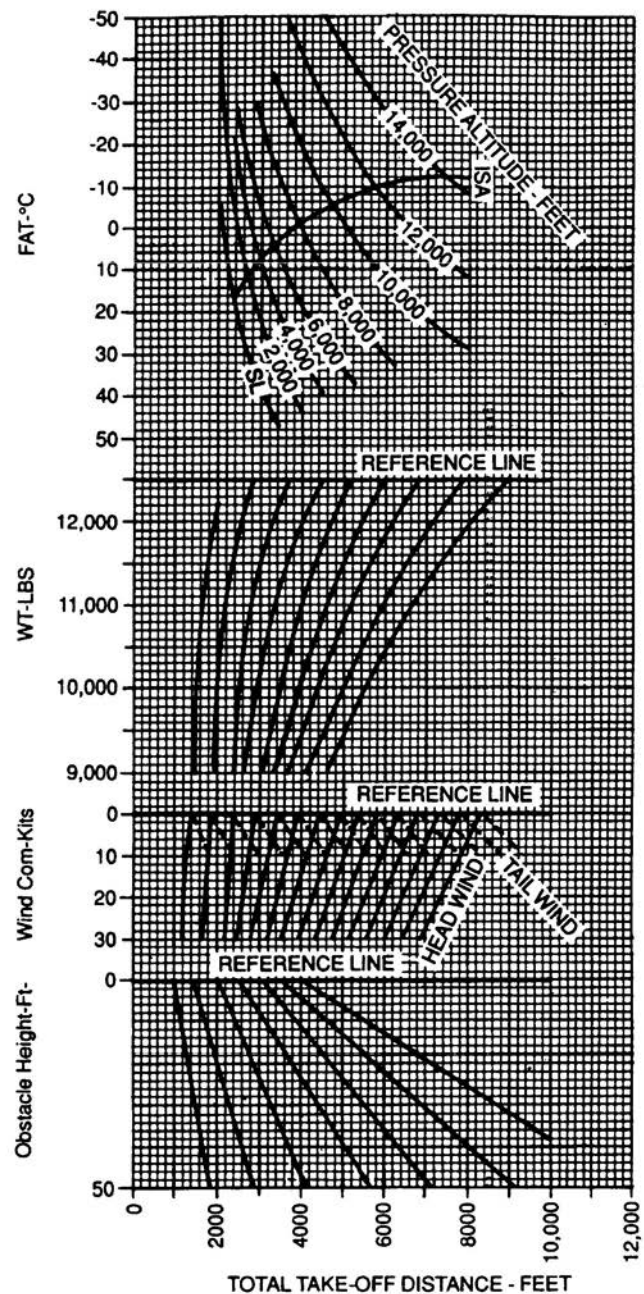


FIGURE 16. Accelerate after lift off chart.



MINIMUM SINGLE ENGINE CONTROL AIRSPEED (V_{mc})

POWER - TAKEOFF GEAR DOWN
FLAPS 0 PERCENT PROP FEATHERED

MINIMUM SINGLE ENGINE
CONTROL AIRSPEED
RU-21D
T74-CP-700

EXAMPLE

WANTED

MINIMUM SINGLE ENGINE CONTROL AIRSPEED
AT A GIVEN FAT AND PRESSURE ALTITUDE

KNOWN

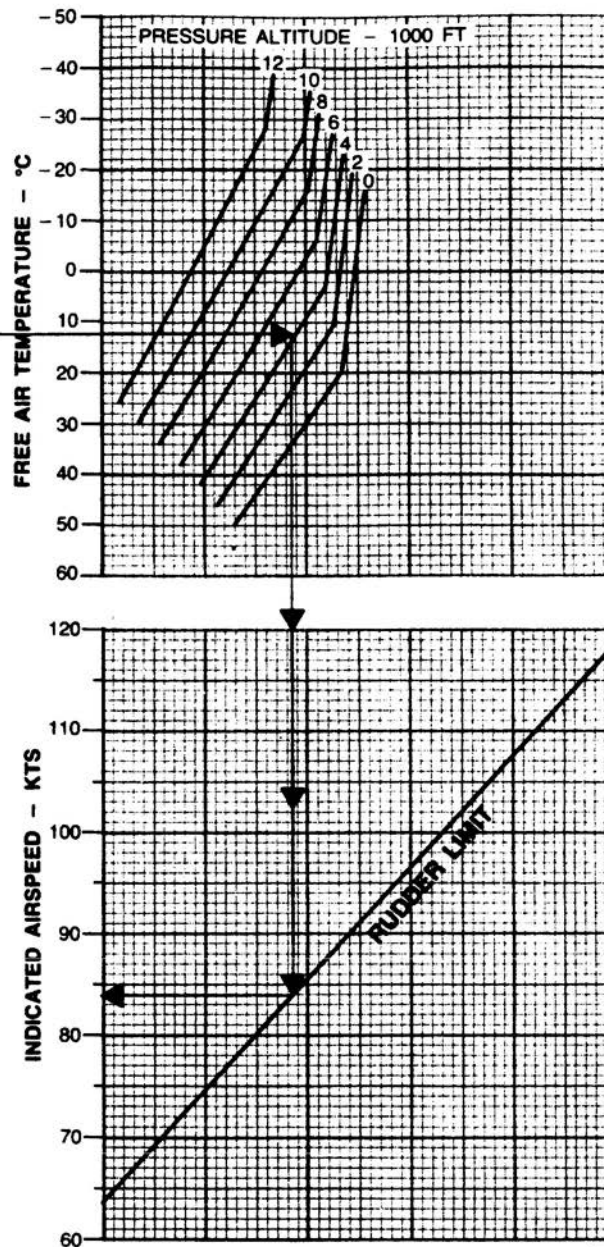
FAT = 12°C
PRESSURE ALTITUDE = 4307 FT

METHOD

ENTER FAT HERE →
MOVE RIGHT TO PRESSURE ALTITUDE = 4307
FT
MOVE DOWN TO RUDDER LIMITED LINE
MOVE LEFT, READ MINIMUM CONTROL INDI-
CATED AIRSPEED = 84 KNOTS

NOTE

AT SOME WEIGHTS A STALL CONDITION CAN
OCCUR AT AIRSPEEDS HIGHER THAN THE
RUDDER LIMITED V_{mc}



DATA BASIS: FLIGHT TEST

G
R
AP 004559

FIGURE 17. Minimum single engine control airspeed chart.



SINGLE ENGINE CLIMB TAKEOFF CONFIGURATION

**SINGLE-ENGINE CLIMB
RU-21D
T74-CP-700**

FLAPS 0 PERCENT PROPELLER FEATHERED POWER - TAKEOFF

EXAMPLE

WANTED

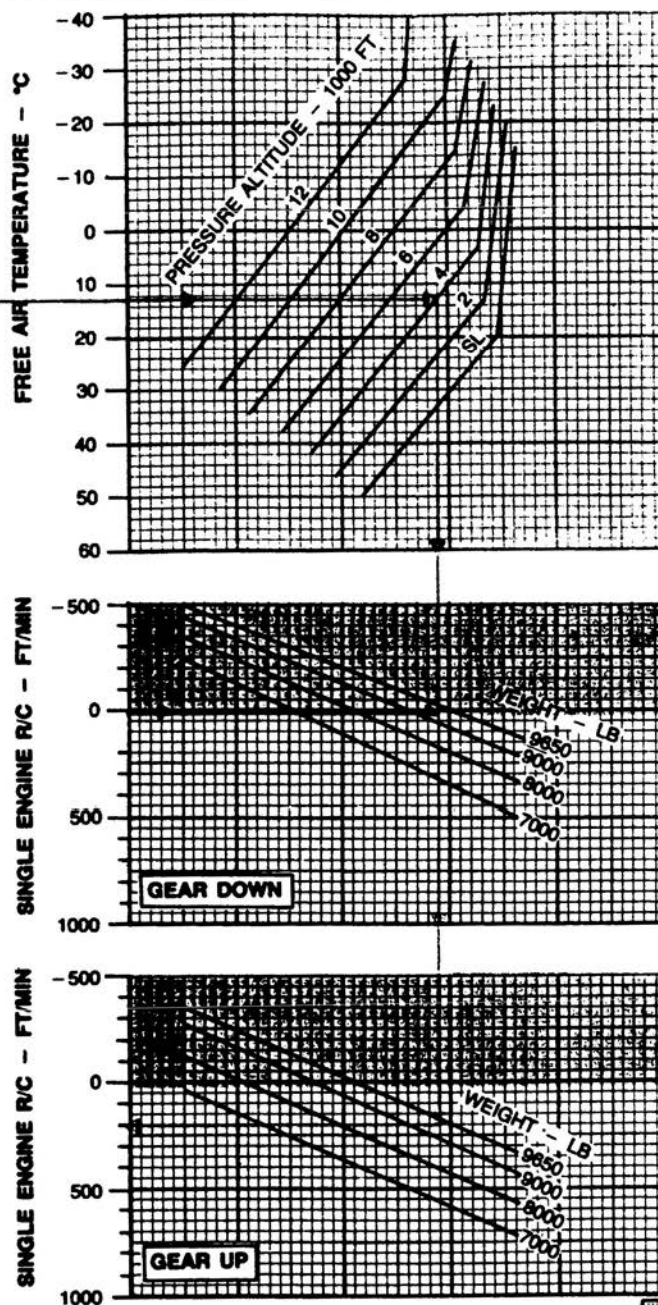
WEIGHT TO OBTAIN A POSITIVE SINGLE ENGINE
R/C AT LIFTOFF AND SINGLE ENGINE
R/C AFTER THE GEAR IS RETRACTED

KNOWN

FAT = 12°C
PRESSURE ALTITUDE = 4307 FT

METHOD

ENTER FAT HERE →
MOVE RIGHT TO PRESSURE ALTITUDE =
4307 FT
MOVE DOWN TO 0 FT/MIN R/C FOR GEAR
DOWN, READ WEIGHT TO OBTAIN POSITIVE
R/C AT LIFTOFF = 9850 LB
MOVE DOWN TO WEIGHT = 9850 LB FOR
GEAR UP CLIMB
MOVE LEFT READ SINGLE ENGINE R/C AFTER
GEAR RETRACTION = 175 FT/MIN



DATA BASIS: CALCULATED

AP 001389

FIGURE 18. Single engine climb chart.



CRUISE CLIMB GEAR UP FLAPS 0 PERCENT CALM WIND POWER - MAXIMUM CRUISE CLIMB

CRUISE CLIMB
RU-21D
T74-CP-700

EXAMPLE

WANTED

TIME, FUEL AND DISTANCE REQUIRED
TO CLIMB

KNOWN

INITIAL FAT = 12°C
INITIAL PRESSURE ALTITUDE = 4307 FT
INITIAL WEIGHT = 9650 LBS
FINAL FAT = -5°C
FINAL PRESSURE ALTITUDE = 12,000 FT

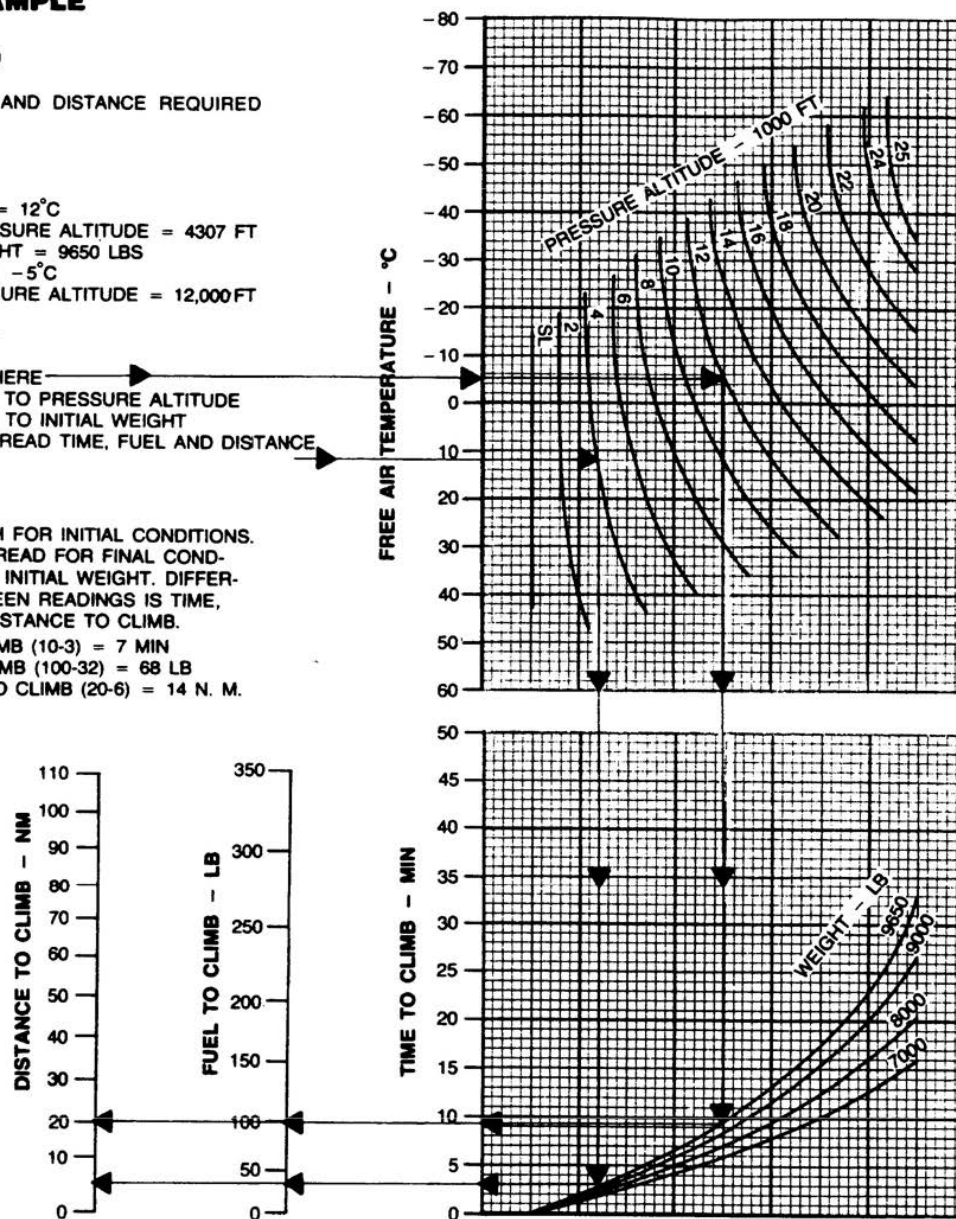
METHOD

ENTER FAT HERE →
MOVE RIGHT TO PRESSURE ALTITUDE
MOVE DOWN TO INITIAL WEIGHT
MOVE LEFT, READ TIME, FUEL AND DISTANCE

NOTE

READ GRAPH FOR INITIAL CONDITIONS.
SECONDLY, READ FOR FINAL CON-
DITIONS WITH INITIAL WEIGHT. DIFFER-
ENCE BETWEEN READINGS IS TIME,
FUEL AND DISTANCE TO CLIMB.

TIME TO CLIMB (10-3) = 7 MIN
FUEL TO CLIMB (100-32) = 68 LB
DISTANCE TO CLIMB (20-6) = 14 N. M.



DATA BASIS: FLIGHT TEST

AP 001391

FIGURE 19. Cruise climb chart.

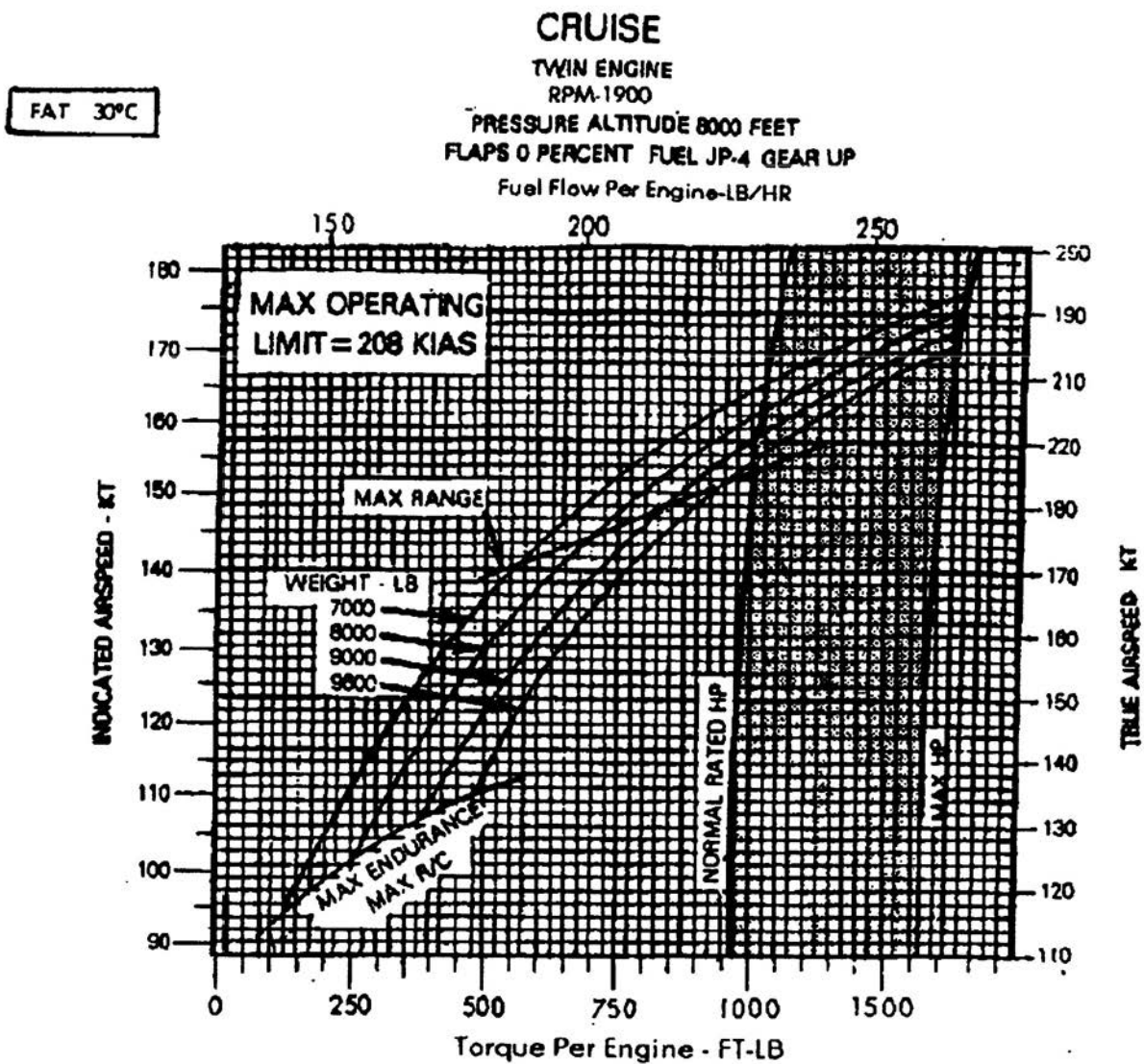


FIGURE 20. Cruise chart.

CLIMB/DESCENT

CLIMB/DESCENT
RU-21D
T74-CP-702

EXAMPLE**WANTED**

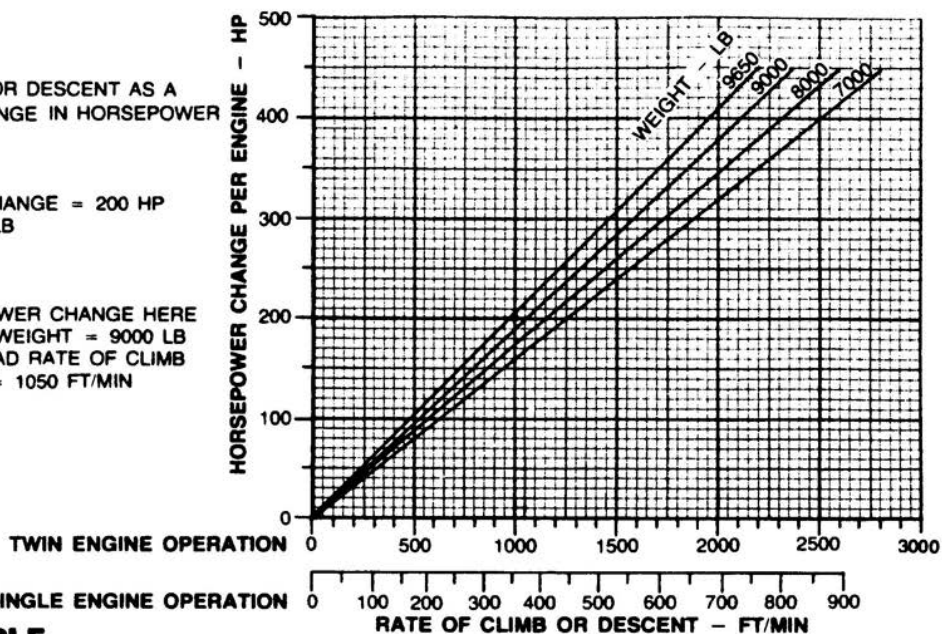
RATE OF CLIMB OR DESCENT AS A
 RESULT OF CHANGE IN HORSEPOWER

KNOWN

HORSEPOWER CHANGE = 200 HP
 WEIGHT = 9000 LB

METHOD

ENTER HORSEPOWER CHANGE HERE
 MOVE RIGHT TO WEIGHT = 9000 LB
 MOVE DOWN, READ RATE OF CLIMB
 OR DESCENT = 1050 FT/MIN

**WANTED**

TORQUE CHANGE FOR CLIMB OR DESCENT
 AS A RESULT OF CHANGE IN
 HORSEPOWER OR RPM

KNOWN

HORSEPOWER CHANGE = 200
 PROP RPM = 1900 RPM

METHOD

ENTER HORSEPOWER CHANGE HERE
 MOVE RIGHT TO RPM = 1900 RPM
 MOVE DOWN, READ TORQUE CHANGE
 PER ENGINE = 560 FT LB

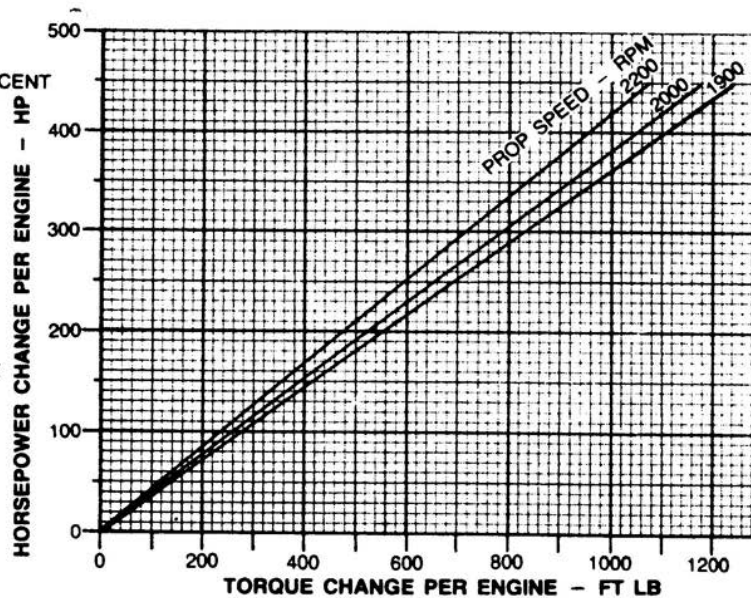


FIGURE 21. Climb/Descent chart.

APPROACH SPEED

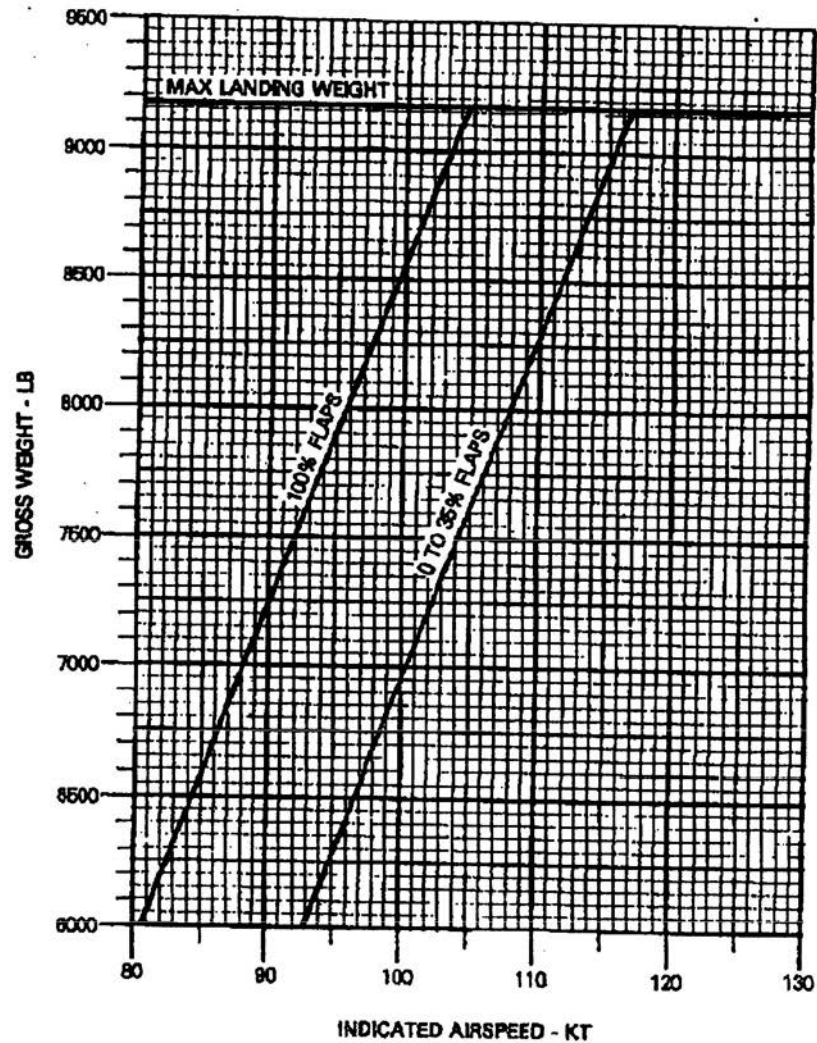
GEAR DOWN

EXAMPLE

WANTED
RECOMMENDED APPROACH SPEED
FOR KNOWN WEIGHT

KNOWN
WEIGHT=8855 LB
FLAP SETTING=DOWN

METHOD
ENTER WEIGHT
MOVE RIGHT TO APPROACH SPEED
LINE, FLAPS DOWN
MOVE DOWN, READ INDICATED
AIRSPEED=103 KT



DATA BASIS: FLIGHT TEST

FIGURE 22. Approach speed chart.

LANDING

CALM WINDS LEVEL, DRY, HARD SURFACE
MAX BRAKING AND IDLE POWER ON RUNWAY

EXAMPLE

WANTED

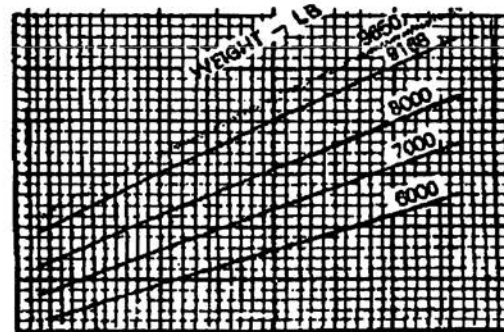
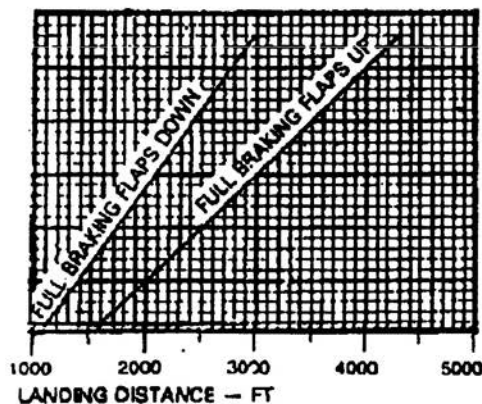
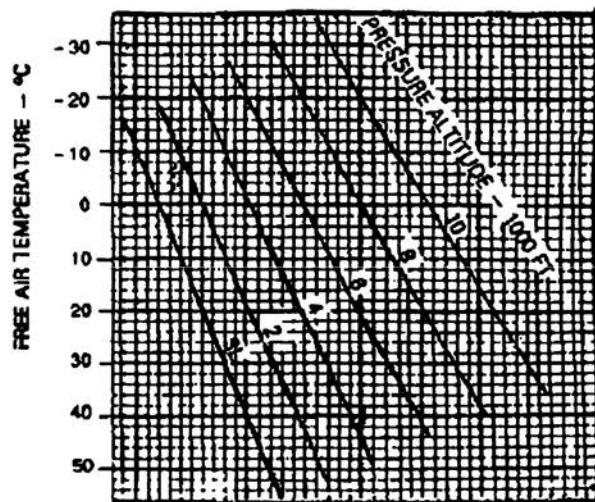
LANDING DISTANCE

KNOWN

WEIGHT - 8855 LB
PRESSURE ALTITUDE - 4484 FT
FAT - 18°C
FLAPS DOWN

METHOD

ENTER FAT
MOVE RIGHT TO PRESSURE ALTITUDE - 4484 FT
MOVE DOWN TO WEIGHT - 8855 LB
MOVE LEFT TO FULL BRAKING WITH FLAPS DOWN
MOVE STRAIGHT DOWN, READ LANDING DISTANCE - 2150 FT



DATA BASIS: CALCULATED

FIGURE 23. Landing chart.

5.106.1.15 Aircraft operator's manual Chapter 8 - Normal procedures.

5.106.1.15.1 General.

Procedures (amplified checklists) from the time a flight is planned until the flight is completed and the aircraft is properly parked and secured shall be provided. The checklists shall include all steps necessary to ensure safe flight under normal, night, and instrument conditions. Only the duties of the minimum crew necessary for the actual operation of the aircraft shall be included. Instructions for the operation of utility, avionic, mission equipment and controls are contained in Chapters 2 (refer to [5.106.1.9](#)), 3 (refer to [5.106.1.10](#)), and 4 (refer to [5.106.1.11](#)) and shall be included in this chapter only if neglect would affect safety or efficiency of the flight or cause damage to the equipment. (This does not preclude the inclusion of utility equipment checklists in chapters to which they pertain.) Only unique feel, characteristics, and reaction of the aircraft during the various specified phases of operation, and the techniques or procedures used for operating the aircraft shall be described in detail. All precautions to be observed during the various operations shall be covered. Procedures for operation under all adverse environmental conditions shall be described. Instrument flight procedures shall be integrated with normal procedures as much as possible. For aircraft where no unique or abnormal techniques apply, reference shall be made to appropriate flight training publications.

5.106.1.15.2 Section I - Operational requirements (Crew duties).

Data Module Type: Crew/Operator Information Code: 130E

Unique crew responsibilities that result from the specific characteristics of the aircraft shall be described. When applicable, a description of mission planning shall also be included.

5.106.1.15.3 Section II - Operating procedures and maneuvers.

5.106.1.15.3.1 General.

Normal procedures including all steps necessary to ensure safe and efficient operation of the aircraft from the time preflight begins until the flight is completed and the aircraft is parked and secured shall be provided. Where applicable, performance charts provided in Chapter 7 that are required to carry out specific flight procedures or maneuvers shall be referenced or linked as necessary.

5.106.1.15.3.2 Normal operation procedures.

Data Module Type: Crew/Operator Information Code: 131A

Procedural steps shall be written so that crewmembers shall not be required to retrace steps. Insofar as possible, checks shall be grouped to keep control manipulation and ground operating time at a minimum. Phases shall be added or deleted to provide for special aircraft or special situations. However, the interpretation of the period of operation encompassed by a given phase shall be identical in all operator's manuals. In the checklists, the condition and response of a procedural step shall be separated by a long dash.

Sequence of phases and actions shall be arranged chronologically. All checks shall be made from left to right or top to bottom except where chronology shall take precedence. The following symbols shall be used in the checklist to identify certain conditions or duties (refer to [5.52.1.16](#)) for values of the attribute **crewStepCondition**):

- a. The symbol "O", which shall precede the step, shall be used to indicate if equipment is installed or available.
- b. Those duties that are the responsibility of the pilot/individual (not on the controls) shall be indicated by a circle around the step number, "④."

- c. A "star" symbol ("□") that shall precede a step shall indicate that a detailed procedure for the step is located in the performance section of the condensed checklist.
- d. The asterisk symbol ("*"), which shall precede the step, shall indicate that performance of the step is mandatory for all through-flights. The asterisked steps in this checklist shall be used for combat/tactical operations when authorized by the commander. The asterisk shall apply only to checks performed prior to takeoff.
- e. The letter "N", which shall precede the step, shall indicate the performance of a step that is mandatory for night flights.
- f. The letter "F", which shall precede the step, shall indicate a task or step that requires a flight engineer, external operator, payload operator, or ground crew personnel function or response.

5.106.1.15.3.3 Amplified checklist.

Data Module Type: Crew/Operator Information Code: 130B

The amplified checklist shall consist of numbered items supplemented where necessary by explanatory material. Where required for emphasis, a brief explanation shall be provided as to why it is required. These checklists shall be provided in the operator's manual for each aircraft, and they shall be the basis of all operators' checklists. An amplified normal checklist shall be included for the pilot, pilot (not on the controls), payload operator, external operator, ground crew personnel, and flight engineer, as applicable. A statement similar to the following shall be included only in the amplified checklist:

Normal procedures are given primarily in checklist form and amplified as necessary in accompanying paragraph form when a detailed description of a procedure or maneuver is required. A condensed version of the amplified checklist, omitting all explanatory text including warnings, cautions, and notes, is contained in the Operator's Checklist, (*insert operator checklist CCL*). The procedural steps are numbered to coincide with the corresponding numbered steps in this manual.

5.106.1.15.3.4 Normal operation check - Preflight (Preflight check).

Data Module Type: Crew/Operator Information Code: 131M

The amplified preflight check shall include a before exterior check, if required, and the exterior and interior checks. The amplified checklist shall emphasize that the preflight is not intended to be a detailed mechanical inspection and that the order is a recommended sequence only. In addition the expanded sub-steps shall not need to be memorized or accomplished in a certain order. The preflight may be made as comprehensive as conditions warrant at the discretion of the pilot/UAS Mission Commander. UAS manuals shall include a thorough preflight of the ground control station and supporting equipment.

5.106.1.15.3.5 Normal operation check - Preflight (Before exterior check).

Data Module Type: Crew/Operator Information Code: 131M

When required by the aircraft configuration, all necessary actions that shall be performed prior to starting the exterior check shall be included. Emphasis shall be placed on items that affect safety during the inspections to follow.

5.106.1.15.3.6 Normal operation check - Preflight (Exterior check).

Data Module Type: Crew/Operator Information Code: 131M

Only those exterior points that significantly affect the flight shall be included avoiding needless repetition of items which are the normal responsibility of the maintenance crew. The criteria on which these checks shall be based are safety of flight, items that have previously been a problem or that are anticipated to be a problem, and ease of accomplishing the check. Inspections usually should proceed counter-clockwise (as viewed from the top) around the aircraft.

5.106.1.15.3.7 Normal operation check - Preflight (Interior check).

Data Module Type: Crew/Operator Information Code: 131M

The complete interior check shall be described, including all necessary check items up to the point where the pilot is strapped in the seat. All necessary equipment including, but not limited to, a first aid kit, fire axes, pyrotechnic equipment, aircraft covers, tie downs, and control locks shall be stowed. A check of the headrest area of the ejection seat shall be included to determine that the face curtain handles are properly stowed, that the catapult pin is installed and connected to the removal mechanism, and that the catapult firing yoke is properly positioned and connected. Instructions shall be included to ensure that controls are positioned and connected. Instructions shall be included to ensure that controls are positioned as necessary to facilitate the exterior check (only for those aircraft where the interior check is performed before the exterior check). On large aircraft, it may be necessary to include an interior check diagram.

5.106.1.15.3.8 Normal operation check - Preflight (Crew/passenger briefing check).

Data Module Type: Crew/Operator Information Code: 131M

Instructions shall be provided to ensure that crew and passenger briefings have been completed prior to starting engines..

5.106.1.15.3.9 Normal operation - Preflight.

Data Module Type: Crew/Operator Information Code: 131B

5.106.1.15.3.9.1 General.

- a. Before starting engine(s). Precautions to be observed and checks to be accomplished before starting engine(s) shall be included. Such checks as should be accomplished before starting engine(s), but which could not be properly accomplished during the interior check shall be included. Instructions for positioning important controls and checking important indicators shall be included. Insofar as is practicable, all controls shall be positioned as required for engine starting. Functional checks shall be included for those systems that can be checked before the engines are started. For those aircraft in which engine power is not necessary, flight controls shall be checked for free and correct movement. Instructions shall be provided on the use of external power or auxiliary power units and any necessary switching involved in its use.
- b. Starting engine(s). The complete procedure for starting the engine(s) shall be provided, including the order of starting for multi-engine aircraft. Except when significant differences in procedures are required for multi-engine aircraft, engine start procedures shall not be repeated. For jet and turbine powered aircraft, the means to avoid hot

starts and procedures to follow when a hot start is experienced shall be included. Procedures for engaging rotors for rotary wing aircraft shall be given.

- c. Engine ground operations. When required, warm-up and ground operation power setting shall be specified. Any special precaution or limitation shall be stated. For rotary wing aircraft a requirement for flight control checks before the rotor is engaged shall be included, if applicable.
- d. Before taxiing. All checks to be accomplished before taxiing, such as check flight controls for free and correct movement (for those aircraft which require engine power to perform this check), windows and doors, control locks, and hydraulic pressure checks shall be included.
- e. Taxiing. Any unusual taxiing characteristics or techniques shall be described, including special instructions for engine cooling, reverse pitch, and use of brakes. A requirement that flight instruments be checked during taxiing shall be included.
- f. Engine run up. Instructions shall include, but shall not be limited to, checking engine propeller/rotor operation, including power, ignition, and use of brakes.
- g. Before takeoff. All checks, which shall be accomplished immediately prior to takeoff/departure, shall be listed.

5.106.1.15.3.9.2 Lineup check.

Data Module Type: Crew/Operator

Information Code: 130C

When aircraft configuration or mission requirements preclude performance of some of the takeoff checks before taxiing onto the active runway, a lineup check shall be provided. This may include activation of anti-icing/deicing system switches, transponder switches, setting or aligning gyros, and stabilizing power prior to starting takeoff.

5.106.1.15.3.10 Normal operation - Flight.

Data Module Type: Crew/Operator

Information Code: 131C

- a. Takeoff. Takeoff techniques required to produce the results shown on the takeoff charts in Chapter 7 shall be covered in detail. When appropriate, manipulation of brakes and throttles/power levers, etc., shall be described. Detailed information shall be given regarding unique reactions of the aircraft during takeoff. Criteria for continuing a takeoff or aborting under various circumstances shall be included. Operational consideration and general rules contributing to hovering capability and power availability shall be stated. Unique hover/taxi, sideward and rearward flight techniques, and power check shall be included. The necessity for a prepared runway shall be discussed for various conditions of altitude and weight of aircraft that may be required to operate from temporary or unfinished runways.
- b. After takeoff. All actions and techniques to be accomplished immediately after takeoff shall be listed. If flap retraction procedures differ under various conditions including, but not limited to, heavy weight and weather, it shall be so stated. When applicable, minimum airspeed and altitude for retracting flaps shall be covered. A minimum flap retraction airspeed chart shall be included for aircraft of highly variable gross weight. All actions needed to establish the required climb shall be covered, including the airspeed at which the climb should be started.
- c. Climb. A description of unique climb techniques required to produce the results stated in the climb charts in Chapter 7 shall be included. Unusual characteristics of the aircraft in climb shall be described. Since the preceding paragraph includes the climb checklist, this paragraph shall contain discussion only.
- d. Cruise. An explanation shall be provided for all actions that shall be performed when the transition from climb to cruise is made. Any particular matters that shall be considered during cruise flight shall be described. Reference shall be made to Chapters 2 and 7 concerning fuel system management and other actions that should be considered during flight. Actual procedures shall not be covered here.

- e. Descent-arrival. A checklist and discussion of this phase of operation shall be included as appropriate. The checklist shall include all checks that shall be made immediately before and during a descent preparatory to landing. Special instructions regarding various types of descent shall be included as applicable, including any special devices that may be provided to facilitate descent.
- f. Before landing. All checks that shall be made immediately before entering the traffic pattern until the aircraft is committed to landing shall be covered.
- g. Landing. A landing checklist and a narrative discussion of the landing problems and techniques shall be provided. The landing checklist shall include all actions to be performed from the time the landing is committed until it is affected. Landing techniques required to produce the results stated in the landing charts in Chapter 7 shall be included. Braking techniques and devices used during the landing and after-landing roll shall be described. Approach and landing airspeed corrections required to compensate for gusts shall be covered. In addition, landing techniques from the viewpoint of recommended maximum and minimum approach and landing airspeeds as related to aircraft flight classification, aircraft strength, aircraft touchdown bounce characteristics, and other aircraft characteristics shall be included. Reference shall be made to Chapter 7 for supplemental information provided by landing and approach speed charts. Coverage of approach and landing shall include cautions, when applicable, in the use of the engine during approach, performing a go-around, for the use of the angle-of-attack indicator in making an approach, etc. Shipboard landing techniques, when applicable, shall be included for rotary wing aircraft when unusual characteristics dictate.
- h. Touch and go landings/go-around. All instructions including, but not limited to, trim changes and flap settings for executing these procedures shall be included. Proper throttle/power lever technique shall be emphasized, when applicable.

5.106.1.15.3.11 Normal operation - Post flight.

Data Module Type: Crew/Operator Information Code: 131D

- a. After landing. All checks and operations to be performed from immediately after landing until the parking area is reached shall be included.
- b. Engine shutdown. A checklist shall be provided covering proper procedures and precautions for stopping engines.
- c. Before leaving the aircraft. A checklist of settings of all controls, control locks, and safety devices for securing the aircraft shall be provided for pilots and crew. A statement similar to the following shall be included:

In addition to established requirements for reporting any system defects or unusual and excessive operations such as hard landings, the flight crew shall also make entries on DA Form 2408-13-1 to indicate when any limits of the operator's manual have been exceeded.

- d. Checklist changes. The specific checks described above may be deleted or new checks added when approved by the acquiring activity.

5.106.1.15.4 Section III - Normal operation - Instrument flight.

Data Module Type: Crew/Operator Information Code: 131G

Unique qualities and capabilities of the aircraft under instrument flight conditions shall be briefly described. Instrument flight conditions to be considered shall include instrument takeoff, climb, cruise, descent, and approaches; holding; and automatic approaches.

5.106.1.15.5 Section IV - Normal operation - Flight characteristics.

Data Module Type: Crew/Operator Information Code: 131E

Detailed unique flight characteristics of the particular aircraft that may be different from FM 1-04.203 shall be provided. Emphasis shall be placed on advantageous flight characteristics as well as on any dangerous tendencies. The extent of coverage shall depend principally on the type of aircraft being discussed.

5.106.1.15.5.1 Stalls.

The power-off and power-on stalling characteristics of the airplane in the takeoff, landing, and cruise configurations shall be described. Stalling characteristics shall also be included for the approach configuration if sufficiently different from landing. A definition of power-off and power-on as used in the discussion shall be included. Information about the stall warning shall also be included. Normal and accelerated stalls shall be covered, and recommended procedures for initiating stalls shall be included. Stall recovery technique shall be emphasized. For helicopters, appropriate information shall be included on blade stalls.

5.106.1.15.5.2 Stall chart (fixed wing only).

Stalling airspeeds (with power-on and power-off configurations) for takeoff, landing, and cruise shall be presented showing the variations of bank angle and gross weight.

5.106.1.15.5.3 Spins (fixed wing only).

Spin characteristics and limitations shall be given, including details of any special techniques recommended for recovery. Recovery techniques shall be given whether or not spins are permitted. Altitude lost in effecting a recovery and minimum altitude at which bailout shall be effected if aircraft has not been brought under control shall be stated.

5.106.1.15.5.4 Diving.

The diving characteristics of the aircraft shall be described with particular emphasis on high speed diving and compressibility effects. Dive recovery techniques and precautions shall be given, including any special information regarding power plant operation and trim changes. For highly maneuverable aircraft, dive recovery charts shall be included for various G pullouts given varying parameters of altitude, airspeed, and dive angle.

5.106.1.15.5.5 Maneuvering flight.

Maneuvering flight shall be described, including characteristics under accelerated flight conditions. Stick forces shall be included, emphasizing conditions that may result in stick reversal.

5.106.1.15.5.6 Flight controls.

Detailed coverage of the effectiveness and unusual reactions that may be encountered in the operation and use of the flight controls shall be included. All the various types of flight controls, such as ailerons, elevators, rudders, stabilators, trim tabs, speed brakes, slats, cyclic stick, and collective pitch shall be described. The text shall state when and how the various controls are used to achieve maximum benefits and what precautions shall be observed. The capabilities and limitations of power-booster systems when power boost is inoperative shall be covered.

5.106.1.15.5.7 Level flight.

Characteristics of level flight under slow, cruising, and high speed conditions shall be described.

5.106.1.15.5.8 External loads.

Changes in flight characteristics due to external loads shall be described.

5.106.1.15.5.9 Asymmetrical loads.

Coverage of characteristics and techniques to be employed when operating with asymmetrical loads or configurations shall be presented.

5.106.1.15.6 Section V - Normal operation - Weather.

Data Module Type: Crew/Operator

Information Code: 131F

Information relative to operations that are unique to the specific aircraft under adverse environmental conditions (snow, ice, rain, turbulent air flight, extreme cold and hot weather, desert operations, and high altitude operations) for parameters including, but not limited to, gross weight and aircraft configuration shall be provided. The information presented shall be primarily narrative in nature. Checklists shall be avoided; they shall be used only to cover specific procedures that are characteristic of all weather operations. A description of equipment shall not be included. An introductory paragraph shall be included explaining the function of this section. In addition coverage of duties to be accomplished before leaving the aircraft, including, but not limited to, leaving the canopy slightly open, positioning of doors, battery care, and installing covers shall be included for applicable environmental conditions.

5.106.1.15.6.1 Cold weather operations.

A brief discussion of the general problems involved in maintaining satisfactory operations in extreme cold shall be included. The relationship of proper engine shutdown to subsequent engine starting shall be emphasized, and operations under icing conditions shall be covered. Any special problems resulting from operations when snow is present shall be included.

5.106.1.15.6.1.1 Preparation for flight.

Special problems including, but not limited to, application of heat, removal of ice and snow from the aircraft surfaces, fuel and oil tank vents, pitot tubes, props, and supplying external power shall be addressed.

5.106.1.15.6.1.2 Engine starting.

Any special precautions that shall be observed before starting the engines shall be included. Cold weather starting techniques shall be explained including the use of special fuels and carburetor heat.

5.106.1.15.6.1.3 Warm-up and ground testing.

This shall include, but shall not be limited to, coverage of carburetor heat, cowl flap position, and technique of switching from a special starting fuel. If oil dilution is available, the fuel boil-off procedure shall be covered, including a reference to the oil dilution table. The importance of ground testing of systems that may be adversely affected by cold weather shall be included.

5.106.1.15.6.1.4 Taxiing and hovering instructions.

The unique techniques and precautions to be observed when taxiing on snow, ice, or slush covered water shall be explained, as well as, instructions for operator/ground crew to visually check wheels to ensure they are turning.

5.106.1.15.6.1.5 Before takeoff.

Checks for ice and snow buildup on the aircraft shall be included.

5.106.1.15.6.1.6 Takeoff.

Unique techniques and precautions to be observed when taking off under cold weather conditions shall be included. The effect of snow or ice covered runways on takeoff, of extremely cold weather on engine and aircraft performance, etc., shall be covered.

5.106.1.15.6.1.7 During flight.

Any special precautions that shall be observed during flight in extreme cold, such as cycling propeller governing systems, shall be described; procedures for dealing with in-flight icing shall be described.

5.106.1.15.6.1.8 Descent.

Any special instructions regarding descent as may be applicable to cold weather operation shall be included, such as switching on the auxiliary power unit early to ensure that it is sufficiently warmed up prior to landing.

5.106.1.15.6.1.9 Landing.

Unique techniques and precautions to be observed during landing in cold weather shall be included. The use of brakes and reverse pitch propellers when landing on snow or ice covered runways shall be covered. Any restrictions regarding the use of landing or dive flaps when landing on snow or slush covered runways or slush covered water where ice is suspected shall be included.

5.106.1.15.6.1.10 Engine shutdown.

The proper method of shutting down the engine shall be given, including a table showing the required oil dilution time for various temperatures, and the techniques and precautions to be observed in using oil dilution shall be covered. Operation of systems depending on engine oil (including, but not limited to, supercharger clutch and propeller governor), to ensure that these systems are supplied with diluted oil, shall be included. Complete instructions for purging normal fuel from the system and replacing with special fuel shall be included. Time, speed or other requirements for turbine temperature stabilization prior to shutdown shall be stated.

5.106.1.15.6.2 Desert and hot weather operations.

The same requirements and procedures outlined in cold weather operations shall apply to desert and hot weather operation.

5.106.1.15.6.3 Turbulence and thunderstorm operations.

A discussion on the general qualities of the aircraft in turbulence and thunderstorms shall be included. A description of the techniques to be used shall be given and all preparations to be made before entering turbulence or thunderstorms shall be included.

5.106.1.15.6.4 Rain.

General coverage of the problem of rain during each phase of flight, including before takeoff, takeoff, climb, and cruise, shall be included. Performance of the rain removal systems shall be described.

5.106.1.15.6.5 Additional sections.

When specified by the acquiring activity, additional sections may be used.

5.106.1.16 Aircraft operator's manual Chapter 9 - Emergency procedures.**5.106.1.16.1 General.**

Procedures to be followed in dealing with emergencies that could reasonably be encountered shall be provided. Minor malfunctions that do not adversely affect the continued safe operation of the aircraft and compound or multiple failure emergency procedures shall not be included. Emergency procedure titles shall be based on how the pilot recognizes the emergency rather than what caused the emergency (for example, "Low RPM" not "Governor control failure"). Complete coverage shall be required regarding the feel, characteristics, and reaction of the aircraft during various emergencies affecting flight. All precautions to be observed in coping with an emergency shall be included. An emergency amplified checklist shall be included. Emergency procedures in connection with the utility systems shall be described in Chapter 2, Section IX. Emergency operation of utility systems shall be included only insofar as it may affect safety of flight. Emergencies shall be divided into the following twelve categories:

- a. Engine
- b. Propeller/rotor
- c. Fire
- d. Fuel
- e. Electrical
- f. Hydraulic
- g. Landing and ditching (or for UAS: Takeoff, landing and ditching)
- h. Flight controls
 - i. Bailout/ejection
 - j. Mission equipment (when applicable)
- k. Shelter malfunctions
- l. Other UAS components

Within an emergency classification, emergencies that have identical corrective actions may be combined under one paragraph heading. Those checks that shall be performed immediately in an emergency procedure shall be underlined, and a statement that such underlined steps shall be performed immediately without reference to the checklist shall be included. The underline presentation shall be achieved by using the attribute **emphasizeType** (refer to [5.52.1.54](#)).

5.106.1.16.2 Section I - Aircraft systems.

Data Module Type: Crew/Operator Information Code: 141B

Emergency procedures to be performed in the event of an aircraft system malfunction under various conditions shall be provided.

a. A statement similar to the one provided below shall be included:

"Emergency operation of mission equipment is provided insofar as its use affects safety of flight. Emergency procedures are presented in checklist form when applicable. A condensed version of these procedures is contained in the condensed checklist (*insert checklist CCL*)."

b. A note similar to the one provided below shall be included:

Note

The urgency of certain emergencies requires immediate and instinctive action by the pilot. The most important single consideration is aircraft control. All procedures are subordinate to this requirement.

c. A statement similar to the one provided below shall also be included:

Terms may be defined as necessary to simplify the procedural memory steps within the existing emergency procedures. Each term shall be used as an emergency procedure step instead of listing the individual steps used to define the term. For example, the term "EMER ENG SHUTDOWN" is defined as engine stoppage without delay and is accomplished as follows:

1. Throttle - off.
2. FUEL switches - OFF.
3. BAT switch - OFF

For rotary wing aircraft, the definitions of emergency terms shall be included near the beginning of Chapter 9 (refer to [5.106.1.16](#)).

d. The following definitions shall be included:

(1) LAND WITHOUT DELAY (always underlined) is defined as a landing in which the primary consideration is continued control of the aircraft and survival of the occupants. It is meant to be more urgent than LAND AS SOON AS POSSIBLE. The situation may not permit the aircrew to maneuver the aircraft to a suitable landing area (e.g., open field). If maneuvering to an open area is not practical, then the crew shall make a decision to land in an area that will have the least amount of negative impact on crew survivability. (Over dense forest, select an area with the smallest trees; in the mountainous area, choose an area with the least amount of slope.)

(2) LAND AS SOON AS POSSIBLE is defined as landing at the nearest suitable landing area (e.g., open field) without delay. The primary consideration is to ensure the survival of occupants.

(3) LAND AS SOON AS PRACTICABLE is defined as landing at a suitable landing area. The primary consideration is the urgency of the emergency.

(4) AUTOROTATE is defined as adjusting the flight controls as necessary to establish an autorotational descent and landing.

5.106.1.16.2.1 Emergency equipment and exits.

The following emergency equipment and exits shall be illustrated.

- a. The aircraft interior shall be illustrated showing life support equipment permanently installed in the aircraft including, but not limited to, fire axes, flares, pyrotechnic pistols, and hand fire extinguishers.
- b. If the aircraft is large enough to permit movement of personnel, emergency stations and routes of egress to be followed in flight and after crash landing on land or water shall be indicated for all personnel. Coding shall be used to differentiate between routes and exits to be used in flight and those to be used after a crash landing (Figure 50). This illustration shall be an interior view or as viewed by the occupants of the aircraft. It may be combined with the emergency equipment diagram and the emergency entrance diagram, unless the resulting illustration would be confusing.
- c. A diagram shall be included to show points at which emergency personnel can enter into the aircraft after it has crash landed. This illustration may be combined with the routes of escape and exits diagram, unless the resulting illustration would be confusing.

5.106.1.16.2.2 Engine.

Emergency procedures shall be described in the event of an engine malfunction under a variety of conditions.

5.106.1.16.2.2.1 Flight characteristics under partial power conditions.

A description of the characteristics and reactions of the aircraft when flying with one or more inoperative engines or with an engine having only partial power capability shall be included. Emphasis shall be given to any special precautions that shall be observed and any dangerous tendencies of the aircraft. Information shall be included on how to determine which engine is inoperative. The problems of maintaining altitude, directional control, and any other special considerations shall be discussed.

5.106.1.16.2.2.2 Engine malfunction under specific conditions.

Additional paragraphs shall be included as necessary to indicate action to be taken in the event of engine malfunction under various conditions. Partial engine malfunctions as well as complete engine failure shall be described. A complete checklist procedure to be followed in shutting down the malfunctioning engine and establishing continued flight shall be included. Insofar as possible, shutdown procedure shall be identical to that required in the event of engine fire. Recommended best techniques and procedures for crash landing while operating within avoidance areas shall be discussed.

5.106.1.16.2.2.3 Engine malfunction during takeoff and low altitude/low airspeed flight.

This shall include an abort during the takeoff run, immediately after liftoff and continued flight. Coverage shall be included for both complete engine failure and partial loss of power. For rotary wing aircraft, differentiation between engine malfunction while at a hover and engine malfunction after takeoff (in translational lift) shall be included. Information shall be included, but not limited to, jettisoning external stores, landing gear retraction, pilot techniques, and best airspeed for minimum power required (partial loss of power).

5.106.1.16.2.2.4 Engine malfunction during cruise.

Reference shall be made to the performance chart data in Chapter 7 covering cruise control with one or more engines inoperative. The effect of loss of each engine on the various aircraft systems and equipment shall be included. Procedures to be followed in the event of partial power loss as well as for the complete engine failure shall be included.

5.106.1.16.2.2.5 Engine malfunction during final approach.

For multi-engine aircraft, procedures shall be provided for loss of one engine while on final approach in the landing configuration. Information shall be included concerning application of maximum controllable power, jettisoning external stores if applicable, landing gear position, use of flaps, pilot techniques, and airspeed requirements.

5.106.1.16.2.2.6 Engine restart during flight.

Instructions for proper means for restarting an engine in flight and resuming normal flight shall be presented. Special emphasis shall be placed on parameters such as altitude, airspeed, and rpm. If considered advantageous, they may be presented in chart form. A warning shall be included that the engine should not be restarted unless it can be determined that it would be reasonably safe to do so.

5.106.1.16.2.2.7 Maximum glide.

Glide requirements that shall result in maximum range with no power available shall be provided. This information is required for all single-engine and twin-engine aircraft. A graph showing glide distance attainable from the service ceiling to sea level shall be included.

5.106.1.16.2.2.8 Autorotational descent.

A chart that presents autorotational rate of descent versus indicated airspeed at normal rotor speed shall be provided. The indicated airspeeds for minimum rate of descent and maximum glide distance shall be shown on the chart. Data and/or instructions for determining autorotational descent information for variations in aircraft configurations shall also be provided.

5.106.1.16.2.2.9 Landing with one or more engines inoperative.

The recommended procedure shall be described, including important precautions. A brief discussion of any changes that include, but are not limited to, the use of landing gear, wing flaps, and slats during such landing shall be included. For single-engine and twin-engine aircraft, proper landing procedures with no power shall be emphasized. For rotary wing aircraft, reference shall be made to the height velocity diagram.

5.106.1.16.2.2.10 Go-around with one or more engines inoperative (fixed wing).

Recommended procedures shall be described, including important precautions.

5.106.1.16.2.2.11 Height velocity.

The minimum height for safe landing following loss of power for both single and multi-engine helicopters shall be provided. Plots of height required for safe auto-rotational landing after loss of power and initial engine failure shall be included as applicable. For a multi-engine helicopter a recommended approach corridor with the critical engines inoperative shall be shown on the plot. Regions of caution, avoidance, and safe operation shall be shown. The plots shall be based on initiation of the necessary manual collective pitch control motion after at least a two-second delay following loss of power, or as approved by the acquiring activity.

5.106.1.16.2.3 Propeller/rotor, transmissions, and drive systems.

Emergency procedures shall be described in the event of propeller/rotor, transmission, or drive system failure.

5.106.1.16.2.3.1 Propeller failure (fixed wing).

Instructions shall be given regarding recommended procedures in the event of a runaway propeller and other types of propeller failure. Instructions shall be included regarding action to be taken if propeller does not feather properly.

5.106.1.16.2.3.2 Tail rotor failure and directional control malfunctions.

Instructions shall be given regarding all modes of directional control malfunctions and tail rotor failures. Coverage shall include emergency procedures to be used in the event of failures during takeoff, hovering, in flight, and while landing. Instructions for maintaining powered flight as opposed to autorotation shall be included.

5.106.1.16.2.3.3 Malfunctions of main rotor transmission and drive systems.

Differentiation between malfunctions with the drive system between the engine and transmission, and malfunctions of the drive system between the transmission and main rotor shall be included. Actual and erroneous instrument/warning light indications shall be discussed, including procedures for specific malfunctions.

5.106.1.16.2.4 Other emergencies.

Other emergencies such as ground resonance and mast bumping shall be described. Restrictions and preventive actions shall be described.

5.106.1.16.2.5 Fire.

Emergency procedures shall be included for aircraft fires as directed in the following paragraphs.

5.106.1.16.2.5.1 Engine fire.

Instructions shall be included regarding the recommended method of dealing with engine fires on the ground and during flight. Insofar as possible, engine shutdown procedures shall be identical to those used during engine failure.

5.106.1.16.2.5.2 Fuselage fire.

Instructions shall be included regarding procedures to be followed when a fuselage fire breaks out. Warnings regarding dangers involved in using fire extinguishing agents shall be included.

5.106.1.16.2.5.3 Wing fire.

Instructions shall be included on means of dealing with wing fires, including shutting down systems which may be feeding the fire.

5.106.1.16.2.5.4 Electrical fire.

Instructions for dealing with an electrical fire shall be included. If certain aircraft fire extinguishers are not to be used for electrical fires, that information shall be included.

5.106.1.16.2.5.5 Smoke and fume elimination.

Instructions shall be given for most rapid means of dissipating smoke and toxic fumes.

5.106.1.16.2.6 Fuel system.

Procedures shall be given for dealing with fuel system failures and shall include a description of metering system failures, fuel pump failures, and control linkage failures (loss of fuel control with fuel input in a fixed position). Emergency procedures shall be included for each condition.

5.106.1.16.2.7 Electrical system.

Instructions shall be given for methods of dealing with electrical system failures. Procedures shall be expressed as actions to be taken involving circuit breakers. For push-pull types, procedures shall indicate in or out. Where the circuit breakers are a switch type, procedures shall indicate off or on.

5.106.1.16.2.8 Hydraulic system.

Instructions shall be given for dealing with hydraulic system component failures.

5.106.1.16.2.9 Landing and ditching.

Instructions shall be given regarding landing and ditching emergency procedures as described in the following paragraphs.

5.106.1.16.2.9.1 Emergency descent.

The means of accomplishing an emergency descent shall be provided. Emergency descent is a maximum effort in which damage to the aircraft or power plant is considered secondary to getting the aircraft on the ground.

5.106.1.16.2.9.2 Landing emergencies.

Preparation, warning signals to crew, approach, crew/passenger positions, harness locks, landing technique, routes, and methods of crew exits shall be included for both hard and soft ground. Landings with one or more landing gears retracted, flat tires, no wing flaps, and landing on unprepared runways shall also be covered. Information regarding pilot techniques for forced landings in trees or wooded areas shall also be included.

5.106.1.16.2.9.3 Body positions.

The body positions to be used by passengers and crew in emergency landings shall be illustrated.

5.106.1.16.2.9.4 Ditching.

Instructions shall be included for ditching the aircraft. The ditching capabilities of the aircraft and the advantages of ditching versus bailout shall be included. The following shall be described: preparation; warning signals to crew; approach; crew/passenger positions; ditching equipment, such as ditching belts and bulkheads; landing techniques; duties of each crewmember immediately after ditching; and methods of crew exits. As applicable, an illustration shall be included showing the position of each crewmember during ditching and crash landing.

5.106.1.16.2.10 Flight controls.

Procedures to be employed in event of flight control failure shall be provided.

5.106.1.16.2.11 Bailout/eject.

For all aircraft with established crew bailout or ejection procedures, the techniques, precautions, and warning signals for leaving the aircraft in flight shall be described, including instructions for separation from the seat. Bailout procedures to be used when seat ejection fails shall be included. The proper method of preparing the aircraft for bailout and method of jettisoning pilot's compartment enclosures and doors shall be described. A pictorial sequence of operations for ejection shall be provided, including alternate methods of removing safety pins where applicable.

5.106.1.16.3 Section II - Mission equipment.

Data Module Type: Crew/Operator Information Code: 141C

Emergency procedures shall be outlined for malfunctioning mission equipment that constitutes a safety hazard.

5.106.1.16.3.1 Emergency jettisoning.

All means of accomplishing emergency jettisoning of fuel, cargo, and equipment shall be covered. Appropriate cautions relative to possible damage that may result, sudden shifting of CG, etc., shall be included.

5.106.1.16.3.2 Ground control malfunctions.

Emergency procedures shall be outlined for malfunctioning UAS Ground Control equipment that constitutes a safety hazard as described in the following paragraphs.

5.106.1.16.3.3 Ground control station malfunctions.

Procedures to be employed in event of ground control equipment failure shall be provided.

5.106.1.16.3.4 Data link malfunctions.

Procedures to be employed in event of Primary or secondary Data link failure shall be provided.

5.106.1.16.3.5 Ground control support equipment malfunctions.

Procedures to be employed in event of UAS system support equipment failure that constitutes a safety hazard during flight/system operation shall be provided. (Launcher/RATO/Arresting gear Failure, Automated Landing Systems Failure etc.)

5.106.1.17 Rear matter.

Refer to [5.111.1.3](#) for rear matter content requirements.

5.106.1.18 Aircraft operator checklist.

5.106.1.18.1 General.

Aircraft operator checklist information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.106.1.18.2 Special style and format rules.

5.106.1.18.2.1 Standard checklist.

In the standard checklist, all text shall be prepared in a single column page. The alternate checklist shall be prepared in three columns equally spaced across the 11-inch page which is turned sideways. The alternate checklist shall be

printed on card stock and consist of normal procedures on one side and emergency procedures on the opposite side. For alternate operator's checklist TMs, the following statement shall be added following the date or supersession notice and preceding the text: "This checklist applies only to the (*model number*) model of the (*aircraft nomenclature*)."

or "Use only for the (*model number*) model of the (*aircraft nomenclature*)."

5.106.1.18.2.2 Standard operator's checklist.

For standard operator's checklist TMs, whenever possible, material for in-flight emergency procedures shall be written so that the procedure is contained on a single page. Performance data and procedures such as exterior, interior and before leaving aircraft inspections need not meet this requirement. Each classification of emergency procedures such as engine, propeller/rotor, fire, and fuel shall begin on a new page. For alternate operator's checklist TMs, procedures may be split between columns but shall not be split between a page and the following page.

5.106.1.18.2.3 Fold-out pages.

Fold-out pages for textural data shall not be used for operator's checklist TMs. However, for ease of use, graphs included in the checklist may be placed on a foldout page. When this is done, a blank apron shall be used. Foldouts containing graphs shall be located at the end of the checklist.

5.106.1.18.3 Scope.

The operator's checklist is a condensed version of Chapter 8 (refer to [5.106.1.15](#)) and 9 (refer to [5.106.1.16](#)) of the operator's manual which consist of a series of controls (or checks) and the required actions. The sequence of items (or checks) appearing in the operator's checklist shall be identical to those appearing in the amplified checklist of the operator's manual. In unusual circumstances, explanatory material shall be used in the operator's checklist in the form of warnings, cautions, and notes, only if specified by the acquiring activity. The contents of the checklist shall be as described in the paragraphs below.

5.106.1.18.4 Standard operator's checklist.

Unless otherwise specified by the acquiring activity, the operator's checklist shall comply with the following requirements, except those which are designated as applying specifically to alternate operator's checklists.

5.106.1.18.4.1 Detailed requirements for standard operator's checklist.

Operator's standard checklists shall be prepared in accordance with the following outline indicated below:

- a. Cover
- b. Revision summary
- c. General information and scope
- d. Normal procedures
- e. Emergency procedures
- f. Performance data
- g. Foldouts

5.106.1.18.4.2 Front matter.

Refer to [5.111.1.1](#) for front matter content requirements.

5.106.1.18.4.3 Introduction (General information and scope).

Data Module Type: Crew

Information Code: 018A

The general information and scope shall indicate the purpose of the checklist, how and when it is to be used, and scope, including an explanation of the content of the normal and emergency procedures that appear in the checklist. Information for reporting errors and making recommendations shall be included. DA Form 2028s shall not be included. An explanation of the symbols used throughout the procedures shall also be provided.

When applicable, information that a review for hazardous materials and ozone depleting chemicals has been done and non-hazardous materials and chemicals have been substituted when possible shall also be included.

5.106.1.18.4.4 Normal procedures.

Data Module Type: Crew/Operator

Information Code: 130D

A condensed version of the normal procedures or crew duties portion of the applicable operator's manual shall be developed. When required by the acquiring activity, a list of crewmembers' duties shall be prepared.

5.106.1.18.4.5 Through-flight checklist.

Data Module Type: Crew/Operator

Information Code: 131T

A through-flight checklist may be provided and consist of items marked by an asterisk. In addition to through-flight, this checklist shall be used for combat/tactical operations when authorized by the commander. Procedures shall be highly abbreviated and shall use abbreviations that are defined in the operator's manual.

5.106.1.18.4.6 Emergency operations procedures.

Data Module Type: Crew/Operator

Information Code: 141A

A condensed version of the emergency procedures or crew duties portion of the applicable operator's manual (OPI) shall be developed. The emergency requirements shall be subdivided into 12 classifications as listed in [5.106.1.16](#). The underlined items shall be the steps that shall be performed immediately without reference to the checklist. Procedures shall be highly abbreviated and shall use abbreviations that are defined in the operator's manual (OPI). When required by the acquiring activity, a list of crewmembers' duties shall be prepared.

5.106.1.18.4.7 Normal operation checklist - Performance data.

Data Module Type: Crew/Operator

Information Code: 131N

5.106.1.18.4.7.1 General.

- a. Scope. Charts, tables, and checklists used during preflight, takeoff, cruise, landing, and shutdown shall be included.
- b. Performance data charts. The acquiring activity shall specify the use of performance data charts in the checklist and the format these charts shall follow. The data to be included in the performance data charts shall be the same data as provided in the charts appearing in the performance data portion of the operator's manual.

- c. Performance checks. When applicable, detailed performance checks of selected procedures, as indicated by the acquiring activity, shall precede the performance data charts. Performance checks provided in Chapter 8 (refer to [5.106.1.15](#)) of the Operator's manual that have the star symbol (□) preceding those checks shall be included in the performance data section. When applicable, performance checks for mission equipment shall follow the detailed performance checks. The detailed performance checks shall appear in the same order/sequence as they appear in the Chapter 8 checklist.
- d. If a through-flight checklist is required, it shall be included in normal procedures following the abbreviated checklist. It shall consist of all through flight checks from the normal procedures section of the applicable operator's manual. The checks shall be numbered sequentially.

5.106.1.18.4.8 Rear matter.

Refer to [5.111.1.3.1](#) for rear matter content requirements.

5.106.1.18.4.8.1 Detailed requirements for alternate operator's checklists.

Alternate operator's checklists shall include normal and emergency procedures. The procedures shall be written in the same manner as indicated in [5.106.1.18.4.4](#) and [5.106.1.18.4.6](#).

5.106.1.19 Aircraft operator Maintenance Test Flight (MTF) manual.

5.106.1.19.1 General.

Aircraft operator MTF manual information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.106.1.19.2 Content.

An MTF manual shall be prepared in accordance with the following outline indicated below:

- a. Front matter.
- b. Section 1. Introduction.
- c. Section 2. Maintenance test flight manual.
- d. Section 3. Troubleshooting guides.
- e. Section 4. Special/detailed procedures.
- f. Section 5. Charts and forms.
- g. Authentication Page.

5.106.1.19.3 Front matter.

Refer to [5.111.1.1](#) for front matter content requirements.

5.106.1.19.4 Section I - Introduction.

Data Module Type: Crew/Operator Information Code: 018A

5.106.1.19.4.1 General.

Information of a general nature including the definition of an MTF, the purpose, and instructions specific to the checklist shall be provided.

5.106.1.19.4.2 Purpose.

The purpose of the MTF manual shall be to provide complete instructions for performing an MTF for a specific model, type, and series aircraft. For the specific criteria which require a general or limited MTF, reference shall be made to TM 1-1500-328-23 and the applicable aviation maintenance manuals.

5.106.1.19.4.3 Definitions.

The following definitions shall be included:

- a. Maintenance test flight. flight for which the primary mission is to determine airworthiness, i.e., that the airframe, power plant accessories and items of equipment are functioning in accordance with predetermined requirements in the intended operational environment.
- b. Warnings, cautions, and notes. Warnings, cautions, and notes are used to emphasize important and critical instructions and are used for the following conditions.
 - (1) WARNING - Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.
 - (2) CAUTION - Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.
 - (3) NOTE - Highlights an essential operating or maintenance procedure, condition, or statement.

5.106.1.19.4.4 General information.

The following information shall be provided:

- a. This manual shall cover only MTFs of aircraft (*insert type, model, and series*) and in no way supersedes any information contained in (*insert publication module code for operator manual and checklist*), but is to be used in conjunction with the operator's manual or checklist. For the purpose of MTFs only, the MTF manual shall satisfy all of the requirements of the checklist from Interior Check through Engine Shutdown.
- b. Crew requirements shall be as specified in TM 1-1500-328-23 and (*insert publication module code for operator manual*).
- c. The duration of a general or limited test flight shall be in accordance with the requirements of TM 1-1500-328-23.

5.106.1.19.4.5 Special instructions.

The following special items of interest shall be included:

- a. Cargo and passengers shall be prohibited on MTFs.
- b. Forms and records shall be checked prior to the MTF to determine what maintenance has been performed and the type of MTF required (i.e., general or limited).
- c. The configuration of the aircraft shall be established prior to each MTF in order to determine performance parameters.

- d. A thorough post test flight inspection shall be performed to the extent necessary to ensure that deficiencies that may have developed as a result of the MTF are detected.
- e. When an MTF is required to ensure proper operation of a specific system(s), references shall be made to the applicable maintenance manuals for the limits of that system.
- f. The symbols identified and described in [5.106.1.15.3.2](#) shall be used in the MTF checklist to identify certain conditions or duties. In addition, the following symbols may be identified and described for certain conditions or duties (Refer to [5.52.1.16](#) for values of the attribute **crewStepCondition**):
 - (1) Two asterisk symbols "***" (double-asterisk), shall precede the step, and shall indicate that the performance of the step is mandatory for all maintenance test flights.
 - (2) The letter "T", (T-) shall precede the step, and shall indicate a task or step required by the operator's manual.
- g. A check sheet shall be developed for recording the results of test flights. When a test flight is performed to determine if specific equipment or systems are operating properly, completion of only that portion of the MTF check sheet applicable to the specific equipment or system being tested shall be required. Continuation sheets may be used when necessary. Items that prove to be unsatisfactory during the test flight and require corrective action shall be listed in the remarks block during flight and transferred to DA Form 2408-13-1 immediately after termination of the flight. The sheet shall be attached to the DA Form 2408-13-1 upon completion. After accumulation of two or more sheets, the data shall be reviewed to determine if trends are developing.

5.106.1.19.5 Section 2 - Maintenance Test Flight (MTF) checklist.

Data Module Type: Crew/Operator Information Code: 135B

MTF requirements for specific Army aircraft shall be provided. Criteria for performing MTFs shall be in accordance with TM 1-1500-328-23. Requirements shall ensure a thorough inspection of the aircraft before flight, during flight, and upon completion of the MTF. Unless otherwise specified by the acquiring activity, checklist items shall include those that are contained in the applicable aircraft operator's checklist, plus those MTF checks peculiar to the aircraft in question.

5.106.1.19.6 Section 3 - Troubleshooting introduction.

Data Module Type: Descriptive Information Code: 018C

A statement that troubleshooting information is provided in the applicable maintenance manual shall be provided.

5.106.1.19.7 Section 4 - Special/Detailed procedures.

Data Module Type: Crew/Operator Information Code: (unspecified)

Those special/detailed procedures that are referenced in Section 2 (refer to [5.106.1.19.5](#)) shall be included. Complete instructions for each procedure shall be listed. Examples of special/detailed procedures shall include rotor smoothing techniques, speed trim checks, engine conditioning, engine starting, etc. The special/detailed procedures shall be specified by the acquiring activity.

5.106.1.19.8 Section 5 - Charts and forms.

Data Module Type: Crew/Operator Information Code: 00YB

5.106.1.19.8.1 General.

Forms and charts, shall be prepared, as necessary, to help perform and record MTFs. Charts shall be prepared that shall include, but not be limited to, bleed band opening envelope, turbine entire analysis check, and power adjusting. A list of required charts, including the contents, size, and format, shall be provided by the acquiring activity. The number of foldouts shall be kept to a minimum. Fold-up charts shall not be used. The forms shall be used to record readings, pressures, rpm, etc., obtained during MTFs.

5.106.1.19.8.2 List of charts.

A complete list of charts shall be provided. The figure number, title, and page number shall be included. The charts shall be listed in order of their appearance.

5.106.1.19.8.3 Maintenance test flight check sheets.

A check sheet shall be provided for use by the person(s) conducting the checks.

5.106.1.19.9 Appendices.

Appendices shall immediately follow the last chapter of the manual. Appendixes shall be included when specified by the acquiring activity.

5.106.1.19.10 Rear matter.

Refer to [5.111.1.3.1](#) for rear matter content requirements.

5.106.1.19.10.1 Metric conversion chart.

A chart shall be included at the back of the manual.

5.106.2 Army business rules.**5.106.2.1 Return reference.**

The words "RETURN TO:" shall be authored and precede the applicable return reference (<internalRef> or <dmRef>) in normal checklist procedures. (BR-ARMY-00539)

5.106.2.2 Immediate action and urgency to land.

Immediate action steps shall be identified using the attribute **crewStepCondition** and the value "csc58." Urgency to land steps shall be identified using the attribute **crewStepCondition** and the value "csc59." See [BR-ARMY-00215](#). (BR-ARMY-00540)

[TABLE LXVIII](#) includes mapping from MIL-STD-63029 to S1000D to assist authors.

TABLE LXVIII. Emergency procedure steps and urgency to land.

63029	to	S1000D
Immediate Actions	=	/crewDrillStep[@crewStepCondition="csc58"]
Actions	=	/crewDrillStep/para
Subsequent Actions	=	/crewDrillStep/crewDrillStep/para (nested steps)
Considerations	=	[if or elseIf or case] (as applicable)
Urgency to Land	=	/crewDrillStep[@crewStepCondition="csc59"]

5.106.3 Project decisions.

5.106.3.1 Emergency systems.

BRDP-ARMY-00088: Emergency systems may be located in Chapter 9 (refer to [5.106.1.16](#)) at the discretion of the acquiring activity. When this is done, include the following statement in the section "Emergency equipment information is located in [*insert <dmRef>*]."

5.106.3.2 Standard or alternate checklist.

BRDP-ARMY-00162: The acquiring activity shall have the option to specify that a one or two page alternate operator's checklist be prepared instead of the standard operator's checklist.

5.106.3.3 Aerodynamic report.

BRDP-ARMY-00089: In addition to the draft manual, the acquiring activity may require submission of an aerodynamic report illustrating the derivation of the data entered on the charts included in the manual. The report should include an analysis leading to the establishment of lift and drag values used in the calculations, aircraft efficiency and compressibility correction factors, methods of computing power or thrust required and available, a discussion of duct loss and propeller efficiencies, and adequate references to appropriate wind tunnel or flight test data. Calculation methods need to be fully explained and a sample calculation given. The calculations should be presented in sufficient detail to permit ready review and check of conclusions and to enable additional calculations to be made.

5.106.3.4 Standards of performance data in aircrew information.

BRDP-S1-00453: Decide on the standards of performance to be used in the calculation.

5.106.3.5 Select model for checklist for structures in aircrew information.

BRDP-S1-00455: Decide which of the two models are used to structure checklists.

5.106.3.6 Order of drills in aircrew information.

BRDP-S1-00456: Decide whether the order of drills will be project specific. Limitations and operating data required by the project must be included.

5.106.3.7 Supplementing the order of drills in aircrew information.

BRDP-S1-00457: Decide whether to supplement the order of drills checklist listing.

5.106.3.8 Numbering of checks within drills in aircrew information.

BRDP-S1-00458: Decide on the numbering of checks within each drill.

5.107 Aircraft inventory master guide (aircraft only).

Data Module Type: Descriptive

Information Code: 102B

5.107.1 Army content requirements.**5.107.1.1 General.**

The aircraft inventory master guide information set shall be prepared as directed by the acquiring activity and information shall be prepared on standard inventory procedures to allow determination of inventoriable items of installed and loose equipment authorized and required by the specific aircraft in performance of its mission. A single descriptive data module shall be used.

5.107.1.2 Introduction.

A short explanation of the scope and purpose of the aircraft inventory master guide information set shall be prepared. Information pertaining to necessary steps to ensure the list is accurate, exact, and complete (e.g., research of authorized changes, MWOs, additions/deletions for special mission requirements) shall be included. The introduction shall include a reference to DA PAM 738-751 for applicable forms and records.

5.107.1.3 Security.

It shall be stated here that aircraft inventory records should be unclassified but that any classification of the contents, if necessary, should be in accordance with the existing security regulations.

5.107.1.4 Inventoriable items.

The selection of inventoriable items to be listed is to be without regard to the agency (governmental or contractual) furnishing the items.

a. Items to be listed are as follows.

- (1) Items essential to the execution of the designated mission of the aircraft, such as electronic, photographic, armament, special mission instruments, and safety and comfort equipment.
- (2) Loose equipment delivered with the aircraft and items subject to pilferage or readily converted to personal use.
- (3) Modification kits which are reissued or distributed to using organizations for installation and which are not immediately placed in use. These shall be recorded on the affected aircraft's DA Form 2408-17, Aircraft Inventory Record, and identified as loose equipment until modification is completed.
- (4) Equipment required for operation in a specific environment.

b. Items to be excluded are as follows.

- (1) Non-accountable items coded as expendable in the applicable stock lists.
- (2) Personal issue or items furnished on unit allowance or other authority.
- (3) Items or components considered as basic or integral parts of the airframe or basic aircraft, such as engines, propellers, wheels, and standard instruments.
- (4) Equipment publications, checklists, and aircraft forms.

5.107.1.5 Periods of inventory.

The following text shall be included verbatim.

"PERIODS OF INVENTORY

Inventoriable items shall be checked against the Aircraft Inventory Record, DA Form 2408-17, at the following periods:

- a. Upon receipt.
- b. Before transfer of the aircraft to another organization.
- c. Upon placing aircraft in storage and upon removal from storage. Aircraft need not be inventoried while in storage.
- d. Twelve months after last inventory."

5.108 Storage of aircraft.

Data Module Type: Procedural	Information Code: 810B (Flyable storage of aircraft.
Data Module Type: Procedural	Information Code: 810F (Short storage of aircraft)
Data Module Type: Procedural	Information Code: 810G (Intermediate storage of aircraft)

5.108.1 Army content requirements.

5.108.1.1 General.

This information set shall be prepared as directed by the acquiring activity and information described in this section.

5.108.1.2 General information for storage of aircraft information set.

The following text shall be included verbatim in the element **<commonInfo>**.

"STORAGE OF AIRCRAFT GENERAL INFORMATION

Components Involved in an Accident

Any component removed for reason of accident shall not be preserved, but shall be shipped in the same condition it was in after the accident.

Categories of Storage

- 1. Flyable storage - no time limit.

2. Short term (administrative storage) - 1 to 45 days.
3. Intermediate storage - 46 to 180 days."

5.108.1.3 Flyable storage, short term storage, and intermediate storage.

- a. A general discussion shall be prepared for each category of aircraft storage, to include considerations for selection of the appropriate category (e.g., ground operation, motoring of engines, and other required maintenance for which personnel and materials are needed) and steps to be taken for care of the aircraft during exceptionally wet weather.
- b. All essential information for each category of aircraft storage shall be prepared to include all procedures for preparing the complete aircraft for storage and removal from storage, excluding any information on when or why the aircraft are stored. Each category of storage shall make reference to inspection documents and inspection procedures to be conducted before, during, and after storage.

5.109 Shipment of Army aircraft.

5.109.1 Army content requirements.

5.109.1.1 General.

Shipment of Army aircraft information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in [A.5](#).

5.109.1.2 Specific contents and format.

Each TM/IETP shall apply to a single aircraft series. Specific requirements and procedures relating to shipment by cargo aircraft, vessel, truck, crated shipment, containerized shipment, and external transport by helicopter shall be detailed. Procedures necessary for tactical, minimum disassembly (logistical), maximum density (logistical) and palletized shipments shall be described. Each TM/IETP shall be written in the same format so that the same type of information is presented in the same order in each TM/IETP. The following is the format which shall be followed:

- a. Front matter
- b. Chapter 1 - Introduction
 - (1) Section I - Purpose and scope
 - (2) Section II - General
 - (3) Section III - Aircraft description
 - (4) Section IV - Shipping characteristics
 - (5) Section V - Ground handling
 - (6) Section VI - Safety
 - (7) Section VII - Preservation/depreservation check sheets
- c. Chapter 2 - Shipment by Cargo Aircraft
 - (1) Section I - General
 - (2) Section II - Shipment by C-5 aircraft
 - (3) Section III - Shipment by C-17 aircraft

- (4) Section IV - Shipment by C-130 aircraft
- d. Chapter 3 - Shipment by Vessel
 - (1) Section I - General
 - (2) Section II - Tactical shipment
 - (3) Section III - Logistical shipment
 - (4) Section IV - Shipment by U.S. Navy air capable ships
- e. Chapter 4 - Shipment by Truck
 - (1) Section I - General
 - (2) Section II - Aircraft recovery and tactical transport.
 - (3) Section III - Logistical (long haul) transport by truck
- f. Chapter 5 - Crated and Intermodal Container Shipment
 - (1) Section I - Crated shipment
 - (2) Section II - Intermodal container shipment
- g. Chapter 6 - Preservation and Packaging
 - (1) Section I - General
 - (2) Section II - Aircraft cleaning
 - (3) Section III - Preservation of aircraft
 - (4) Section V - Marking of aircraft/preparation of shipping documents
 - (5) Section V - Marking of aircraft/preparation of shipping documents
 - (6) Section VI - Depreservation and assembly
- h. Chapter 7 - Transportability Equipment Fabricated at Unit Level
- i. Chapter 8 - Operator and Maintenance Instructions for Transportability Equipment
- j. Including Repair Parts List
 - (1) Section I - Operator instructions
 - (2) Section II - Repair/overhaul procedures
 - (3) Section III - Illustrated Parts Data (IPD)
- k. Chapter 9 - External Transport by Helicopter (Aerial Recovery)
 - (1) Section I - General
 - (2) Section II - Single cargo hook rotor head lift
 - (3) Section III - Single cargo hook hard point lift
 - (4) Section IV - Dual cargo hook rotor head lift
 - (5) Section V - Dual cargo hook hard point lift
 - (6) Section VI - Single cargo hook belly band lift
- l. Appendices
 - (1) Appendix A - References
 - (2) Appendix B - Preservation/Depreservation Check Sheets

- (3) Appendix C - Weight and Balance Information for Transportability
- (4) Appendix D - Consumable Materials List
- (5) Appendix E - Special Tools and Equipment List
- (6) Appendix F - Quarantine Inspection/Customs Clearance
- (7) Appendix G - Aircraft Protective Covering

m. Index (if applicable)

5.109.1.3 Front matter.

Refer to [5.111.1.1](#) for front matter content requirements.

5.109.1.4 Shipment of Army aircraft - Chapter - Introduction.

5.109.1.4.1 Section I - Introduction (Purpose and scope).

Data Module Type: Descriptive

Information Code: 018A

This section shall state, among other things, the purpose of the TM/IETP, what it covers, who will use it, and its applicability.

5.109.1.4.2 Section II - How to use this manual (General).

Data Module Type: Descriptive

Information Code: 018B

5.109.1.4.2.1 General.

This section shall include general administrative information relating to the use of the TM/IETP including:

5.109.1.4.2.2 Description and use of this manual.

Describe the layout and use of the manual. For example, indicate sections that are general in nature and those that apply to specific modes.

5.109.1.4.2.3 Classified materials.

If classified items are located in specific aircraft, that shall be noted, as well as specific handling requirements.

5.109.1.4.2.4 Warnings, cautions, and notes.

They shall be short, concise and used only to emphasize important or critical data. They shall state the hazard and result, or reason, unless obvious. Unless otherwise specified, warnings and cautions shall precede the text but follow paragraph headings to which they apply. Notes may precede or follow applicable text. Warnings, cautions, and notes shall not contain procedural steps nor shall the headings be numbered. If it is necessary to precede a paragraph with two or more of these notations, the more serious one shall precede the less serious one.

5.109.1.4.2.5 Deviations.

The following statement concerning deviations shall be included:

"Deviations from the procedures of this manual shall be approved by Commander, U.S. Army Research, Development and Engineering Center, ATTN: AMSRD-AMR-SE-TD, Redstone Arsenal, AL 35898-5000."

5.109.1.4.3 Section III - Description (Aircraft description).

Data Module Type: Descriptive

Information Code: 040A

This section shall include a description of the aircraft and identification drawings including elevation and plan drawings. If applicable, differences in models and other pertinent general information shall be provided. The basic weight of the aircraft shall be included.

5.109.1.4.3.1 Line drawings.

Left side, front, and top view drawings shall be made of the aircraft in its operational configuration. The drawings shall include the dimensional data outlined in [5.109.1.4.3.3](#). For TMs covering different models that exhibit external differences, drawings shall be included for each model.

5.109.1.4.3.2 Scale.

The drawings shall be as large as practicable, consistent with the space available. Scale shall be indicated by use of a graphic bar.

5.109.1.4.3.3 Dimensional data.

All dimensions on drawings shall be shown to the nearest 1/10 of an inch, including the following (some dimensions are only applicable for certain types of aircraft):

a. Lateral dimensions

- (1) Landing gear width
- (2) Wingspan
- (3) Propeller diameter
- (4) Fuselage (maximum width)
- (5) Main rotor blade chord
- (6) Horizontal stabilizer span

b. Longitudinal dimensions

- (1) Fuselage length
- (2) Overall length
- (3) Main rotor diameter(s)
- (4) Tail rotor diameter
- (5) Wing chord

- (6) Horizontal stabilizer chord
- (7) Distance from the nose to centerline of nearest wheel or tip of skid and distance from the tail to centerline of nearest wheel or tip of skid
- (8) Centerline of front wheels to centerline of rear wheels
- (9) Skid length

c. Vertical dimensions

- (1) Ground to fuselage (minimum)
- (2) Ground to fuselage at midpoint between landing gear
- (3) Ground to propeller (minimum)
- (4) Ground to top of vertical stabilizer (maximum)
- (5) Ground to tip of tail rotor (maximum)
- (6) Ground to tip of main rotor (minimum)
- (7) Ground to topmost point of main rotor
- (8) Maximum height, if not previously covered
- (9) Ground to lowest part of wing
- (10) Ground to bottom of horizontal stabilizer

d. Additional dimensions relevant to clearances needed for transportability.

5.109.1.4.4 Section IV - Shipping characteristics.

Data Module Type: Descriptive

Information Code: 800B

This section shall present a brief overview of the modes of shipment and include information applicable to more than one mode of shipment and deployment.

5.109.1.4.4.1 Flight delivery.

This paragraph shall provide a statement indicating self-deployment as the preferred method of delivery. Information on maximum range, availability of auxiliary fuel systems, and their capabilities shall be included.

5.109.1.4.4.2 Modes of shipment.

This paragraph shall describe the modes of shipment available (cargo aircraft, surface vessel, truck, helicopter, containerized shipment, and crated shipment) for transporting the aircraft and indicate the appropriate chapter in the TM/IETP that pertains to that specific mode.

5.109.1.4.4.3 Types of shipment.

This paragraph shall compare the types of shipment: tactical (flyable or nearly flyable), minimum disassembly (logistical), maximum density (logistical), and palletized (**cargo aircraft only**).

5.109.1.4.4.4 Tabular data.

Construct a table comparing the number of personnel and total man-hours required to prepare, load, tiedown, unload, and prepare for flight one aircraft for each mode and type of shipment.

5.109.1.4.4.5 Tiedowns.

This paragraph shall include a diagram of the aircraft showing tiedowns (lashing) for shipment, and the location and maximum strength of tiedown points. Strengths shall be shown fore and aft in longitudinal planes, left and right in lateral planes, and up and down in vertical planes. General tiedown methodology shall be presented using diagrams as needed.

5.109.1.4.4.6 Disassembly.

This paragraph shall make reference to the appropriate TMs/IETPs for disassembly. Also, a table shall be constructed comparing component removal required for each type and mode of shipment.

5.109.1.4.4.7 Unusual characteristics.

This paragraph shall list and explain aircraft peculiar equipment requiring special environmental, handling, and or security precautions.

5.109.1.4.4.8 International shipment.

Reference shall be made to Appendix F for information on customs and quarantine clearance.

5.109.1.4.5 Section V - Ground handling.

Data Module Type: Descriptive/Procedural

Information Code: 170F

This section shall include all information concerning towing and maneuvering the aircraft in accordance with TM 1-1500-204-23 and applicable operator and maintenance manuals. Included shall be information on operation of ground handling equipment, towing, maneuvering, operation of aircraft brakes, safety, and wing walker requirements. Illustrations shall be included as needed.

5.109.1.4.6 Section VI - Safety summary.

Data Module Type: Descriptive

Information Code: 012J

This section shall include general safety information applicable to all modes and types of shipment. Also, the applicable chapters, sections, and paragraphs in the TM/IETP shall be referenced concerning safety considerations for specific modes of shipment.

5.109.1.4.7 Section VII - Preservation/depreservation check sheets.

Data Module Type: Descriptive

Information Code: 810E

This section shall establish the requirement to use preservation/depreservation check sheets prepared on DA Form 2408-13-2E for preparation of aircraft for shipment and for the depreservation and reassembly of aircraft. Reference shall be made to Appendix B for examples and for instructions on the preparations, use, and disposition of checklists.

5.109.1.5 Shipment of Army aircraft - Chapter 2 - Shipment by cargo aircraft.

5.109.1.5.1 Section I - Shipment of aircraft - General.

Data Module Type: Descriptive

Information Code: 812B

This section shall include all information of a general nature applying to the transport of the specific Army aircraft in cargo aircraft and an overview of requirements.

5.109.1.5.1.1 Types of shipment.

This paragraph shall specify all requirements for tactical shipment, minimum disassembly (logistical) shipment, maximum density (logistical) shipment, and palletized shipment in C-5, C-17 and C-130 aircraft and discuss the four types of shipment applicable to the aircraft and the relative advantages and disadvantages of each. It shall indicate which cargo aircraft may be used and the aircraft densities for each type of shipment. In addition to the text, a table shall be presented to compare the data. Air Force cargo restraint criteria shall be included.

5.109.1.5.1.2 Functions of cargo aircraft crew.

This paragraph shall list Air Force cargo aircraft crew responsibilities and the type and limits of assistance that Army personnel may expect. The TM/IETP shall make clear that the Air Force loadmaster is the final authority on all actions relating to the configuration, loading, tiedown, and unloading of all cargo on the cargo aircraft. The following functions shall be included in the TM/IETP:

- a. Preparing the cargo aircraft for loading and unloading.
- b. Rigging and operations of all loading/offloading aids that are part of the cargo aircraft.
- c. Designating aircraft and equipment locations within the cargo aircraft.
- d. Providing tiedown devices.
- e. Inspecting and determining acceptability of tiedowns.

5.109.1.5.1.3 Functions of the Army loading team.

This paragraph shall contain an overview of the responsibilities of the Army loading team. The following functions shall be included:

- a. Plan all aspects of the move so that required materials, tools, equipment, and manpower are available.
- b. Prepare the aircraft for shipment and ensure that fuel on board does not exceed 150 gallons, or 3/4 full per tank, whichever is less.
- c. Ensure that Army aircraft are ready for loading on schedule.
- d. Mark the longitudinal CG and weight on each side of the aircraft fuselage and provide the weight of each aircraft and major component. Ensure that the shipping weight does not exceed the maximum weight certified for shipment.
- e. Provide all necessary dunnage, shoring, and/or ramps required to load aircraft and protect cargo aircraft floor.

- f. Furnish, rig, and operate devices not integral to the cargo aircraft loading.
- g. Furnish and operate auxiliary lighting necessary for night loading.
- h. Load Army aircraft aboard cargo aircraft.
- i. Furnish cargo aircraft commander with DD Form 1387-2 in accordance with TM 38-250.
- j. Prepare manifest itemizing weight and location of aircraft, equipment and disassembled components stowed within the cargo aircraft.
- k. Be prepared to demonstrate that disassembled components are packaged correctly and secured in accordance with Air Force restraint requirements.
- l. Unload the aircraft at destination.
- m. Depreserve, reassemble, and prepare aircraft for flight.

5.109.1.5.1.4 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, grounding, and fresh water.

5.109.1.5.1.5 Weight and balance.

Indicate that the weight and longitudinal CG of the aircraft shall be provided to the loadmaster. Indicate that either of the following procedures is acceptable. The TM/IETP shall emphasize the critical nature of determining accurate weight and balance.

- a. Provide procedures for weighing the aircraft in its shipping configuration. Reference the appropriate TM/IETP and note any exceptions. Provide instructions for computing the longitudinal CG based on actual weight.
- b. Reference shall be made to procedures in Appendix C for computing aircraft shipping weight. Reference shall be made to the maintenance manual from where the instructions are located.

5.109.1.5.1.6 Security.

Specific physical security instructions relevant to shipment of aircraft and equipment onboard shall be provided.

5.109.1.5.1.7 Safety.

General safety considerations applicable to shipment by cargo aircraft shall be listed.

5.109.1.5.2 Sections II, III, and IV - Shipment by C-5, C-17, and C-130 aircraft.

These sections shall contain all information specific to transporting the aircraft by C-5, C-17, and C-130 cargo aircraft respectively. Each section shall contain the same paragraphs and subparagraphs with the same type of information; the only differences shall be the specific information unique to that particular cargo aircraft.

5.109.1.5.2.1 Shipping characteristics.

Data Module Type: Procedural	Information Code: 800C (C-5)
Data Module Type: Procedural	Information Code 800D (C-17)
Data Module Type: Procedural	Information Code 800F (C-130)

This paragraph shall provide a brief introduction to the cargo aircraft, its physical characteristics, its operational capabilities, and shall include the following items:

- a. Line drawings shall be included showing the cargo aircraft in its operational configuration and configured for loading. Drawings of the operational configuration shall provide overall dimensional data including height, wingspan, and length. Drawings of the loading configuration shall provide all dimensions critical to loading, including ramp dimensions and angles.
- b. A general statement shall be made as to the number of aircraft the cargo aircraft can transport for the following types of shipments: tactical; minimum disassembly logistical), maximum density (logistical), and palletized. The maximum certified shipping weight of the aircraft for transport by cargo aircraft shall be provided.
- c. The TM/IETP shall include any responsibilities that Army personnel have for preparation of the cargo aircraft. Requirements for ramps and shoring needed for loading and/or protection of the cargo aircraft floor shall be included. Procedures shall be included for calculating shoring dimensions.
- d. The TM/IETP shall describe safety considerations. Included shall be warnings on jet or prop blasts, engine intakes, and noise hazard diagrams.

5.109.1.5.2.2 Preparing the aircraft.

Data Module Type: Procedural	Information Code: 800N (C-5) (may be combined with 800C)
Data Module Type: Procedural	Information Code 800P (C-17) (may be combined with 800D)
Data Module Type: Procedural	Information Code 800R (C-130) (may be combined with 800F)

This paragraph shall detail all requirements for preparing the aircraft for shipment. Requirements shall be included for the four types of shipment. The following shall also be included:

- a. Left side, front, and top view drawings shall be made of the aircraft in its operational configuration. For TMs covering different models that exhibit external differences, drawings shall be included for each model.
- b. Resources required to ship the aircraft shall be detailed. Quantities shall be shown both for shipping one aircraft and a full load. Notes shall be provided to indicate requirements on a per unit basis, such as one each per aircraft shipped or one per cargo aircraft. This information shall be provided for each type of shipment.
 - (1) All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. Reference shall be made to Appendix E (refer to [5.109.1.17](#)) for part number and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.
 - (2) All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference shall be made to Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.
 - (3) Each element and task to be accomplished to prepare for shipment, loading, tiedown, unloading, and preparing the aircraft for flight shall be stated. Personnel requirements, man-hours, and elapsed time shall be provided in a table for each type of shipment.
- c. Reference shall be made to Chapter 6 (refer to [5.109.1.9](#)) for detailed information on preservation and packaging.
- d. All tasks required for aircraft disassembly for each type of shipment shall be listed in the order of accomplishment. The appropriate chapter of the maintenance manual shall be referenced for each task. Tasks that are transportability peculiar shall be completely described with drawings or diagrams as necessary.

- e. A scale drawing of the floor plan of the aircraft to be shipped shall be included showing the location and method of securing each item stowed inside. If required for clarification of internal loading, elevation and/or perspective drawings shall be included.

5.109.1.5.2.3 Loading.

Data Module Type: Procedural	Information Code: 831B(C-5)
Data Module Type: Procedural	Information Code 831C (C-17)
Data Module Type: Procedural	Information Code 831E (C-130)

This paragraph shall provide detailed information for loading the aircraft. A subparagraph shall be provided for each type of shipment, containing clearance dimensional diagrams for loading ramps and shoring placement. A cargo floor diagram shall be included showing the placement of each aircraft for each of the four types of shipment. Step-by-step instructions shall be provided for loading each aircraft and component. Equipment provided by the Air Force shall be indicated.

5.109.1.5.2.4 Tiedown.

Data Module Type: Procedural	Information Code: 811G (C-5)
Data Module Type: Procedural	Information Code 811H (C-17)
Data Module Type: Procedural	Information Code 811K (C-130)

Detailed procedures required to tiedown the aircraft and components shall be noted. Provide plan, front, rear, and side views to show tiedown installation. This paragraph shall detail equipment and material requirements for shoring and securing the aircraft and components. All equipment used shall be described and pictured, and instructions for use shall be provided. A table shall be provided listing quantities required to ship one aircraft and also a full load of aircraft for each type of shipment. Equipment to be provided by the Air Force shall be noted.

5.109.1.5.2.5 Unloading.

Data Module Type: Procedural	Information Code: 841B (C-5)
Data Module Type: Procedural	Information Code 841C (C-17)
Data Module Type: Procedural	Information Code 841E (C-130)

Step-by-step procedures for unloading shall be provided for each type of shipment.

5.109.1.5.2.6 Depreservation and reassembly.

Data Module Type: Procedural	Information Code: 870F (C-5)
Data Module Type: Procedural	Information Code 870G (C-17)
Data Module Type: Procedural	Information Code 870J (C-130)

Step-by-step procedures shall be provided for depreservation and reassembly to return the aircraft to flyable status. Appropriate maintenance manuals shall be referenced by chapter for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.109.1.6 Shipment of Army aircraft - Chapter 3 - Shipment by vessel.

5.109.1.6.1 Section I - Shipment of aircraft - General.

Data Module Type: Descriptive

Information Code: 812B

5.109.1.6.1.1 General.

This section shall include all information of a general nature applying to the transport of Army aircraft by vessel and an overview of requirements.

5.109.1.6.1.2 Types of shipment.

This paragraph shall define and describe tactical (flyable) and logistical shipments by Lift On/Lift Off (LOLO) ships, Roll On/Roll Off (RORO) ships, and U.S. Navy air capable ships and the relative merits and disadvantages of each. Reference shall be made to Chapter 5 (refer to [5.109.1.8](#)) for complete information on crated and intermodal shipments.

5.109.1.6.1.3 Responsibilities of Surface Deployment and Distribution Command (SDDC).

The following responsibilities shall be included:

- a. When contacted by the appropriate command, the SDDC commander will arrange with the Military Sealift Command commander for vessel shipment.
- b. The SDDC will prepare the shipment loading plan and manifest based on information provided by the Army loading team.
- c. The SDDC will make arrangements with a stevedore or commercial stevedore firm to load and tiedown the aircraft. The SDDC and Military Sealift Command will supervise all loading and tiedown procedures.

5.109.1.6.1.4 Functions of marine terminal personnel.

The marine terminal personnel will do the following:

- a. Prepare the vessel for loading.
- b. Provide all necessary dunnage, shoring, and/or ramps needed for loading and unloading.
- c. Rig and operate all loading/offloading devices.
- d. Perform all loading and offloading functions.
- e. Tiedown aircraft.

5.109.1.6.1.5 Functions of the Army loading team.

The responsibilities of the Army loading team will include:

- a. Coordinate with SDDC the number, type, and weight of aircraft to be shipped, vessel to be used, and the date and time of shipping.
- b. Plan all aspects of the shipment so that required materials, tools, equipment, and manpower are available.
- c. Prepare the aircraft for shipment.

- d. Ensure that aircraft are ready for loading on schedule.
- e. Provide technical assistance to SDDC as required for ground handling, loading, tie-down, and unloading.
- f. Ensure that provisions are made for enroute maintenance and daily tie-down inspections by Army escort personnel.
- g. Depreserve, reassemble, and prepare aircraft for flight upon arrival at destination.
- h. Coordinate with personnel at AMCOM as to the number and type of aircraft to be shipped, vessel to be used, and the date and time of the movement.

5.109.1.6.1.6 Equipment requirements.

All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.

5.109.1.6.1.7 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.109.1.6.1.8 Manpower requirements.

Each element and task to be accomplished to prepare for shipment, loading, tiedown, unloading, and preparing the aircraft for flight shall be stated. Personnel requirements, man-hours, and elapsed time shall be provided in a table for each type of shipment.

5.109.1.6.1.9 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, fresh water, and grounding.

5.109.1.6.1.10 Aircraft security.

Physical security requirements during preparation and shipment shall be listed.

5.109.1.6.1.11 Safety.

State general safety considerations applicable to shipment by vessel.

5.109.1.6.1.12 Characteristics.

Provide an introduction and general information pertaining to vessel shipment. SDDC restraint criteria for shipment by vessel shall be included. The following three statements shall be included in the TM:

- a. Because of the wide variety of vessel designs, the ship to be used shall be surveyed. The physical characteristics of the vessel will determine its capabilities. In the pre-deployment survey, note layout of tiedown fittings, hatch, hold, door clearances, ventilation system, fire fighting equipment, and capabilities of lifting devices. Ramp angles

and ship construction shall be surveyed to determine if RORO operations are feasible. Suitability of the below deck environmental conditions shall also be determined.

- b. The number of aircraft that can be shipped in a given vessel is determined by the type of aircraft, the configuration of the aircraft (tactical vs. logistical), and other cargo on board the ship. Stowage of aircraft is normally limited to the first deck below the weather deck due to vessel trim considerations.
- c. Shipment of aircraft above deck (on the weather deck) is considered a high risk option. It should only be used under exceptional conditions because damage to the aircraft is likely.

5.109.1.6.2 Section II - Tactical shipment.

This section shall contain all information pertaining to transporting aircraft in a tactical configuration by vessel.

5.109.1.6.2.1 Preparing the aircraft - Vessel, Tactical.

Data Module Type: Descriptive

Information Code: 800S

This paragraph shall detail all requirements for preparing the aircraft for tactical shipment by vessel. The categories of information to be entered here shall include the following: drawings; required resources (equipment, consumable materials, and manpower requirements); disassembly, preservation and packing; and load plan. Follow the requirements in [5.109.1.5](#) for details of the type of information that will go into this paragraph.

5.109.1.6.2.2 Loading - Vessel, Tactical.

Data Module Type: Procedural

Information Code: 831F

Detailed information shall be presented for loading the aircraft for LOLO and RORO vessels.

- a. For LOLO vessels detailed instructions shall be included for installing hoisting equipment and tag lines (guide ropes) on the aircraft. Diagrams and/or drawings shall be included as required for clarification. Rigging procedures shall be complete and not reference other publications. Step-by-step instructions shall be provided for loading each aircraft and piece of equipment on-board the vessel. Instructions for maintaining hatch clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed. Hoisting procedures shall be complete without reference to other publications.
- b. State detailed procedures for loading aircraft on RORO ships. Provide the maximum ramp angles that the aircraft can negotiate without shoring.
- c. A plan drawing of the deck shall be provided indicating the placement of aircraft and components.

5.109.1.6.2.3 Tiedown - Vessel, Tactical.

Data Module Type: Procedural

Information Code: 811L

This paragraph shall contain all information needed to tiedown aircraft and associated components. The use of "dead man" chains to provide additional tiedown points shall be explained. Provide plan, front, rear, and side views to show tiedown installation. This paragraph shall detail equipment and material requirements for shoring and securing the aircraft and components. All equipment used shall be described and pictured, and instructions for use shall be provided. A table shall be provided listing quantities required to ship one aircraft and also a full load of aircraft for each type of shipment. Equipment provided by the Navy shall be noted.

5.109.1.6.2.4 Unloading - Vessel, Tactical.

Data Module Type: Procedural

Information Code: 841F

This paragraph shall provide all information required to offload the aircraft for LOLO and RORO shipments.

5.109.1.6.2.5 Depreservation and reassembly - Vessel, Tactical.

Data Module Type: Procedural

Information Code: 870K

Provide step-by-step procedures for depreservation and reassembly to return the aircraft to flyable status. Reference appropriate maintenance manuals by chapter for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.109.1.6.3 Section III - Logistical shipment.

This section shall contain all information specific to transporting the aircraft in maximum density logistical configuration.

5.109.1.6.3.1 Preparing the aircraft - Vessel, Logistical.

Data Module Type: Descriptive

Information Code: 800T

This paragraph shall detail all requirements for preparing the aircraft for logistical movement by vessel. The categories of information to be entered here shall include: drawings; required resources (equipment, consumable materials, and manpower requirements); disassembly, preservation and packing; and load plan. Paragraph [5.109.1.5](#) shall be followed for details of the type of information that will go into this paragraph.

5.109.1.6.3.2 Loading - Vessel, Logistical.

Data Module Type: Procedural

Information Code: 831G

- a. Detailed information shall be presented for loading the aircraft for LOLO and RORO vessels.
- b. For LOLO vessels detailed instructions shall be included for installing hoisting equipment and tag lines (guide ropes) on the aircraft. Diagrams and/or drawings shall be included as required for clarification. Rigging procedures shall be complete and not reference other publications. Step-by-step instructions shall be provided for loading each aircraft and piece of equipment on-board the vessel. Instructions for maintaining hatch clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed. Hoisting procedures shall be complete and not reference other publications.
- c. State detailed procedures for loading aircraft on RORO ships. Provide the maximum ramp angles that the aircraft can negotiate without shoring.
- d. A plan drawing of the deck shall be provided indicating the placement of aircraft and components.

5.109.1.6.3.3 Tiedown - Vessel, Logistical.

Data Module Type: Procedural

Information Code: 811M

This paragraph shall contain all information needed to tiedown aircraft and components. The use of "dead man" chains to provide additional tiedown points shall be explained. Provide plan, front, rear, and side views to show tie-down installation. This paragraph shall detail equipment and material requirements for shoring and securing the aircraft and components. All equipment used shall be described and pictured, and instructions for use shall be provided. A table shall be provided listing quantities required to ship one aircraft and also a full load of aircraft for each type of shipment. Equipment provided by the Navy shall be noted.

5.109.1.6.3.4 Unloading - Vessel, Logistical.

Data Module Type: Procedural

Information Code: 841G

This paragraph shall provide all information required to offload the aircraft from LOLO and RORO vessels.

5.109.1.6.3.5 Depreservation and reassembly - Vessel, Logistical.

Data Module Type: Procedural

Information Code: 870L

Provide step-by-step procedures for depreservation and reassembly to return the aircraft to flyable status. Appropriate maintenance manuals shall be referenced by chapter for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.109.1.6.4 Section IV - Shipment by U.S. Navy air capable ships.

This section shall contain information specific to transport by and operation from amphibious assault ships (LHA, LHD, LPH), amphibious transport docks (LPD), dock landing ships (LSD), and aircraft carriers (CNV, CV).

5.109.1.6.4.1 Preparing the aircraft - Vessel, U.S. Navy capable.

Data Module Type: Descriptive

Information Code: 800U

This paragraph shall detail all requirements for preparing the aircraft for shipment on an air capable vessel. The categories of information to be entered here shall include: drawings; required resources (equipment, consumable materials, and manpower requirements); disassembly, preservation and packing; and load plan. Paragraph shall be followed for details of the type of information that will go into this paragraph. The differences in preparation requirements shall be specified for aircraft that will be operated and /or maintained during transport and those that will not.

5.109.1.6.4.2 Loading - Vessel, U.S. Navy capable.

Data Module Type: Procedural

Information Code: 831H

Detailed information shall be presented for LOLO operations and fly on/fly-off operations.

- a. For LOLO vessels detailed instructions shall be included for installing hoisting equipment and tag lines (guide ropes) on the aircraft. Diagrams and/or drawings shall be included as required for clarification. Rigging procedures shall be complete and not reference other publications. Step-by-step instructions shall be provided for loading each aircraft and piece of equipment on-board the vessel. Instructions for maintaining hatch clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed. Hoisting procedures will be complete and not reference other publications.

- b. Provide references that govern fly on/fly off operations aboard U.S. Navy ships and the sources for the documents.
- c. A plan drawing of the deck shall be provided indicating the placement of aircraft and components as configured for transport.

5.109.1.6.4.3 Tiedown - Vessel, U.S. Navy capable.

Data Module Type: Procedural

Information Code: 811N

This paragraph shall contain all information needed to tiedown aircraft and associated components. The use of "dead man" chains to provide additional tiedown points shall be explained. Provide plan, front, rear, and side views to show tiedown installation. This paragraph shall detail equipment and material requirements for shoring and securing the aircraft and components. All equipment used shall be described and pictured, and instructions for use shall be provided. A table shall be provided listing quantities required to ship one aircraft and also a full load of aircraft for each type of shipment. Equipment provided by the Navy shall be noted.

5.109.1.6.4.4 Unloading - Vessel, U.S. Navy capable.

Data Module Type: Procedural

Information Code: 841H

This paragraph shall provide all information needed to unload the aircraft.

5.109.1.6.4.5 Depreservation and reassembly - Vessel, U.S. Navy capable.

Data Module Type: Procedural

Information Code: 870M

Provide step-by-step procedures for depreservation and reassembly to return the aircraft to flyable status. Reference appropriate maintenance manuals by chapter for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.109.1.7 Shipment of Army aircraft - Chapter 4 - Shipment by truck.

5.109.1.7.1 Section I - Shipment of aircraft - General.

Data Module Type: Descriptive

Information Code: 812B

5.109.1.7.1.1 General.

This section shall present information of a general nature pertaining to tactical and logistical shipment by truck. SDDC restraint criteria for shipment by truck shall be included.

5.109.1.7.1.2 Types of truck shipments.

This shall define the various types of truck shipments, including the following:

- a. Tactical (short haul) truck shipments are defined as short haul (less than 100 miles) movement (including aircraft recovery) by an appropriately sized trailer, such as the Army's M270A1 semi-trailer. It is intended to evacuate a

disabled aircraft to a maintenance base for repair or preparation for a different mode of transport. In this configuration, the load shall not normally exceed maximum waivable U.S. highway limits.

- b. Logistical truck shipments are defined as long haul (over 100 miles) movements by standard commercial 30 inch high, low boy semi-trailer. It is intended to evacuate a disabled aircraft to a maintenance facility. In this configuration the load will not normally exceed legal U.S. limits. Serviceable aircraft may be shipped by logistical truck mode when prepared in accordance with these procedures. The following statement shall be included:

"Contact for technical assistance in preparing structurally damaged aircraft for shipment can be made with Commander, U.S. Army Research, Development and Engineering Center, ATTN: AMSRD-AMR-SE-TD, Redstone Arsenal, AL 35898-5000."

5.109.1.7.1.3 Responsibilities of the shipper.

This paragraph shall contain an overview of the responsibilities of the shipper and shall include the following:

- a. All shipments shall be coordinated through the supporting transportation office. The shipper shall ensure that required highway permits, plus route information, are obtained from the supporting transportation office. The supporting Transportation Officer will provide necessary coordination with the SDDC and local authorities. The shipper will provide the Transportation Officer details and characteristics of the shipment in accordance with AR 55-162 for CONUS shipments and local directives for OCONUS shipments.
- b. Coordinate the availability of appropriate lifting devices for loading the aircraft. Also, coordinate as needed, with the receiving activity to ensure the availability of appropriate lifting devices for unloading the aircraft.
- c. Prepare the aircraft for shipment.
- d. Provide all necessary equipment and materials to prepare, load, and secure aircraft to the trailer.
- e. Furnish and rig all lifting devices.
- f. Provide lifting device operator with technical assistance, if needed, in lifting the aircraft.
- g. Secure aircraft and components to the trailer as specified in the preparations for shipment manual.

5.109.1.7.1.4 Equipment requirements.

All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.

5.109.1.7.1.5 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.109.1.7.1.6 Manpower requirements.

Each element and task required to be accomplished to prepare for shipment, loading, tiedown, unloading, and assembly shall be listed by personnel requirements, man-hours, and elapsed time.

5.109.1.7.1.7 Facility requirements.

Specific facility needs shall be listed.

5.109.1.7.1.8 Safety requirements.

Safety considerations applicable to shipment by truck shall be listed.

5.109.1.7.2 Section II - Aircraft recovery and tactical transport.

This section shall contain information relevant to tactical shipment and recovery of the aircraft by truck.

5.109.1.7.2.1 Shipping characteristics - Aircraft recovery.

Data Module Type: Descriptive

Information Code: 800G

5.109.1.7.2.1.1 Drawings.

Left side, front, and top view drawings shall be made of the aircraft prepared for shipment and secured to the M270A1 trailer.

5.109.1.7.2.1.2 Dimensions.

The length, height, and width of the trailer and the overall length, height, and width of the load shall be stated.

5.109.1.7.2.1.3 Capabilities.

Capabilities of the M270A1 trailer shall be listed.

5.109.1.7.2.1.4 Limitations.

Limitations of the loaded trailer shall be discussed including terrain, surface, slope, speed, weight, and permit requirements.

5.109.1.7.2.1.5 Load characteristics.

Gross weight and axle load and spacing for the shipment shall be provided.

5.109.1.7.2.1.6 Highway permits.

In order to help the shipper in obtaining highway permits, this paragraph shall contain the following:

"It is the responsibility of the shipper to ensure that required highway permits are obtained. Permits and routing information are obtained by contacting the supporting Transportation Office. The supporting Transportation Officer will provide necessary coordination with SDDC and local authorities. The shipper will provide the Transportation Officer details and characteristics of the shipment in accordance with AR 55-162 for CONUS shipments and local directives for OCONUS shipments."

5.109.1.7.2.2 Preparing the aircraft - Aircraft recovery and tactical transport.

Data Module Type: Procedural

Information Code: 800X

This paragraph shall detail all requirements for preparing the aircraft for tactical shipment/recovery by truck.

- a. All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.
- b. Each element and task to be accomplished to prepare for shipment, loading, tiedown, unloading, and preparing the aircraft for flight shall be stated. Personnel requirements, man-hours, and elapsed time shall be provided in a table for each type of shipment.
- c. Reference shall be made to Chapter 6 (refer to [5.109.1.9](#)) for detailed information on preservation and packaging and to Appendix G (refer to [5.122.1.19](#)) for aircraft protective covering.
- d. All tasks required for aircraft disassembly shall be listed in the order of accomplishment. The appropriate maintenance manual shall be referenced for each task. Tasks that are transportability peculiar shall be completely described with drawings or diagrams as needed.
- e. If components and/or equipment are required to be placed inside the aircraft for shipment, a scale diagram of the aircraft shall be provided showing components placement and security. Elevations and/or perspective drawings shall be included if required for clarification.
- f. This paragraph shall provide detailed information required to load the aircraft on the semi-trailer. It shall include the following:
 - (1) Detailed instructions shall be included for installing hoisting equipment and tag lines on the aircraft. Diagrams and/or drawings shall be included as required for clarification.
 - (2) Step-by-step instructions shall be included for loading the aircraft and each piece of equipment onboard the trailer. Diagrams and/or drawings shall be provided as needed.
 - (3) A plan drawing of the trailer shall be provided indicating the placement of the aircraft and each component. If ballast is required, the amount and location shall be detailed.
 - (4) Information needed to tiedown the aircraft and components shall be stated. Material and equipment requirements for shoring and tiedown of aircraft and components shall be listed. Also, detailed procedures shall be listed. Plan, front, rear, and side views of tiedown installations shall be shown.
- g. Provide step-by-step procedures for unloading the aircraft and components.
- h. Provide step-by-step procedures for depreservation and reassembly. Reference appropriate maintenance publications for each step. Tasks that are transportability peculiar shall be completely described with drawings and diagrams provided as needed.

5.109.1.7.3 Section III - Shipment of aircraft - Truck (Long haul).

Data Module Type: Procedural

Information Code: 812E

This section shall contain information for logistical shipment of the aircraft by truck. This paragraph shall provide an introduction to the standard commercial, 30-inch high, lowboy semitrailer, its capabilities and limitations. The paragraphs and subparagraphs in this section shall have the same headings and contain the same types of information as found in [5.109.1.7.2](#).

5.109.1.8 Shipment of Army aircraft - Chapter 5 - Crated and intermodal container shipment.

5.109.1.8.1 Section I - Shipment of aircraft - General (Crated shipment).

Data Module Type: Descriptive

Information Code: 812B

5.109.1.8.1.1 General.

Procedures applicable to crated shipments shall be included in this section. If crated shipment procedures are not applicable to certain aircraft, the following statement shall be included,

"Crated shipment is not applicable to Army model (insert model and nomenclature of the aircraft)."

5.109.1.8.1.2 Characteristics.

This paragraph shall include the intended use of crated shipment, intended modes of transport, and the advantages and disadvantages of crated shipment.

5.109.1.8.1.3 Handling methods.

Handling methods and devices shall be identified, described, and pictured as required.

5.109.1.8.1.4 Security requirements.

Physical security needs relevant to crated shipment of the aircraft and components shall be indicated.

5.109.1.8.1.5 Facility requirements.

Information on facility requirements such as shelter, overhead crane, electricity, etc., required during crating of the aircraft shall be provided.

5.109.1.8.1.6 Equipment.

All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and units of issue, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.

5.109.1.8.1.7 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.109.1.8.1.8 Manpower requirements.

A listing shall be made for each element and task required to prepare for shipment, disassemble, preserve, crate, uncrate, reassemble, and return the aircraft to flyable status. Personnel requirements, man-hours, and elapsed time shall be provided for each task.

5.109.1.8.1.9 Preparing the aircraft - Crated.

Data Module Type: Procedural

Information Code: 800V

This paragraph shall provide all information needed to prepare the aircraft for crating.

- a. Step-by-step instructions shall be provided for preparing the aircraft for intermediate storage. Reference shall be made to applicable maintenance manuals or Chapter 6 (refer to [5.109.1.9](#)) of the TM, as appropriate.
- b. This paragraph shall provide step-by-step instructions for aircraft disassembly required for crated shipment. Procedures in the maintenance manuals shall be referenced. For procedures peculiar to crated shipment and/or transportability, detailed instructions shall be included with drawings and diagrams as needed for clarification.

5.109.1.8.1.9.1 Crating.

Data Module Type: Procedural

Information Code: 830B

This paragraph shall include dimensioned drawings and all instructions for constructing the crate, packing the aircraft and components, and marking the crates.

- a. Include the list of materials, working drawings, and instructions for constructing the crates.
- b. Include step-by-step instructions for packing the aircraft and components. A drawing shall be included showing the completed crating.
- c. This subparagraph shall contain marking information. It shall include the following:
 - (1) Mark each side and end of each crate with 2-inch letters, "USE NO GRAB HOOKS."
 - (2) Stencil opening instructions in 1-inch letters on one end of each crate.
 - (3) Indicate the center of balance of loaded crates with a painted vertical strip on each side of the crate. Stencil "CENTER OF BALANCE" in 1-inch letters adjacent to the strips.
 - (4) Indicate sling points by conspicuous arrows and "SLING HERE" in 1-inch letters.
 - (5) Stencil in 1-inch letters adjacent to inspection doors, "PRESERVED FOR INTERMEDIATE STORAGE. REPRESENTATIVE IF NOT ACTIVATED BY *(insert that date which is 180 days after the aircraft was initially preserved)*."
 - (6) The level of preservation shall be marked as level C, which is designed to protect an item for limited storage and immediate use. The preservation level shall be comparable to that described in MIL-STD-129 (part 4). The level of packing shall also be marked as level C, which provides minimum protection to meet conditions of a known favorable logistics path. The packing level shall be comparable to that described in MIL-STD-129. Refer to MIL-STD-129 (part 4) for additional reference.

5.109.1.8.1.10 Unpacking and reassembly.

Data Module Type: Procedural

Information Code: 870D

Step-by-step instructions shall be provided for uncrating, depreservation, reassembly, and returning the aircraft to flyable status. Applicable procedures in maintenance manuals shall be referenced. For tasks unique to crated shipment and/or transportability, detailed procedures shall be provided to include drawings and diagrams, as needed.

5.109.1.8.2 Section II - Shipment of aircraft - General (Intermodal container shipment).

Data Module Type: Descriptive

Information Code: 812B

5.109.1.8.2.1 General.

This section shall contain information specific to containerized transport of the aircraft. If containerized shipment is not appropriate for a specific aircraft, the following statement shall be included,

"Intermodal container shipment is not applicable to Army model (*insert the model and nomenclature of the aircraft*)."

5.109.1.8.2.2 Characteristics.

This paragraph shall provide an introduction to intermodal containers and a description of available containers. It shall also include the intended use of containerized shipment and its advantages and disadvantages.

5.109.1.8.2.3 Drawings.

Drawings showing interior dimensions of containers and of the aircraft prepared for containerized shipment shall be provided.

5.109.1.8.2.4 Security requirements.

Physical security requirements for containerized shipment shall be listed.

5.109.1.8.2.5 Facility requirements.

Information shall be provided on facility requirements such as electricity, overhead crane, shelter, etc., needed during loading of the aircraft into a container.

5.109.1.8.2.6 Safety requirements.

Indicate special safety considerations applicable to containerized shipment.

5.109.1.8.2.7 Equipment requirements.

All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.

5.109.1.8.2.8 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.109.1.8.2.9 Manpower requirements.

A listing shall be made for each element and task required to prepare for shipment, disassemble, preserve, containerize, remove from container, reassemble, and return the aircraft to flyable status. Personnel requirements, man-hours, and elapsed time shall be provided for each task.

5.109.1.8.2.10 Preparing the aircraft - Intermodal container.

Data Module Type: Procedural

Information Code: 800W

This paragraph shall provide all information needed to prepare the aircraft for containerized shipment

- a. This paragraph shall provide step-by-step instructions for aircraft disassembly required for crated shipment. Procedures in the applicable maintenance manuals shall be listed. For procedures peculiar to crated shipment and/or transportability, detailed instructions shall be included with drawings and diagrams as needed for clarification.
- b. If components and/or equipment are required to be placed inside the aircraft for shipment, a scale diagram of the aircraft shall be provided showing components placement and security. Elevations and/or perspective drawings shall be included if required for clarification.

5.109.1.8.2.11 Loading - Intermodal container.

Data Module Type: Procedural

Information Code: 831J

This paragraph shall provide detailed information needed to load the aircraft in an intermodal container. Step-by-step instructions shall be provided for loading the aircraft and each component in the container. Instructions for maintaining wall clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed for clarification. A plan view of the container shall be provided indicating the placement of the aircraft and each component.

5.109.1.8.2.12 Tiedown - Intermodal container.

Data Module Type: Procedural

Information Code: 811P

This paragraph shall contain all information required to tiedown aircraft and components in the container.

- a. List equipment and material requirements needed to tiedown the aircraft and components. Instructions for use of tiedown equipment shall be provided.
- b. Detailed procedures for tiedown shall be included. Provide plan, front, rear, and side views to show tiedown installation.

5.109.1.8.2.13 Unloading - Intermodal container.

Data Module Type: Procedural

Information Code: 841J

Provide step-by-step procedures for unloading the container.

5.109.1.8.2.14 Depreservation and reassembly - Intermodal container.

Data Module Type: Procedural

Information Code: 870N

Step-by-step procedures shall be provided for depreservation, reassembly, and returning the aircraft to flyable status. Reference shall be made to appropriate maintenance publications for each step. Tasks that are transportability peculiar shall be completely described with drawings and diagrams as needed.

5.109.1.9 Shipment of Army aircraft - Chapter 6 - Preservation and packaging.

5.109.1.9.1 Section I - Preservation, packaging, and marking (General).

Data Module Type: Descriptive

Information Code: 810H

This section shall explain the necessity for preservation measures. It shall identify and discuss the three types of storage (flyable, short term, and intermediate) and the preservation methods of each.

5.109.1.9.2 Section II - Aircraft cleaning.

Data Module Type: Procedural

Information Code: 811E

This paragraph shall describe the need for cleaning the aircraft prior to shipment and the consequences if it is not done.

- a. Equipment requirements. All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E (refer to [5.109.1.17](#)) for part and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.
- b. Materials. All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.
- c. Manpower. A list of personnel requirements, man-hours, and elapsed time shall be provided to clean the aircraft.
- d. Procedures. Step-by-step procedures for cleaning the aircraft shall be listed. Reference shall be made to specific procedures in maintenance manuals.

5.109.1.9.3 Section III - Preservation of aircraft.

Data Module Type: Procedural

Information Code: 811B

- a. Rationale. Rationale shall be provided for preserving aircraft for the various periods of inactivity.
- b. Equipment. Equipment required for aircraft preservation shall be listed. Make reference to Appendix E for part numbers and NSNs. Provide a table indicating equipment needed for each term of inactivity.

- c. Materials. List materials needed for aircraft preservation by noun nomenclature , reference number, and quantity. Make reference to Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Provide a table indicating materials needed for each term of inactivity.
- d. Manpower. A list of personnel requirements, man-hours, and elapsed time to preserve the aircraft shall be provided in tabular form for each task and each term of inactivity.
- e. Preservation. Step-by-step procedures for preserving aircraft for each period of inactivity shall be listed. Reference procedures in maintenance manuals, as applicable.

5.109.1.9.4 Section IV - Preservation and packaging of components.

Data Module Type: Procedural

Information Code: 811C

Procedures shall be provided for preservation and packaging of each component that may be removed from the aircraft for shipping. These procedures shall be complete and referenced by the applicable TM.

- a. Manpower. A table shall be prepared listing personnel, man-hours, and elapsed time to complete preservation and packaging operations for each component that requires removal.
- b. Materials. All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. A table indicating materials needed for each term of inactivity shall be provided.
- c. Packaging. Special containers used for transportability, if applicable, shall be described in this paragraph and listed in Appendix E (refer to [5.109.1.17](#)). Containers manufactured at unit level with multiple transportability mode usage shall be described. Drawings, materials lists, and construction procedures shall be contained in Chapter 7 (refer to [5.109.1.10](#)) and referenced.

5.109.1.9.5 Section V - Marking of aircraft/preparation of shipping documents.

Data Module Type: Descriptive

Information Code: 811D

This section shall contain all information pertaining to marking and labeling the aircraft and components. Also included shall be instructions for completing shipper-prepared documents.

- a. Identification. Instructions shall be provided to identify each removed component with the serial number of the aircraft from which it was removed and the component's condition.
- b. Color coding. Indicate that rotor blades and controls shall be properly color coded prior to removal to ensure that they will be installed in the proper position.
- c. Preservation information. Note that such information shall be supplied by tagging each aircraft in a conspicuous location with the following:

""AIRCRAFT PRESERVED FOR UP TO (insert specified number of days)",

and

"REPRESERVE IF NOT ACTIVATED BY (insert that date which is equal to the "preserved to" date plus a specified number of additional days)."

The same information shall be included with the shipping documents.

5.109.1.9.6 Section VI - Depreservation and reassembly.

Data Module Type: Procedural

Information Code: 870E

Step-by-step procedures shall be provided for depreservation and reassembly to return the aircraft to flyable status. Reference appropriate maintenance manuals by chapter and paragraph for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.109.1.10 Shipment of Army aircraft - Chapter 7 - Transportability equipment fabricated at unit level.**5.109.1.10.1 General.**

This chapter shall include drawings, materials, instructions, and manpower requirements for the construction of equipment made at the unit level. If such equipment is not used for preparing specific aircraft for shipment, the TM/IETP shall make it clear that transportability equipment fabricated at the unit level does not apply to that specific aircraft.

5.109.1.11 Shipment of Army aircraft - Chapter 8 - Operator and maintenance instructions for transportability equipment including illustrated parts data.**5.109.1.11.1 Section I - Normal operation procedures (Operator instructions).**

Data Module Type: Procedural

Information Code: 131A

This section shall provide detailed instructions on the proper installation and use of all transportability equipment. Separate instructions shall be provided for the disassembly of equipment and special packaging for the return of transportability equipment to the specialized control point. A separate paragraph shall be included for each item.

5.109.1.11.2 Section II - Repair/overhaul procedures.

Data Module Type: Procedural

Information Code: 664B

This section shall describe unit, intermediate, and depot repair/overhaul procedures for transportability equipment.

5.109.1.11.3 Section III - Repair parts information.

Data Module Type: IPD

Information Code: 941A

This section shall be arranged in figure and item number sequence. It shall provide an illustrated breakdown and tabular listing. The listing shall show illustration figure and item number, SMR Code, NSN, CAGEC, part number, description, unit of issue, and quantity required. A separate paragraph shall be provided for each item of transportability equipment and in the same format as the aircraft IPD.

5.109.1.12 Shipment of Army aircraft - Chapter 9 - External transport by helicopter (Aerial recovery).

5.109.1.12.1 Section I - Aerial recovery - General.

Data Module Type: Descriptive

Information Code: 812F

5.109.1.12.1.1 Types of transport.

This paragraph shall list the types of helicopters capable of providing external transport of the aircraft and an overview of the types of rigging available. Data shall be provided indicating the relative advantages and disadvantages of each.

5.109.1.12.1.2 Functions of aircraft recovery team.

The following functions shall be included:

- a. Provide information to the recovery aircraft crew including type, weight, location, and condition of the aircraft to be recovered.
- b. Provide all equipment and materials required to prepare and rig disabled aircraft for transport.
- c. Prepare and rig disabled aircraft.
- d. Hook up disabled aircraft to recovery helicopter.

5.109.1.12.1.3 Safety.

Safety considerations applicable to external transport by helicopter shall be listed. This shall include inspection and load testing of rigging equipment.

5.109.1.12.1.4 Structurally damages aircraft.

Include the following statement in Chapter 9 (refer to [5.109.1.12](#)) of the TM, "When structural damage causes doubt as to the successful use of the procedures in this chapter for transportation, contact Commander, U.S. Army Research, Development and Engineering Center, ATTN: AMSRD-AMR-SE-TD, Redstone Arsenal, AL 35898-5000."

5.109.1.12.1.5 Drag.

Data shall be presented in the TM/IETP concerning the approximate flat plate drag equivalent of the external load.

5.109.1.12.2 Section II - Single cargo hoot rotor head lift.

This section shall provide all information required to rig and transport the helicopter using the rotor head as the lift point and a recovery helicopter equipped with a single cargo hook.

5.109.1.12.2.1 Aerial recovery - Lift factors.

Data Module Type: Descriptive

Information Code: 812G

This paragraph shall provide specific lift information including the recovery helicopters appropriate for this type lift, weight of the aircraft to be recovered, and flight parameters of the recovery helicopter including, but not limited to, maximum air speed, maximum angle of bank, maximum wind velocity during pickup, and requirement for a drogue chute, when necessary.

5.109.1.12.2.2 Preparing the aircraft - Aircraft recovery, single cargo hook rotor head lift.

Data Module Type: Procedural

Information Code: 800Y

This paragraph shall list requirements for preparing the aircraft for external transport using a single cargo hook rotor head lift. The following information shall be included:

- a. All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. A table shall be included providing comparative quantity data for equipment for the four different types of shipment. References shall be made to Appendix E for part number and quantity required, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.
- b. All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference shall be made to Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.
- c. A list shall be provided for the required personnel, man-hours, and elapsed time for each task to be accomplished in preparing, rigging, and hooking up the aircraft for transport. d. All tasks required for aircraft preparation shall be listed in the order of accomplishment. The appropriate chapter of the maintenance manual shall be referenced for each task. Tasks that are transportability peculiar shall be completely described with drawings or diagrams, as needed.
- d. If components and/or equipment are required to be placed inside the aircraft for shipment, a scale diagram of the aircraft shall be provided showing components placement and security. Elevations and/or perspective drawings shall be included, if required for clarification.
- e. Detailed instructions shall be included for installing rigging equipment on the aircraft to be transported. Drawings and/or diagrams shall be included as required. Detailed information shall be provided on sling leg dimensions and link count.
- f. Detailed instructions shall be provided for hook up of the rigged aircraft to the transport helicopter.

5.109.1.12.2.3 Reassembly.

Data Module Type: Procedural

Information Code: 701D

Step-by-step instructions shall be provided for removing rigging and reassembly of the helicopter. Detailed instructions shall be provided for any needed special inspections. Reference shall be made to appropriate maintenance manuals for each task. Tasks that are transportability peculiar shall be completely described with drawings and/or diagrams provided as necessary.

5.109.1.12.3 Section III - Aerial recovery - Single cargo hook hard point lift.

Data Module Type: Procedural

Information Code: 812H

This section shall provide all information needed to rig and transport the helicopter using airframe hard points as the lift point and a recovery helicopter equipped with a single cargo hook. The paragraphs and subparagraphs in this section shall have the same format and the same type of information found in Section II (refer to [5.109.1.4.2](#)).

5.109.1.12.4 Section IV - Aerial recovery - Dual cargo hook rotor head lift.

Data Module Type: Procedural

Information Code: 812K

This section shall provide all information required to rig and transport the helicopter using the rotor head as the lift point and a recovery helicopter equipped with dual cargo hooks. The paragraphs and subparagraphs in this section shall have the same format and contain the same type of information found in Section II (refer to [5.109.1.4.2](#)).

5.109.1.12.5 Section V - Aerial recovery - Dual cargo hook hard point lift.

Data Module Type: Procedural

Information Code: 812J

This section shall provide all information required to rig and transport the helicopter using the airframe hard points as the lift point and a recovery helicopter equipped with dual cargo hooks. The paragraphs and subparagraphs in this section shall have the same format and the same type of information found in Section II (refer to [5.109.1.4.2](#)).

5.109.1.12.6 Section VI - Aerial recovery - Single cargo hook belly band lift.

Data Module Type: Procedural

Information Code: 812M

5.109.1.12.6.1 General.

This section shall provide all information required to rig and transport the aircraft using belly band type rigging and a recovery helicopter equipped with a single cargo hook. The paragraphs and subparagraphs in this section shall have the same format and contain the same types of information found in Section II (refer to [5.109.1.4.2](#)).

5.109.1.12.6.2 Alternate methods.

The five methods of aerial recovery discussed in Chapter 9 (refer to [5.109.1.12](#)) are applicable to aircraft in the inventory. If future aircraft require a different method to conduct an aerial recovery, then such a method(s) shall be described in detail in the same format as the existing methods are.

5.109.1.13 Shipment of Army aircraft - Appendix A - References.

Data Module Type: Descriptive

Information Code: 017B

This appendix shall list all references used with the TM/IETP or cited in it.

5.109.1.14 Shipment of Army aircraft - Appendix B - Preservation/Depreservation check sheets.

Data Module Type: Descriptive

Information Code: 810E

This appendix shall provide instructions on the preparation, use, and disposition of check sheets prepared on DA Form 2408-13-2-E. Sample check sheets shall be provided for transport by cargo aircraft, vessel, truck, and external lift helicopter. The instructions that are to be provided shall be in accordance with DA Pam 738-751. Each check sheet shall list all steps necessary to disassemble, preserve, depreserve, reassemble, and prepare the aircraft for flight

for the worst case scenario of preservation for each mode of shipment. Items that apply only to depreservation shall be included on the form and the appropriate status symbol will be entered at the time the aircraft is prepared for shipping. Instructions shall note that the entry will be signed off as required upon depreservation.

5.109.1.15 Shipment of Army aircraft - Appendix C - Weight and balance (Information for transportability).

Data Module Type: Descriptive

Information Code: 169A

This appendix shall contain all weight and arm data required to compute weight and balance data for each type of transport by cargo aircraft.

5.109.1.16 Shipment of Army aircraft - Appendix D - Consumable materials list.

Data Module Type: IPD

Information Code: 070B

This appendix shall alphabetically list all consumable materials used in disassembly, packaging, loading, tiedown, unloading, depreservation, and reassembly of aircraft for all types and modes of shipment. The list shall include noun nomenclature, reference number, NSN, P/N, specification number, source of supply, unit of issue, and quantity needed per aircraft. The remarks section shall also note to which mode of transportation the item pertains.

5.109.1.17 Shipment of Army aircraft - Appendix E - Support equipment and tools (Special tools and equipment list).

Data Module Type: IPD

Information Code: 061B

This appendix shall alphabetically list all tools and equipment used in disassembly, preservation, loading, tiedown, unloading, depreservation, and reassembly of the aircraft for all types and modes of shipment. The list shall include noun nomenclature, reference number, NSN, P/N, quantity required, and line item number, if applicable. There shall be a remarks section to indicate if equipment is fabricated at the unit level, level of support where the item is available, and if the item is part of a kit or set. If the item is part of a set or kit, the nomenclature, NSN, and line item number of the kit or set shall be included. The remarks section shall also note which mode of transportation to which the item pertains. Also, a notation shall be made that the item is either transportability peculiar (TP) or multipurpose (MP). MP tools and equipment are those items used for both transportability and maintenance.

5.109.1.18 Shipment of Army aircraft - Appendix F - Quarantine inspection/Customs clearance.

Data Module Type: Procedural

Information Code: 812L

This appendix shall outline procedures for preparing the aircraft and removed components for quarantine inspection. The step-by-step procedures shall be in accordance with TM 5-632. Procedures shall also be included for customs clearance.

5.109.1.19 Shipment of Army aircraft - Appendix G - Heat shrink film protective covering.

5.109.1.19.1 Preparation for aircraft - Protective covering.

Data Module Type: Procedural Information Code: 812Q

5.109.1.19.1.1 General.

This appendix shall provide procedures to assist personnel in the installation of protective covering on the aircraft. The first paragraph shall identify required safety procedures for application of heat shrink film. Subsequent paragraphs shall provide instructions for the preparation of the aircraft for the application of heat shrink film. Instructions for needed padding shall also be included.

5.109.1.19.1.2 Application of film.

This paragraph shall describe the characteristics of the film, the operation of the heat cannon, and the procedures for covering, fusing, shrinking, and inspecting the covering.

5.109.1.19.1.3 Fuel and battery vents.

This paragraph shall list procedures to ensure that fuel and battery vents are vented to the atmosphere during shipment.

5.109.1.19.1.4 Installation of ventilators.

Information on the need to vent the covering and instructions for the installation of ventilators shall be provided.

5.109.1.19.2 Hoisting.

Data Module Type: Procedural Information Code: 812R

Procedures for hoisting the aircraft with the shrink film covering installed shall be provided.

5.109.1.19.3 Tiedown - General.

Data Module Type: Procedural Information Code: 811F

Procedures for restraining the aircraft with shrink film covering installed shall be listed.

5.109.1.19.4 Enroute maintenance.

Data Module Type: Procedural Information Code: 664B

Instructions shall be provided for enroute maintenance of the shrink film.

5.109.1.19.5 Shipment of aircraft - Protective covering, removal.

Data Module Type: Procedural

Information Code: 812S

Procedures shall be provided for the removal of shrink film covering.

5.109.1.19.6 Shipment of Army aircraft - Tools and equipment, consumable materials, and manpower.

Data Module Type: Descriptive

Information Code: 802A

5.109.1.19.6.1 General.

All tools and equipment shall be listed by nomenclature, reference number, NSN, and quantity required. References shall be made to Appendix E for part number and quantity required, Chapter 7 (refer to [5.109.1.10](#)) for fabrication of equipment at the unit level, and Chapter 8 (refer to [5.109.1.11](#)) for equipment operating instructions, as applicable.

5.109.1.19.6.2 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to [5.109.1.16](#)) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.109.1.19.6.3 Manpower.

An estimate shall be made of the personnel needs, required man-hours, and elapsed time for application and removal of heat shrink film.

5.109.1.19.7 Shipment of Army aircraft - Safety check sheet.

Data Module Type: Descriptive

Information Code: 012C

A safety check sheet shall be developed for the application of heat shrink film. These requirements shall be included in the preservation/depreservation check sheets for truck and vessel shipment in Appendix B (refer to [5.109.1.14](#)).

5.109.1.20 Shipment of Army aircraft - Rear matter.

Refer to [5.111.1.3.1](#) for rear matter content requirements.

5.109.2 Army business rules.

None.

5.109.3 Project decisions.

None.

5.109.3.1 Stand alone. Deleted**5.110 S1000D Chapter 5.2.3.1 - Land/Sea specific information sets - Crew/operator descriptive information.****5.110.1 Army business rules.**

None.

5.110.2 Project decisions.**5.110.2.1 Description types for land/sea Products for the crew/operators.**

BRDP-S1-00459: Decide on the description types to be used: functional, physical breakdown, or external equipment.

5.111 S1000D Chapter 5.3.1.1 - Common requirements - Front matter.**5.111.1 Army content requirements.****5.111.1.1 Front matter - Page oriented materials.****5.111.1.1.1 Content, Page based.**

Material preceding the first text data module for all manuals except those referenced in [5.111.1.1.2](#) shall consist of the following descriptive DMs in the order specified below. (R=Required, AR=As Required [Project Decision])

- a. (R) Front cover (auto generated from publication module meta data).
- b. (AR) Signature page (information code 023M) (Mandatory for Marine Corps only).
- c. (R) Safety summary (Warning summary) (information code 012J).
- d. (AR) Revision summary, if applicable. (information code 003C)¹.
- e. (R) List of effective data modules (information code 00SA).
- f. (R) Title page (information code 001B)²
- g. (R) Table of contents (information code 009A)
- h. (AR) Glossary
- i. (AR) "How To Use This Manual" information (information code 018B).

¹A revision summary is only required when changes exist in the manual.

² Environmental/hazardous material information (for aircraft operator manuals only).
When the manual has been reviewed for the presence of environmental and/or hazardous material information, a statement similar to the following ODC and/or Hazardous Materials statement shall be provided on the title page:

OZONE DEPLETING CHEMICALS INFORMATION

This document has been reviewed for the presence of Class I Ozone Depleting Chemicals. As of provided date, the status is: All references to Class I Ozone Depleting

Chemicals have been removed from this document by substitution with chemicals that do not cause atmospheric ozone depletion.

HAZARDOUS MATERIALS INFORMATION

This document has been reviewed for the presence of Solvents used as cleaning solutions containing hazardous materials as defined by EPCRA 302 and 313 lists by the engineering, environment, and logistics oversight office. As of the base document dated provided date, all references to cleaning solvents containing hazardous materials have been removed from this document by substitution with non-hazardous or less hazardous materials where possible.

5.111.1.1.2 Content, Reduced page-based.

For Hand Receipts, Checklists, MWOs, Demilitarization of Surplus Items, Warranty Technical Bulletins, Depot Test, Measurement, and Diagnostic Equipment manuals, material preceding the first text data module shall consist of the following descriptive DMs in the order specified below. All other front matter content is prohibited. (R=Required, AR=As Required [Project Decision])

- a. (R) Front cover (auto generated from publication module meta data)
- b. (AR) Signature page (information code 023M) (Mandatory for Marine Corps only)
- c. (R) Title page (information code 001B)^{1, 2}
- d. (R) Table of contents (information code 009A)³
- e. (AR) "How To Use This Manual" information (information code 018B)

¹By project decision, a combined cover/title block may be used.

²Environmental/hazardous material information (for aircraft operator manuals only). When the manual has been reviewed for the presence of environmental and/or hazardous material information, a statement similar to the following ODC and/or Hazardous Materials statement shall be provided on the title page:

OZONE DEPLETING CHEMICALS INFORMATION

This document has been reviewed for the presence of Class I Ozone Depleting Chemicals. As of provided date, the status is: All references to Class I Ozone Depleting Chemicals have been removed from this document by substitution with chemicals that do not cause atmospheric ozone depletion.

HAZARDOUS MATERIALS INFORMATION

This document has been reviewed for the presence of Solvents used as cleaning solutions containing hazardous materials as defined by EPCRA 302 and 313 lists by the engineering, environment, and logistics oversight office. As of the base document dated provided date, all references to cleaning solvents containing hazardous materials have been removed from this document by substitution with non-hazardous or less hazardous materials where possible.

³ A table of contents is not required for Operator's Checklists or manuals that are less than eight pages.

5.111.1.1.3 Front cover.**5.111.1.1.3.1 General.**

A front cover shall be prepared for each publication using a descriptive data module. Unless otherwise specified the front cover shall contain the following content information in the order listed. If the front cover is generated by a publishing system it is not required to be prepared with a Descriptive data module. (R=Required, AR=As Required [Project Decision])

- a. (AR) Security classification.
- b. (R) Publication module code.
- c. (AR) National Overhaul Standard Statement (**DMWRs/NMWRs with NMP overhaul standards only**).
- d. (R) Publication title.
- e. (AR) NSN for item(s) covered.
- f. (AR) EIC, as specified in the Army Master Data File (AMDF).
- g. (AR) Subtitle.
- h. (AR) Weapon system name.
- i. (AR) Equipment illustration.
- j. (AR) Availability statement (**DMWR/NMWR only**).
- k. (AR) Supersedure notice.
- l. (R) Distribution statement.
- m. (AR) Export control notice warning.
- n. (AR) Destruction notice.
- o. (AR) General purpose notices.
- p. (AR) Service nomenclature.
- q. (AR) Publication date.
- r. (MC) (R) Publications Control Number (PCN)

5.111.1.1.3.2 National overhaul standards statement (DMWRs/NMWRs with NMP overhaul standards only).

The following shall be added to the title of NMWRs/DMWRs which document national overhaul standards for the National Maintenance Program:

"Containing National Overhaul standards for."

5.111.1.1.3.3 National Stock Number (NSN) and End Item Code (EIC).

NSN and EIC shall be included on the front cover of equipment publications but may not be required for general equipment and other types of publications.

5.111.1.1.3.4 Availability statement.

For DMWRs/NMWRs only, the following availability statement shall be included:

"This publication is not available through the St. Louis Media Distribution Division. This publication is available through (insert the name and address of the proponent activity)."

5.111.1.1.3.5 Supersedure notice.

When a supersedure notice is included, an asterisk (*) shall prefix the supersedure notice and the publication module code.

5.111.1.1.3.6 Distribution statement.

All publications shall have a distribution statement placed on the front cover for each manual or revision. The appropriate distribution statement shall be provided by the acquiring activity as selected from DoDI 5230.24.

5.111.1.1.3.7 Export control warning.

For those publications with export controlled data, the export control notice contained in DoDI 5230.24 shall be included.

5.111.1.1.3.8 Destruction notice.

All publications marked with distribution statements "B," "C," "D," "E," "F," or "X" shall be marked with the destruction notice provided by the acquiring activity from DoDI 5230.24.

5.111.1.1.3.9 General purpose notice.

When specified by the acquiring activity, additional notice(s) may be included. The notice shall have a title followed by the notice text.

5.111.1.1.3.10 Publication date.

The publication date shall be the official publication date assigned by the acquiring activity. If the publication is produced in more than one media, the date shall be the same on all media.

5.111.1.1.3.11 (MC) Publications Control Number (PCN).

A publication control number shall be placed beneath the publication number(s) for Marine Corps only manuals and for joint service manuals involving the Marine Corps.

5.111.1.1.4 (MC) Signature page.

Data Module Type: Descriptive

Information Code: 023M

A Signature page provided by the acquiring activity shall be included.

5.111.1.1.5 Safety summary (Warning summary).

Data Module Type: Descriptive

Information Code: 012J

The Warning Summary is a general description of the warnings that should be provided in the front of the publication using a descriptive data module. The warning summary is not a word-for-word repetition of all the warnings in the publication and should be limited to alerting the user of the different types of hazards, in general terms, that will be encountered in operating and maintaining the weapon system or equipment covered within the manual. Icons used throughout the manual should be included in the warning summary at the beginning of the manual along with their definitions. The warning summary shall include first aid data, and explanations of all general safety warning icons and hazardous material icons used in the manual. It shall also include descriptions and hazardous materials warnings that have major impact throughout the publication. Only warnings that meet these criteria shall be included. Warnings shown in the warning summary shall not be acknowledged. As applicable, the warning summary shall consist of the following in the order specified below:

- a. First aid data
- b. Warning icons
- c. Warning description.

- d. Hazardous materials icons
- e. Hazardous materials descriptions

5.111.1.1.5.1 First aid.

First Aid data shall be included in warning summary. The first paragraph shall reference TC 4-02.1. Any additional first aid data not described in TC 4-02.1 shall be described in this section.

5.111.1.1.5.2 Warning summary.

The publication shall have a warning summary when at least one of the following conditions exists:

- a. Warnings
- b. Hazardous material warnings and/or icons
- c. Additional equipment unique first aid data beyond TC 4-02.1.

5.111.1.1.6 List of Effective Data Modules (LOEDM).

Data Module Type: Descriptive

Information Code: 00SA

A list of effective data modules (aka Revision summary) shall be prepared. The LOEDM shall be included with the basic version of the publication and each subsequent change or revision. The LOEDM shall be located as identified in the content matrix ([APPENDIX A](#)). Refer to S1000D (Chapter 3.9.4) for details of the LOEDM content. All data modules in the publication shall be listed except exempted data modules identified in these business rules. All data modules, except the following shall be included in LOEDM. The following data modules shall not be included in a LOEDM:

- a. LOEDM.
- b. DA Forms 2028.
- c. Authentication information.

The following types of publications shall have LOEDM:

- a. Technical Manuals (TMs)
- b. Illustrated parts lists.
- c. DMWRs.
- d. NMWRs.
- e. PMS Manuals.
- f. Preventive Maintenance Inspections Manuals.
- g. Aircraft Troubleshooting Manuals.
- h. TBs (paper TBs with 8 or more pages only).

The following types of publications shall not have a LOEDM:

- a. Pocketbook TMs.
- b. Publications less than 8 pages.
- c. Hand Receipt (-HR) manuals.

5.111.1.1.6.1 Multi-volume manuals.

A LOEDM covering all volumes shall be prepared and included in volume 1. Each volume number shall be listed followed by the pages in that volume. Each volume, except volume 1, shall include a list of data modules listing the data modules provided in that particular volume.

5.111.1.1.6.2 Dates of issue for changes.

At the top of the LOEDM, the date of the basic manual and the date of each change shall be listed.

5.111.1.1.7 Highlights.

Data Module Type: Descriptive

Information Code: 00UA

A data module containing highlights shall be prepared when applicable. See S1000D Chapter 3.9.4 (2.5).

5.111.1.1.8 Title page.

Data Module Type: Descriptive

Information Code: 001A

A title block page shall be prepared and follow the LOEDM. The title block page shall include the reporting errors and recommended improvement statement. When depot level repair parts are included in lower level parts information, the following statement shall be added to the repair parts information title: "(Including Depot Maintenance Repair Parts)." When the publication contains National Overhaul Standards, the title block shall include the National Overhaul Standards Statement. The title block page shall contain the same statements as shown on the front cover. Parts manuals and narrative manuals which include a parts list shall have a current as of date on the title block page. If the title block page is generated by a publishing system, it is not required to be prepared with a Descriptive data module.

5.111.1.1.8.1 Reporting errors and recommending improvements statement.

A reporting errors and recommending improvements statement shall appear below the prime title, NSN, EIC, and subtitle (if any) on the title block page. The mailing address, e-mail address, and fax number of the responsible proponent shall be inserted in the statement. Additional information may be added as required by the acquiring activity (e.g., how to submit an electronic 2028).

- a. Unclassified/standard publication.** Except for classified publications, oversize publications, pocket size publications, and publications with less than eight pages, the following statement shall precede the table of contents title.

- (1) Army only publications.** The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual directly to: *(insert name and address of proponent)*. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*. A reply will be furnished to you."

- (2) Marine only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

Recommendations to publication errors and/or requests for Logistics Product Data (LPD) and suggested technical data changes may be reported by submitting a Change Request in TDM-CATALYST. User must have a registered account to submit a Change Request. For instructions on how to submit a Change Request go to <https://app.mcboos.usmc.mil/suite/sites/support/page/knowledge-base/>. Questions or concerns regarding the change request system process should be reported via Support Case within TDM-Publications or by email to catalyst_support@usmc.mil."

- (3) Multi-service publications. The following statements shall be included only for multi-service technical publication and use only applicable services (e.g., if the Navy does not use the publication, do not include a statement for that Service):

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Service, should be submitted as follows:

(a) (A) Army - Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual directly to: *(insert name and address of proponent)*. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*.

(b) (MC) Marine Corps - Recommendations to publication errors and/or requests for Logistics Product Data (LPD) and suggested technical data changes may be reported by submitting a Change Request in TDM-CATALYST. User must have a registered account to submit a Change Request. For instructions on how to submit a Change Request go to <https://app.mcboos.usmc.mil/suite/sites/support/page/knowledge-base/>. Questions or concerns regarding the change request system process should be reported via Support Case within TDM-Publications or by email to catalyst_support@usmc.mil.

(c) (N) Navy - By letter directly to *(insert name and address of proponent)*. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*.

(d) (F) Air Force - By Air Force AFTO Form 22 directly to *(insert name and address of proponent)*. You may also send in your recommended changes via email or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*. A reply will be furnished to you."

- b. Pocket size publications, oversize publications, and publications with less than eight pages. For pocket-size publications, oversize publications, and publications with less than eight pages, the following statement shall precede the table of contents title.

- (1) Army only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: *(insert name and address of proponent)*. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*. A reply will be furnished to you."

- (2) Marine only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

Recommendations to publication errors and/or requests for Logistics Product Data (LPD) and suggested technical data changes may be reported by submitting a Change Request in TDM-CATALYST. User must have a registered account to submit a Change Request. For instructions on how to submit a Change Request go to <https://app.mcbooss.usmc.mil/suite/sites/support/page/knowledge-base/>. Questions or concerns regarding the change request system process should be reported via Support Case within TDM-Publications or by email to catalyst_support@usmc.mil."

- (3) Multi-service publications. The following statements shall be included only for multi-service technical publication and use only applicable services (e.g., if the Navy does not use the publication, do not include a statement for that Service):

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Service, should be submitted as follows:

(a) (A) Army - Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual directly to: (*insert name and address of proponent*). You may also send in your recommended changes via e-mail or by fax. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert address of proponent*).

(b) (MC) Marine Corps - Recommendations to publication errors and/or requests for Logistics Product Data (LPD) and suggested technical data changes may be reported by submitting a Change Request in TDM-CATALYST. User must have a registered account to submit a Change Request. For instructions on how to submit a Change Request go to <https://app.mcbooss.usmc.mil/suite/sites/support/page/knowledge-base/>. Questions or concerns regarding the change request system process should be reported via Support Case within TDM-Publications or by email to catalyst_support@usmc.mil.

(c) (N) Navy - By letter directly to (*insert name and address of proponent*). You may also send in your recommended changes via e-mail or by fax. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert address of proponent*).

(d) (F) Air Force - By Air Force AFTO Form 22 directly to (*insert name and address of proponent*). You may also send in your recommended changes via email or by fax. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert address of proponent*). A reply will be furnished to you."

- c. Classified publications. For classified publications, the following statement shall precede the table of contents title:

- (1) Army or Marine only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve this manual, write and tell us about it. Address your correspondence to (*insert name and address of proponent*). When dealing with classified information, make sure that your correspondence is properly marked and is handled in accordance with current security regulations."

- (2) **Multi-service publications.** The following statements shall be included only for multi-service technical publication and use only applicable services (e.g., if the Navy does not use the publication, do not include a statement for that Service):

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve this manual, write and tell us about it. Service, should be submitted as follows:

- (a) (A) Army - Address your correspondence to *(insert name and address of proponent)*.
- (b) (MC) Marine Corps - Address your correspondence to *(insert name and address of proponent)*.
- (c) (N) Navy - Address your correspondence to *(insert name and address of proponent)*.
- (d) (F) Air Force - Address your correspondence to *(insert name and address of proponent)*.

When dealing with classified information, make sure that your correspondence is properly marked and is handled in accordance with current security regulations."

5.111.1.1.8.2 Preventive maintenance services and phased maintenance inspection manuals title block page with warning data (Aviation only).

For preventive maintenance services and phased maintenance inspection only, the warning data page shall include the reporting errors and recommending improvement statement and the following additional verbatim statement.

"WARNING

Certain inspections are Mandatory Safety-of-Flight requirements, and the inspection intervals cannot be exceeded. In the event these inspections cannot be accomplished at the specified interval, the aircraft condition status symbol will be changed to a red X. Mandatory Safety-of-Flight inspection items are printed in bold face type.

NOTE

Inspection items contained in this manual are considered the minimum requirements for performing phased maintenance and shall be performed. The cumulative effects of inspection deferrals are unknown and could result in catastrophic failure or increased maintenance at a later date. Therefore, the use of special lettering to emphasize Mandatory Safety-of-Flight Items is not to be construed as authority for deferral of other inspections."

5.111.1.1.9 Table of contents.

Data Module Type: Descriptive

Information Code: 009A

5.111.1.1.9.1 General.

A table of contents listing all chapters and data modules shall be prepared for all publications. They shall have the exact same title and shall be listed in the same order they appear in the publication. Figures and tables may be listed in the table of contents. If the figures and/or tables are listed in the table of contents, they shall be listed, in order as they

appear, under the corresponding data module except for foldouts which shall be listed separately at the end of the table of contents. The how-to-use this manual information shall be listed on the table of contents including page number. The warning summary shall not be listed on the table of contents. The table of contents shall begin on the first available page following the title block page.

- a. The security classification, if any, of chapters, data modules, figures, and tables shall be indicated.
- b. Figures if listed in the table of contents shall be listed under the corresponding data module by the figure number, title, and page number of each figure. A parts manual shall not include figures in the table of contents.
- c. Tables if listed in the table of contents shall be listed under the corresponding data module by the table number, title, and page number of each table.
- d. Each volume of a multi-volume manual shall contain its own table of contents and shall reference companion volumes for the same publication. Volume 1 shall contain a complete table of contents covering the entire set. Entries shall indicate the volume in which the referenced material appears.
- e. The following requirements are applicable to parts list entries.
 - (1) The introduction shall be the first data module listed in the parts information.
 - (2) Titles of parts data modules, including the FGCs as applicable, shall be listed by the same nomenclature and in the same sequence in which they appear in the first tabular listing. The data module code shall be referenced with each title. The figure number may be included in the data module title.
 - (3) NSN, P/N, and (as applicable) reference designator cross-reference indexes shall be listed.

NOTE

It is not required that the table of contents be prepared using a descriptive data module. Alternate methods (e.g., preparation with a style sheet based on publication module data) is acceptable.

5.111.1.1.10 List of terms (Glossary).

Data Module Type: Descriptive

Information Code: 006A

A glossary shall be prepared for publications only when the terms are uncommon and are not adequately defined in the text or in the Army, DOD, or standard dictionary. The glossary shall include a list of terms followed by definitions. The terms shall be listed in alphabetical order. If a glossary is required, it shall begin on a separate, right-hand page and immediately following the table of contents. Page numbers for a glossary shall begin with Glossary-1, Glossary-2, etc.

5.111.1.1.11 How to use this manual (except illustrated parts data, DMWR, and NMWR).

Data Module Type: Descriptive

Information Code: 018B

If required, "How to Use This Manual" information shall be prepared as follows:

- a. "How to Use This Manual" information shall begin on the page immediately following the glossary (if present).
- b. Information to familiarize the user with special or unusual features of the publication shall be prepared. Coverage shall lead the user through the publication and explain important features of the organization and content. For example, the format is explained; operating, troubleshooting, PMCS are explained; and repair, maintenance instructions, and other pertinent information are explained.
- c. Any peculiarities in the basic arrangement of the publication shall be described. "How To Use This Manual" information shall not repeat instructions given within the chapters.

- d. For all publications (excluding operators) the "How To Use This Manual" information shall include reference to the associated illustrated parts data and an explanation on how to use the parts data in conjunction with the manual.
- e. For all publications with a glossary, reference to the glossary shall be made and an explanation of its features and use shall be provided.
- f. For Troubleshooting publications, an explanation on how troubleshooting data is presented in the manual shall be included. The explanation shall explain how failure symptom indexes and malfunction codes correspond to maintenance operational checks and troubleshooting procedures for individual systems and components. If necessary, for multi-volume troubleshooting manuals, examples of the troubleshooting process shall be provided to illustrate how specific troubleshooting volumes are used together to locate and isolate faults.

5.111.1.1.1.1 International standardization agreements.

When provisions of the data is subject to an international standardization agreement, the "How To Use This Manual" information shall contain the following.

"NOTE

Certain provisions of this technical manual (identify by chapter, data module, paragraph, or similar manner, if appropriate) are the subject of international standardization agreement (*insert the ABCA or ASCC standard number; the NATO, STANAG, NETR, or NEPR number; or appropriate documentary reference*). When revision or cancellation of this technical manual is proposed which will modify the international agreement concerned, the technical manual management activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations."

5.111.1.2 Front matter - Interactive Electronic Technical Publication (IETP).

5.111.1.2.1 General.

As applicable, material preceding the first text data module shall consist of the following descriptive DMs in the order specified below. (R=Required, AR=As Required [Project decision])

- a. (R) IETP Installation data
- b. (R) CD content screen
- c. (AR) Signature page (information code 023M) (Mandatory for Marine Corps only)
- d. (AR) Safety summary (Warning summary) (information code 012J)
- e. (AR) Revision summary (information code 003C). NOTE: A revision summary is required only when changes exist in the manual.
- f. (R) Identification information (auto generated from publication module meta data)
- g. (R) Table of contents (information code 009A)
- h. (AR) How to use this manual (information code 018B)
- i. (R) Reporting errors and recommending improvements (DA Form 2028) (information code 023B)

5.111.1.2.2 Interactive Electronic Technical Publication (IETP) installation data.

Information on installing the disc on the computer and launching the IETP shall be prepared. The installation routine shall have an uninstall capability and shall determine if ample space is available for the install. Installation data shall include instructions for operating the IETP with and without Web access. Installation routine shall check for previously installed versions of the IETP or display software and shall prompt the user to indicate whether they want to overwrite older versions of the software and/or IETP. The viewer software shall not have hardcoding of software versions within the viewing software for other software required for use with the viewing software (e.g., Java). The installation information shall be printed and shall be part of the packaging of the disc. The following types of install/capabilities shall be available to the user.

- a. The minimum installation, which is loading to the viewer only those files necessary to access the program and data on the disc. This requires that the programs for the IETPs be executable from the disc and be able to read the data from the disc. This is the preferred method. To enable running from disc, all IETP information shall be contained on either 1 CD or 1 DVD unless otherwise specified by the acquiring activity.
- b. Installation of the required files for the viewer to operate as a workstation on a LAN. In these cases, the program and data would be loaded to a server, and the PMA would access the program and data via a LAN. This type of install may be desirable in a flight line or motor pool environment. IETP viewers shall be server-based rather than client based so that multiple users can view the IETP from LAN or web simultaneously.
- c. Loading the executable program to the hard drive. This will require the data be accessed from the disc. This may be used when multiple discs for a system use the same reader program and the program is loaded to the hard drive for faster operation.

5.111.1.2.3 Disc content screen.

When more than one publication (e.g., IETP, PDF, etc) is resident on a disc, the first information that shall appear on the viewer is the disc content frame. This frame shall provide the publication number and title of all publications that are contained on the disc. Only DA-authenticated publications shall be placed on a DA-authenticated disc or disc set. Unauthenticated commercial publications, contractor publications, command-authenticated publications, etc, shall not be placed on a DA-authenticated disc or disc set.

5.111.1.2.4 (MC) Signature page.

Data Module Type: Descriptive

Information Code: 023M

The signature page shall be included in Marine Corps only publications and any joint service publication with the Marine Corps as the lead service. The signature page shall follow the Marine Corps cover. For joint service publications where Army is the lead service, the signature page shall not be included. The signature page shall be inserted in the publication as a graphic and not as tagged text. The latest signature pages can be found at https://usmc.sharepoint-mil.us/sites/MCSC_KC_ALPSKC/td/SitePages/Technical%20Publications.aspx.

5.111.1.2.5 Safety summary (Warning summary).

Data Module Type: Descriptive

Information Code: 012J

When required, a warning summary shall be provided. The warning summary shall include first aid data, and explanations of all general safety warning icons and hazardous material icons used in the manual. It shall also include descriptions and hazardous materials warnings that have major impact throughout the IETP. Only warnings that meet these criteria shall be included. Warnings shown in the warning summary shall not be acknowledged. As applicable, the warning summary shall consist of the following in the order specified below:

- a. First aid data. The first paragraph shall reference TC 4-02.1. Any additional first aid data not described in TC 4-02.1 shall be described in this section.
- b. Warning icons.
- c. Warning description.
- d. Hazardous materials icons.
- e. Hazardous materials descriptions.

5.111.1.2.5.1 Warning summary.

The publication shall have a warning summary when at least one of the following conditions exists

- a. Warnings.
- b. Hazardous material warnings and/or icons.
- c. Additional equipment unique first aid data beyond TC 4-02.1.

5.111.1.2.6 Identification information.

Identification information shall be prepared for each IETP. Identification information shall include NSN and EIC for equipment publications. However, NSN and EIC are not required for other publications such as general equipment and software manuals. The following data shall be included: (R=Required, AR=As Required [Project Decision])

- a. (AR) Security classification (when required).
- b. (R) IETP number.
- c. (AR) National Overhaul Standards Statement (**TM/DMWR/NMWR with NMP overhaul standards only**).
- d. (R) TM title.
- e. (AR) NSN for item(s) covered (when required).
- f. (AR) EIC, as specified in the AMDF (when required).
- g. (AR) Subtitle.
- h. (AR) Weapon system name.
- i. (AR) Equipment illustration.
- j. (R) Reporting errors and recommending improvements.
- k. (AR) Availability statement (**DMWR/NMWR only**).
- l. (AR) Supersedure notice.
- m. (R) Distribution statement.
- n. (AR) Export control notice warning.
- o. (AR) Destruction notice.
- p. (AR) General purpose notices.
- q. (R) Service nomenclature.
- r. (R) Publication date.
- s. (R) User feedback link.

5.111.1.2.6.1 Interactive Electronic Technical Publication (IETP) number.

IETPs shall be numbered the same as page-based publications in accordance with [5.72.1.1](#). Publication medium shall never be IETP, IETM, ETM, or EP.

5.111.1.2.6.2 National overhaul standards statement (DMWR/NMWR with NMP overhaul standards only).

The following shall be added to the title of NMWRs/DMWRs which document national overhaul standards for the National Maintenance Program: "Containing National Overhaul standards for."

5.111.1.2.6.3 Weapon system name.

When required the name of the weapon system to which this publication applies shall be included.

5.111.1.2.6.4 Reporting errors and recommending improvements statement.

A reporting errors and recommending improvements statement shall be included. The mailing address, e-mail address, and fax number of the responsible proponent shall be inserted in the statement. Additional information may be added as required by the acquiring activity (e.g., how to submit an electronic 2028).

a. Unclassified IETP. Except for classified IETPs, the following statement shall be included.

(1) Army Only TM. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of a DA Form 2028, Recommended Changes to Publications and Blank Forms. Your IETP may include a partially completed DA 2028. Print out the form and complete filling in the pertinent information. For IETPs without a printable DA Form 2028, blank forms should be available through your publications system. Complete the DA Form 2028 and mail it directly to: *(insert name and address of proponent)*. If you are unable to obtain a DA Form 2028, you may provide the recommendations by letter to the above address. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*. A reply will be furnished to you."

(2) Marine Only TM. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of a NAVMC Form 10772, Recommended Changes to Publications and Blank Forms. Your IETP may include a partially completed NAVMC Form 10772. Print out the form and complete filling in the pertinent information. For IETPs without a printable NAVMC Form 10772, blank forms should be available through your publications system. Complete the NAVMC Form 10772 and mail it directly to: *(insert name and address of proponent)*. If you are unable to obtain a NAVMC Form 10772, you may provide the recommendations by letter to the above address. You may also send in your recommended changes via e-mail or by fax. Our fax number is *(insert DSN and commercial number of proponent)*. Our e-mail address is *(insert address of proponent)*. A reply will be furnished to you."

- (3) Multi-Service TM. The following statements shall be included only for multiservice technical publication and use only applicable services (e.g., if the Navy does not use the publication, do not include a statement for that Service):

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Service, should be submitted as follows:

(a) Army - If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of a DA Form 2028, Recommended Changes to Publications and Blank Forms. Your IETP may include a partially completed DA 2028. Print out the form and complete filling in the pertinent information. For IETPs without a printable DA Form 2028, blank forms should be available through your publications system. Complete the DA Form 2028 and mail it directly to: *(insert name and address of proponent)*. If you are unable to obtain a DA Form 2028, you may provide the recommendations by letter to the above address.

(b) Marine Corps - Recommendations to publication errors and/or requests for Logistics Product Data (LPD) and suggested technical data changes may be reported by submitting a Change Request in TDM-CATALYST. User must have a registered account to submit a Change Request. For instructions on how to submit a Change Request go to <https://app.mcboss.usmc.mil/suite/sites/support/page/knowledge-base/>. Questions or concerns regarding the change request system process should be reported via Support Case within TDM-Publications or by email to catalyst_support@usmc.mil.

(c) Navy - If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, you may provide the recommendations by letter to the above address.

(d) Air Force - If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of an AFTO Form 22, Technical Order Publications Improvement Report. Your IETP may include a partially completed AFTO Form 22. Print out the form and complete filling in the pertinent information. For IETPs without a printable AFTO Form 22, blank forms should be available through your publications system. Complete the AFTO Form 22 and mail it directly to: (insert name and address of proponent). If you are unable to obtain an AFTO Form 22, you may provide the recommendations by letter to the above address. You may also send in your recommended changes via e-mail or by fax. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert address of proponent*). A reply will be furnished to you."

- b. Classified IETPs.** Classified IETPs use the same wording as unclassified IETPs, except that the statement "When dealing with classified information, make sure that your correspondence is properly marked and is handled in accordance with current security regulations." shall be included in the beginning of the reporting errors and recommending improvements statement as follows:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. When dealing with classified information, make sure that your correspondence is properly marked and is handled in accordance with current security regulations..."

5.111.1.2.6.5 Availability statement (DMWR/NMWR only).

For DMWRs/NMWRs only, the following availability statement shall be included:

"This publication is not available through the St. Louis Media Distribution Division. This publication is available through (*insert the name and address of the proponent activity*)."

5.111.1.2.6.6 Supersedure notice for revision only.

When a manual is updated, a supersedure notice shall be included and an asterisk (*) shall prefix the supersedure notice and the TM number.

5.111.1.2.6.7 Distribution statement.

All IETPs shall have a distribution statement for each manual or revision. The appropriate distribution statement shall be provided by the acquiring activity as selected from DoDI 5230.24.

5.111.1.2.6.8 Export control notice warning.

For those publications with export controlled data, the export control notice contained in DODI 5230.24 shall be included.

5.111.1.2.6.9 Destruction notice.

All IETPs marked with distribution statements "B," "C," "D," "E," "F," or "X" shall be marked with the destruction notice. For classified and unclassified documents, destruction notice shall contain the following text "Destroy by any means possible to prevent disclosure of contents or reconstruction of the document." For classified documents, the program must also be compliant with DoD 5220.22-M and DoDM 5200.01, volumes 1-4.

5.111.1.2.6.10 General purpose notice.

When specified by the acquiring activity, additional notice(s) may be included that are not addressed by the notices in [5.111.1.2.6.5](#) through [5.111.1.2.6.9](#). The notice shall have a title followed by the notice text.

5.111.1.2.6.11 Service nomenclature.

All TMs shall include the service or acquiring activity's nomenclature.

5.111.1.2.6.12 Publication date.

The publication date shall be the estimated authentication/issue date of the publication as assigned by the project. If the publication is produced in more than one media, the date shall be the same on both media. The day, month, and year shall be given in that sequence (for example, 10 JULY 1988).

5.111.1.2.6.13 For Army Communications Security (COMSEC) manuals use.

Unless otherwise specified by the acquiring activity, unclassified IETPs shall contain the notice FOR OFFICIAL USE ONLY. Classified COMSEC IETPs shall be appropriately marked at the level of classification.

5.111.1.2.7 Table of contents.

Data Module Type: Descriptive

Information Code: 009A

A descriptive data module using information code 009A shall be used if the table of contents is not otherwise generated by the IETP software. The table of contents shall list and link to all publication modules and data modules within the IETP.

5.111.1.2.7.1 Authentication information.

Authentication information, provided by the acquiring activity, shall be included. The authentication information is not displayed unless accessed through an entry in the table of contents.

5.111.1.2.8 How to use this IETP.

Data Module Type: Descriptive

Information Code: 018B

If required, information to familiarize the user with special or unusual features of the IETP shall be prepared. Coverage shall lead the user through the IETP and explain important features of the organization and content. For example, the format is explained; operating, troubleshooting, module identification code PMCS are explained; and repair, maintenance instructions, and other pertinent information are explained. Any peculiarities in the basic structure of

the IETP shall be described. "How To Use This IETP" information shall not repeat instructions given within the data modules.

- a. For all IETPs (excluding operators) the "How To Use This IETP" information shall include an explanation on how and where parts information is available in the data modules and how the parts information is accessed.
- b. For troubleshooting, an explanation on how troubleshooting data is presented in the IETP shall be included. If applicable, an explanation on how failure symptom indexes and malfunction codes correspond to maintenance operational checks and troubleshooting procedures for individual systems and components.
- c. An explanation on how to identify hotspots and how they are used and activated.
- d. If a double king sized paged-based paper TM containing the supporting schematic and wiring diagrams has been authorized and developed, a reference to this TM by TM number shall be provided.
- e. When a standard form (i.e., DA 2408-13, DA 2404, etc.) shall be used in the process of performing a task, instructions shall be provided on how these forms are accessed, used, and filled out.
- f. Provide an explanation on how to fill out a DA Form 2028 and emphasize that reference shall be made to a data module by the exact title that is provided in the table of contents.
- g. An explanation and use of all icons and buttons.
- h. A link may be made to an IETP tutorial (when required) to explain use of the IETP.
- i. When specified by the acquiring activity, the "How To Use This Manual" information shall contain the following.

"NOTE

Certain provisions of this manual (identify by DMC, paragraph, or similar manner, if appropriate) are the subject of international standardization agreement (*insert the ABCA or ASCC standard number; the NATO, STANAG, NETR, or NEPR number; or appropriate documentary reference*). When revision or cancellation of this IETP is proposed which will modify the international agreement concerned, the technical manual management activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations."

5.111.1.2.9 Blank forms.

Unless otherwise specified, blank forms (DA Form 2028) shall not be included in IETPs.

5.111.1.2.10 Glossary.

If a glossary or index is used in an IETP, it shall be located in the general information section.

5.111.1.3 Common requirements - Rear matter.

5.111.1.3.1 Rear matter - Page oriented manuals.

5.111.1.3.1.1 General.

As applicable, material after the last text data module shall consist of the following descriptive DMs in the order specified below. (R=Required, AR=As Required [Project Decision])

- a. (AR) Alphabetical index (information code 014B)

- b. (R) Reporting errors and recommending improvements (DA Form 2028, or an electronic equivalent) (information code 023B). Maintenance Test Flight, Checklists, and manuals smaller than A-size do not require DA-Form 2028.
- c. (R) Authentication information (information code 023C)
- d. (AR) Foldout pages (foldouts are generated at output and do not reside in a dedicated data module)
- e. (R) Back cover (information code 001C)

5.111.1.3.1.2 Alphabetical index.

Data Module Type: Descriptive

Information Code: 014B

An alphabetical index shall be prepared unless specified otherwise by the acquiring activity. All applicable data module references for each entry shall be indicated. Page references may be included in a detailed index. The index shall be located at the end of the publication but shall precede the sample DA Form 2028. Indexes shall begin on a separate, right-hand page. Page numbers for an index shall begin with Index-1, Index-2, etc.

5.111.1.3.1.3 Authentication information.

Data Module Type: Descriptive

Information Code: 023C

The authentication information shall be the last printed text page of the publication, or if there are foldout pages, the authentication information shall be the last printed text page prior to the foldout pages. For changes, the authentication information shall be included on the change transmittal sheet(s). The authentication information shall be placed after all of the other information on the change transmittal sheet(s).

5.111.1.3.1.4 Reporting errors and recommending improvements (DA Form 2028).

Data Module Type: Descriptive

Information Code: 023B

One filled-out sample copy of DA Form 2028, provided by the acquiring activity, and a minimum of three blank DA Forms 2028 with the publication module code, date, and title shall be included and shall precede the authentication page of every unclassified publication (except for oversize manuals, pocket-size manual, and manuals with less than eight pages). The filled out sample shall include guidelines for completing the form.

5.111.1.3.1.5 Foldout pages.

If foldout pages are approved by the acquiring activity, they shall be the last printed material in the manual or volume. Foldout pages shall not be included in illustrated parts manuals.

5.111.1.3.1.6 Back cover.

Data Module Type: Descriptive

Information Code: 001C

The outside back cover shall be blank, except for pocket-size manuals and classified manuals. For pocket-size manuals, the outside back cover shall include the publication module code. For classified publications, security classification markings shall be included on the back cover. **For Maintenance Test Flight manuals only**, a metric conversion table, covering applicable units included in the publication, shall be placed on the inside back cover. The PIN shall be placed in the lower right hand corner of the back cover.

5.111.2 Army business rules.

5.111.2.1 List of effective data modules content.

The LOEDM shall contain data module code, title, sequence number, and issue number. (JS-109)

5.111.2.2 Contents.

The table of contents for page-based publications shall include data module code or hierarchical indicator such as chapter/section/paragraph, data module title and page number. The project may stipulate other elements as needed (e.g., Effectivity). (JS-060)

5.111.2.3 List of tables.

The overall publication list of tables for page based publications shall include data module code, table number, title, and data module sequence/page number. The project may stipulate other elements as needed (e.g., Effectivity). (JS-061)

5.111.2.4 List of illustrations.

The list of illustrations for page-based publications shall include data module code, figure title and page number. The project may stipulate other elements as needed (e.g., applicability). (JS-062)

5.111.2.5 List of tables.

The overall publication list of tables for IETP shall include data module code and title. In addition, each entry shall be linked to the referenced table. Projects may stipulate other elements as needed (e.g., applicability). (JS-079)

5.111.3 Project decisions.

5.111.3.1 Schema to be used for front matter data modules.

BRDP-S1-00426: Decide which Schemas to be used to capture the different front matter data module types.

5.111.3.2 Front matter information codes.

BRDP-S1-00461: Decide which front matter information codes to use, the basic (eg, 00R) or the alternative (eg, 002).

5.111.3.3 Front matter to be included in page-oriented publications and IETP, respectively.

BRDP-S1-00460: Decide which front matter is to be included (mandatory or optional) in each of the page-oriented publications and in the IETP. The decisions must be based on the rules given in Chap 3.9.4.

5.111.3.4 "How To Use This IETP" information.

BRDP-ARMY-00091: Project shall decide whether to prepare "How To Use This IETP" information.

5.112 S1000D Chapter 5.3.1.3 - Common requirements - Illustrated parts data.

5.112.1 Army business rules.

None.

5.112.2 Project decisions.

5.112.2.1 IPD as a standalone publication.

BRDP-S1-00462: Decide if the IPD is produced as a standalone publication or the IPD data modules included in another publication (eg, an equipment maintenance publication including IPD).

5.113 S1000D Chapter 5.3.1.4 - Common requirements - Component maintenance.

5.113.1 Army business rules.

None.

5.113.2 Project decisions.

5.113.2.1 Use of task sets in the CMP.

BRDP-S1-00464: Decide whether to use task sets in the CMP.

5.113.2.2 Use of placeholder data modules in the CMP.

BRDP-S1-00465: Decide whether "placeholder" data modules are required for those topics where data is not required or necessary.

5.113.2.3 Front matter to be used in the CMP.

BRDP-S1-00466: Decide what front matter data modules to be used and their content.

5.113.2.4 Incorporating Service bulletins into the CMP.

BRDP-S1-00468: Decide on the updating frequency for incorporating Service bulletins into the CMP.

5.113.2.5 Inclusion of maintenance planning information in the CMP.

BRDP-S1-00470: Decide whether to include maintenance planning information in the CMP.

5.113.2.6 Inclusion of removal and installation information in the CMP.

BRDP-S1-00471: Decide whether to include removal and installation information in the CMP.

5.113.2.7 Inclusion of test support data in the CMP.

BRDP-S1-00472: Decide whether to include manufacturer's test support data and, if so, decide the format of the data.

5.114 S1000D Chapter 5.3.3 - Publication - Requirements for land/sea specific publications.

5.114.1 Army content requirements.

This section contains content requirements for the following publications:

- a. Software Users Manuals (SUM) and Software Administrators Manuals (SAM)
- b. General Maintenance Manuals
- c. Technical Bulletins (TBs)

5.114.1.1 Software Users Manuals and Software Administrators Manuals.

This section establishes the technical content requirements for equipment systems with software components requiring specific and detailed user instruction. Software refers to the computer programming provided as part of an equipment system. Software does not refer to the viewing software for an IETP/IETM or the viewing hardware/workstation used to view/use an equipment system. The requirements provided in this section provide the technical content requirements for the preparation of Software Users Manuals (SUMs) and Software Administrators Manuals (SAMs). The requirements provided in this section provide the technical content requirements for the preparation of Software Users Manuals (SUM) and Software Administrators Manuals (SAM).

5.114.1.1.1 Definitions.

In addition to the definitions in [3](#), the definitions below apply to this section.

TABLE LXIX. Definitions.

Term	Definition
Software	Software refers to the computer programming provided as part of a weapon system. In this section, software does not refer to the viewing software for an IETP/IETM. It does not include the viewing hardware/workstation used to view/use the weapon system software.
Software administrator	A person who has administrative rights and can make changes to software configurations and/or changes to code.
Software Users Manual (SUM)	A SUM is a manual that contains information and procedures for the user of the software. The user usually does not have administrator rights and cannot make changes to the software code.
Software Administrators Manual (SAM)	A SAM provides information and procedures to the individuals who have the responsibilities and administrator rights to make changes to the software code, do repairs, updates, patches, etc.
Supervisor	User of software that has special privileges above and beyond a regular user but is not an administrator.

5.114.1.1.2 Hardware related procedures.

Hardware related procedures in SUM/SAM manuals shall be restricted to powerup/startup procedures required to get to the software and to explanation/use of hardware buttons/controls that affect the software operation. Reference shall be made to the hardware manual for any other hardware related procedures. If such a manual does not exist or is not authorized to the user, contact your Equipment Publications Control Office (EPCO) office to discuss how to handle documenting required hardware-related information.

5.114.1.1.3 Use of graphics in software content.

Graphics in software content shall be used to show various screen displays to enhance users' understanding of concepts and procedures. Graphics shall not be overused in software operation, troubleshooting, and maintenance data modules. Overuse results in excessive content length and informational redundancy. For example, multiple graphics showing the same screen with different buttons, toggles etc. called out while performing a software operation shall not be used; callouts shall all appear in one graphic provided all elements of the screen are still easily viewable. Software description data modules may require greater use of similar graphics; however, attempts shall still be made to minimize graphical overuse. Contact the EPCO if unsure about graphic use.

5.114.1.1.4 Software information development format options.

There are three format options available for the development of software information (listed below). Frequency of changes to software versus hardware, volume of software information, and degree of integration of software and hardware, etc. should be considered when deciding whether or not to combine software information within the hardware operator and/or maintenance manuals. If a TM is a software-only TM, options 2 or 3 below are the only available choices. The option chosen for an equipment system shall be specified by the MATDEV. Any procedures requiring administrative privileges to perform shall be put in a SAM and shall not be put in a SUM.

- a. Software information may be included as a section in an equipment system TM ([5.114.1.1.4.1](#))
- b. SUMS and SAMs may be developed as separate manuals for each system ([5.114.1.1.4.2](#))
- c. SUMS and SAMS may be combined together as one manual ([5.114.1.1.4.3](#))

5.114.1.1.4.1 Software information included in an equipment system TM.

When specified by the MATDEV, a SUM and/or SAM shall be included in an equipment system TM module. Content shall be limited to information and procedures related to the software; however, this content can be referenced from (and reference out to) other data in the equipment system TM. See detailed TM requirements in [5.114.1.1.5.1](#).

5.114.1.1.4.2 SUMS and SAMS developed as separate manuals.

When specified by the MATDEV, a SUM and/or SAM shall be prepared. Content shall be limited to information/procedures related to the software. The differentiation between an administrator manual and a combined user and administrator manual shall be made in the publication title. See detailed TM requirements in [5.114.1.1.5.2](#).

5.114.1.1.4.3 SUMS and SAMS combined in one manual.

When specified by the MATDEV, a combined SUM and SAM manual shall be prepared. The differentiation between an administrator manual and a combined user and administrator manual shall be made in the publication title. See detailed TM requirements in [5.114.1.1.5.2](#).

5.114.1.1.5 Development of Software Information.

The following content shall be developed for software information included in an equipment system TM ([5.114.1.1.5.1](#)) and standalone software TMs ([5.114.1.1.5.2](#)).

5.114.1.1.5.1 Development of software content included in an equipment system TM.

As stated in [5.114.1.1.4.1](#), when specified by the MATDEV, a SUM and/or SAM shall be included in an equipment system TM as a software information. All other content in an equipment TM shall be developed in accordance with [APPENDIX A](#) in this standard.

5.114.1.1.5.1.1 Software information in an equipment system TM.

Software information in an equipment system TM shall be provided. It shall consist of the following:

- a. Software general information ([5.114.1.1.6.1](#)).
- b. Software summary ([5.114.1.1.6.2](#)).¹
- c. Software effectivity ([5.114.1.1.6.3](#)) (Revisions only).¹
- d. Differences between versions ([5.114.1.1.6.4](#)) (Revisions only).¹
- e. Features and capabilities ().
- f. Functional display ().
- g. Security and privacy procedures ().
- h. Supervisory controls ().
- i. Power up and access software procedures ().
- j. Software operator procedures ().
- k. Power down and exit software procedures ().
- l. Messages () (Required for SAM only).
- m. Recovery from errors, malfunctions, and emergencies ().

5.114.1.1.5.2 Development of software modules for standalone software TMs (SUMs, SAMs, and SUM/SAMs).

As stated in sections [5.114.1.1.4.2](#) and [5.114.1.1.4.3](#), when specified by the MATDEV, a standalone SUM a standalone SAM a combined SUM/SAM manual shall be prepared. Sections through outline requirements for these publication types.

5.114.1.1.5.2.1 Software general information.

A software general information data module shall be provided. It shall consist of the following:

- a. Software general information ([5.114.1.1.6.1](#)).
- b. Software summary ([5.114.1.1.6.2](#)).
- c. Software effectivity ([5.114.1.1.6.3](#)) (Revisions only).

1. Optionally consolidate into a single data module with "Software effectivity" and "Differences between versions."

- d. Differences between versions ([5.114.1.1.6.4](#)) (Revisions only).

5.114.1.1.5.2.2 Software description and data.

Software description and data shall be provided. It shall consist of the following:

- a. Features and capabilities ().
- b. Functional display ().

5.114.1.1.5.2.3 Software operator instructions.

The software operating instructions shall be prepared and shall contain, the following in the order provided, as applicable:

- a. Security and privacy procedures ().
- b. Supervisory controls ().
- c. Power up and access software procedures ().
- d. Software operator procedures ().
- e. Power down and exit software procedures ().

5.114.1.1.5.2.4 Software troubleshooting.

This content shall be prepared and shall contain the following in the order provided, as applicable:

- a. Introduction () (Required).
- b. Troubleshooting index () (Required for SAM only).
- c. Messages () (Required for SAM only).
- d. Recovery from errors, malfunctions, and emergencies ().
- e. Troubleshooting ().
- f. Additional troubleshooting as needed.

5.114.1.1.5.2.5 Software maintenance.

This content shall be prepared in accordance with [5.114.1.1.6.8](#).

5.114.1.1.5.2.6 Software destruction to prevent enemy use.

This data module shall be prepared in accordance with [5.114.1.1.6.9](#).

5.114.1.1.5.2.7 Supporting information (Required).

The supporting information shall be prepared and shall contain the following in the order provided, as applicable:

- a. References () (Required).
- b. Introduction for two-level maintenance allocation chart ().
- c. Maintenance allocation chart ().
- d. Basic issue items () (Required).
- e. Additional authorization list ().
- f. Expendable and durable items list ().

- g. Additional supporting information ().

5.114.1.1.6 Development of Software Information.

The following types of software information shall be developed as applicable.

5.114.1.1.6.1 Software general information.

Data Module Type: Descriptive

Information Code: 010B

A software general information data module shall be prepared and shall contain the following information in the order presented and as applicable. This data module provides an explanation of the scope and functionality of the software as well as its features and capabilities. This data module shall not contain specific software operation procedures.

- a. Scope ([5.89.1.4.2](#)) is required and shall contain purpose of the software.
- b. Maintenance forms, records, and reports is required ([5.89.1.5.2](#)).
- c. Software improvement recommendations is required ([5.89.1.5.3](#)). This paragraph shall provide the software user/administrator with instructions for submitting recommendations for improvements related to the software.
- d. System overview is required and shall contain a description of the software and describe its capabilities. More detailed information shall be provided in the features and capabilities described in .
- e. Document overview is optional. This paragraph may contain brief introduction to the kinds of software data modules included from a high-level viewpoint. This section shall also reference any additionally available documentation for the software. If this section is not included, reference additional software in the system overview section.
- f. Warranty information included as applicable. Any warranty information related to the software shall be provided in this paragraph. Hardware related warranty information shall not be included here unless it also applies to the software.
- g. Destruction of Army software to prevent enemy use is required ([5.89.1.4.4](#)).
- h. Nomenclature cross reference list ([5.89.1.4.7](#)) included as applicable. If included, this list shall only contain nomenclature related to the software. Hardware nomenclature shall be contained in the operator and/or maintenance manuals for the hardware.
- i. List of abbreviations shall be included. For equipment system TMs containing a software information module, this section shall contain a list of the software-related abbreviations and acronyms used within the data. For stand-alone SUMs/SAMs, this section shall contain a list of all abbreviation/acronyms in the TM.
- j. Copyright credit line may be included for stand-alone SUMs/SAMs only as needed. TMs should not contain copyrighted material except as specified in the Federal Acquisition Regulations and Defense Federal Acquisition Regulation Supplement. When copyrighted material is included in a TM, the TM author shall obtain prior written permission from the copyright owner or authorized agent for its use. The written permission shall contain a statement declaring whether or not a copyright credit line is required. When a copyright credit line is required, the information shall appear as the last paragraph of the general information.
- k. Endorsement notice may be included as applicable. If included, this section shall state that the Army is not endorsing specific software regardless of software type specificity in text or graphic representations of software screens.

5.114.1.1.6.2 Software summary.

Data Module Type: Descriptive

Information Code: PD²

A software summary data module shall contain the following information in the order presented and as applicable. This data module provides a description of software environment(s) as well as security and privacy measures and supervisor controls. This data module shall not contain specific software operation procedures.

- a. Software application is required for this data module and shall contain a description of how the software applies at various levels of command. Additionally, this section shall describe how the software applies to different organizations/activities and military units (System Battalion, Brigade, Squadron, etc.).
- b. Software inventory is required for this data module and shall contain a list/description of the software components provided.
- c. Software environment is optional for SUMs and required for SAMs. This paragraph shall contain information about software run environments such as the operating system, the database system, specific developmental tools, or compiler. Any relevant environment requirements shall also be included.
- d. Security and privacy is required for this data module and shall contain a brief description of the security and privacy measures provided with the software.

Note

Detailed security and privacy procedures shall be provided in the operating procedures.

- e. Supervisory controls shall be included as needed and contain a brief description of any supervisory controls provided with the software.

5.114.1.1.6.3 Software effectivity (Revisions only).

Data Module Type: Descriptive

Information Code: PD²

A software effectivity data module shall be prepared as needed for revisions and shall contain information for all software versions available on a system. This data module shall not contain specific software operation procedures. This data module shall contain the following information.

- a. Software effectivity information shall contain software version details. More specifically, when multiple software versions are included a SUM or SAM, this data module shall identify operating systems relevant to each software version.

5.114.1.1.6.4 Differences between versions (Revisions only).

Data Module Type: Descriptive

Information Code: PD²

A software differences data module shall be prepared as needed for revisions and shall contain information about the differences between software versions available on a system. This data module shall not contain specific software operation procedures. This data module shall contain the following information.

- a. Differences between software versions information) shall contain software version details. More specifically, this data module shall be included when more than one version of the software must be covered in a SUM or SAM. If more than 25 percent of the SUM/SAM data are affected by the differences between versions, applicability shall be used or a separate TM shall be developed.

2. Use of IC/V C15A, if consolidated in a single data module with other content as allowed.

5.114.1.1.6.5 Software description.

Data Module Type: Descriptive

Information Code: 033C

The software description data module shall be prepared as needed and shall contain the following information as applicable.

- a. Features and capabilities.
- b. Functional display.

5.114.1.1.6.5.1 Features and capabilities.

The software features and capabilities content shall be prepared as needed and shall contain information about the features and capabilities of the software. This content shall not contain specific software operation procedures. Features and capabilities shall not only include descriptions of the features and capabilities of the software and shall but also provide general information for how to use these features and/or capabilities. This content shall be used for features/capabilities other than those covered in other data modules (for example, key commands, security, etc.).

5.114.1.1.6.5.2 Functional display.

This data module shall be prepared and shall contain any descriptive (non-procedural) data a user may need to be familiar with and understand in order to navigate through the software during software procedures. The purpose of this data module is to provide a writer the freedom to develop data modules for simple or complex software and provide context and familiarity with screens, menus, and buttons, etc. This data module shall not contain specific software operation procedures. TMs may contain multiple functional display data modules as needed.

5.114.1.1.6.5.2.1 Screen displays.

This content may be prepared as needed in a functional display discussed in . Screen display text may contain information about and descriptions of the screens that display to the user/administrator while using the software. This text shall not contain specific software operation procedures.

5.114.1.1.6.5.2.2 Menus and directories information.

This content may be prepared as needed in a functional display as discussed in . Menus and directories text may contain descriptions of the menus and directory structure for the software. This text may also contain general information for how to use the menus/submenus, file structure, and file management tools, etc. This text shall not contain specific software operation procedures.

5.114.1.1.6.5.2.3 Tools and buttons information.

This content may be prepared as needed in a functional display as discussed in . Tools and buttons text may contain descriptions of buttons, tools, and/or toolbars provided by the software including general descriptive information for accessing these buttons and tools/toolbars. As applicable, this section may also contain general descriptive information for accessing hardware buttons/controls that are used in the operation of the software. This text shall not contain specific software operation procedures.

5.114.1.1.6.6 Software operator instructions.

Software operator instructions shall appear in either a software data module within an equipment TM or a standalone SUM/SAM.

5.114.1.1.6.6.1 Security and privacy procedures.

Data Module Type: Procedural

Information Code: C73A

A software security and privacy procedures data module shall be prepared as needed and shall contain procedures for the security and privacy features of the software. Security and privacy procedures shall include tasks such as setting passwords, changing passwords, setting file access restrictions, and account management (for example, setting up new accounts and removing accounts, etc.).

5.114.1.1.6.6.2 Supervisory controls.

Data Module Type: Procedural

Information Code: C20A

A software supervisory controls data module shall be prepared as needed and shall contain information about controls only a supervisor/administrator would use that are available within the software. Supervisor controls procedures shall include tasks for how to use supervisory controls (for example, setting the controls, turning the controls on/off, etc.).

5.114.1.1.6.6.3 Power up and access software procedures.

Data Module Type: Procedural

Information Code: 131U

This software data module shall be prepared as needed and shall contain information about procedures for powering or starting up viewing equipment that enables access to the software. This data module shall also contain procedures for accessing or logging onto software. Power up procedures shall include tasks for how to power up a viewing station. Access procedures shall include tasks for how to access a software application.

5.114.1.1.6.6.4 Software operator procedures.

Data Module Type: Procedural

Information Code: 100A

A software operator procedures data module shall include operational procedures for using the software as intended by the MATDEV. Information provided in this data module and the way data is presented (order of operations) shall vary from equipment system to equipment system. thru present some possible software concepts that may be included in a TM; however, this content is not limited to these topics and all software operator procedural content may be included as needed. A TM may contain one or more software operator procedure data modules. These data modules shall be developed to ensure clear and useful transmission of important software operations concepts and procedures. This data module shall contain the following information in the order presented and as applicable.

- a. Key commands is optional for this data module.
- b. User interface is optional for this data module.
- c. Software operating conventions is optional for this data module.

5.114.1.1.6.6.4.1 Key commands.

Software key command procedure(s) may contain descriptions for any relevant software key commands as well as steps for how to use key commands contained in the software. Key commands may include tasks for running any processes and/or executing any commands contained in the software (for example, any common processes the software typically runs and any unique sequence or combination of keystrokes to which the software responds).

5.114.1.1.6.6.4.2 User interface.

Software user interface procedure(s) may contain descriptions for any interfaces of the software as well as methods for the user to interact with a computer system using the software. Details how a user can control a computer system using software may be included (for example, input controls as well as navigational and informational components of the software).

5.114.1.1.6.6.4.3 Software operating conventions.

Software operating conventions procedure(s) may contain descriptions for any operating conventions that are unique to the software as well as tasks for degraded operation, operation during unit movement, and any other software-related tasks in all modes of unit operation.

5.114.1.1.6.6.5 Power down and exit software procedures.

Data Module Type: Procedural

Information Code: 131V

This software data module shall be prepared as needed and shall contain information about procedures for powering down viewing equipment that enables access to the software. This data module shall also contain procedures for logging off software. This data module shall contain the following information in the order presented and as applicable.

- a. Power down procedures shall include tasks for how to power down a viewing station.
- b. Exit procedures shall include tasks for how to exit a software application.

5.114.1.1.6.7 Software troubleshooting procedures.

Software troubleshooting shall include data modules covered in through as needed.

5.114.1.1.6.7.1 Troubleshooting introduction (Required for SUM/SAM and SAM only).

This data modules shall be prepared in accordance with [5.91.1.25](#).

5.114.1.1.6.7.2 Troubleshooting index (Required for SAM only).

This data modules shall be prepared in accordance with [5.91.1.27](#).

5.114.1.1.6.7.3 Messages (Required for SAM only).

Data Module Type: Descriptive

Information Code: 410A

This software message data module shall be prepared as needed and shall describe possible error messages the user is likely to encounter. This data module provides the user with a centralized area to research error messages and their meanings. When possible, ensure this data module contains references to relevant troubleshooting and maintenance data modules to provide user context for when these screens would appear. Messages shall include the wording for error messages and explanations of message meanings. Error messages may also be repeated in the troubleshooting index data module to refer the user to the troubleshooting and/or correction action needed for an error message.

5.114.1.1.6.7.4 Recovery from errors, malfunctions, and emergencies.

Data Module Type: Procedural

Information Code: 134B

This software data module shall be prepared as needed and shall provide procedures for recovering from errors, correcting malfunctions, and handling emergencies. Recovery from errors, malfunctions, and emergencies procedures shall include any steps to correct any software malfunctions or handle any emergencies using the software.

5.114.1.1.6.7.5 Troubleshooting.

This data module shall be prepared in accordance with [5.91.1.31](#). As applicable, these data modules shall contain any information/procedures needed to cover interfaces between software troubleshooting and hardware troubleshooting.

5.114.1.1.6.8 Software maintenance (Optional for SUM and Required for SAM).

This data module shall be prepared in accordance with [5.90.1.4](#).

5.114.1.1.6.8.1 Software PMCS.

Software PMCS data shall be prepared for equipment systems as necessary. This data may appear in equipment TMs that include a software module as well as standalone SUMs/SAMs. For equipment TMs that include a software data module, software PMCS data shall be included with regular PMCS information for the larger equipment system. Software PMCS data may be integrated into the PMCS data for other equipment components; or conversely, software PMCS may compose its own data module. For standalone SUM/SAMs, software PMCS data, if required, shall be included and conform to requirements shown in the matrices in [APPENDIX A](#).

5.114.1.1.6.9 Software destruction to prevent enemy use.

This content shall be prepared in accordance with [5.98.1.3](#).

5.114.1.1.6.10 Supporting information (Required).

Software supporting information shall include the following, as needed.

5.114.1.1.6.10.1 References (Required).

References for the SUM or SAM information shall be included. This content shall be prepared in accordance with [5.103.1.1](#).

5.114.1.1.6.10.2 Introduction for two-level maintenance allocation chart.

This content shall be prepared for software only systems and shall be prepared in accordance with [5.103.1.1](#).

5.114.1.1.6.10.3 Maintenance allocation chart (MAC).

This content shall be prepared for software only systems and shall be prepared in accordance with [5.103.1.1](#).

5.114.1.1.6.10.4 Software basic issue items (BII) lists (Required).

This data module shall be prepared and shall contain the introduction below verbatim.

NOTE

Software-only programs may alter boilerplate as needed. Contact EPCO to discuss appropriate boilerplate alterations.

"BASIC ISSUE ITEMS (BII) LIST**INTRODUCTION****Scope**

This data module lists BII for the *insert the end item name* to help you inventory items for safe and efficient operation of the equipment.

General

Basic Issue Items (BII). These essential items are required to place the *enter name of the software* in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the (*enter name of end item*) during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the Table of Organization and Equipment/Modified Table of Organization and Equipment (TOE/MTOE). Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the BII List

Select method A text.

"Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) Description, Part Number/Commercial and Government Entity Code (CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. When applicable, the stowage location of BII is also included in this column. The last line below the description is the CAGEC (in parentheses) and the part number.

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (*Add the following only as applicable. Replace As, Bs, or Cs with appropriate codes and model numbers.*) These codes are identified below:

Code Used on

AA Model XXX

BB Model XXXX

CC Model XXXXX

Add if applicable: Model XXX uses BII items (insert item numbers), Model XXXX uses BII items (insert item numbers), and Model XXXXX uses BII items (insert item numbers).

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

OR

Select method B text.

"Column (1) Item Number. Gives you the reference number of the item listed.

Column (2) National Stock Number (NSN) and Illustration. Identifies the stock number of the item to be used for requisitioning purposes and provides an illustration of the item.

Column (3) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. When applicable, the stowage location of BII is also included in this column. The last line below the description is the CAGEC (Commercial and Government Entity Code) (in parentheses) and the part number.

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. (*Add the following only as applicable. Replace As, Bs, or Cs with appropriate codes and model numbers.*) These codes are identified below:

Code Used on

AA Model XXX

BB Model XXXX

CC Model XXXXX

Add if applicable: Model XXX uses BII items (*insert item numbers*), Model XXXX uses BII items (*insert item numbers*), and Model XXXXX use BII items (*insert item numbers*).

Column (5) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required."

This list shall be prepared in accordance with [5.103.1.1](#) and shall contain as a minimum the SUM and SAM. This list shall follow the introduction. This list shall also include any other software related BII items. This list shall not be a duplication of the BII contained in the hardware operator manual and it shall not include any hardware related BII items. If applicable, the software shall be listed in the BII. Instructions for how to obtain the software/disc shall be included.

5.114.1.1.6.10.5 Additional authorization list (AAL).

If applicable, this content may be included in the SUM. When included, this content shall be prepared in accordance with [5.103.1.1](#) and shall include only applicable software related AAL items. This content shall not be a duplication of the AAL contained in the hardware operator manual and it shall not include hardware related AAL items.

5.114.1.1.6.10.6 Expendable and durable items list.

If applicable, this content may be included in the SUM and/or SAM. When included, this content shall be prepared in accordance with [5.103.1.1](#) and shall include only software related expendable items. This content shall not be a duplication of the expendable list from the operator and/or maintenance manuals for the hardware or contain any hardware related expendables.

5.114.1.1.6.10.7 Additional supporting.

This content shall be prepared as required for information not covered in through . This content shall be prepared in accordance with [5.103.1.1](#).

5.114.1.1.6.11 Rear Matter.

Rear matter for SUMs and SAMs shall be prepared in accordance with [5.111.1.3.1](#).

5.114.1.2 General Maintenance Manuals.

The requirements provided in this section provide the technical content requirements for the preparation of General Maintenance Manuals.

5.114.1.2.1 Content and format.

When specified by the acquiring activity, a general maintenance manual shall be prepared. Content shall be limited to information/procedures related to general maintenance. A general maintenance manual shall consist of front matter, general information, maintenance instructions, supporting information, and rear matter if applicable.

5.114.1.2.2 General information.

General information for a general maintenance manual shall be provided. It shall consist of the following:

- a. General information (Required).
- b. Equipment description and data (As required).

5.114.1.2.2.1 General maintenance manual general information.

A general information data module for a general maintenance manual shall be prepared and shall contain the information contained below in the order presented and as applicable.

5.114.1.2.2.1.1 Scope (Required).

Scope shall be as prescribed in [5.89.1.4.2](#).

5.114.1.2.2.1.2 Maintenance forms, records, and reports (Required).

Maintenance forms, records, and reports paragraph shall be as prescribed in [5.89.1.5.2](#).

5.114.1.2.2.1.3 Equipment improvement recommendations (Required).

Equipment improvement recommendations shall be in accordance with [5.89.1.5.3](#).

5.114.1.2.2.1.4 Policy.

As applicable, this paragraph shall contain policy information related to general maintenance.

5.114.1.2.2.1.5 Safety.

As applicable, this paragraph shall contain safety information related to general maintenance.

5.114.1.2.2.1.6 Warranty information.

As applicable, warranty information related to the equipment and/or general maintenance shall be included.

5.114.1.2.2.1.7 Nomenclature cross-reference list.

As applicable, a nomenclature cross-reference list shall be prepared in accordance with [5.89.1.4.7](#). This list shall only contain nomenclature related to general maintenance.

5.114.1.2.2.1.8 List of abbreviations/acronyms (Required).

This paragraph shall contain a list of the general maintenance related abbreviations and acronyms used within the general maintenance manual.

5.114.1.2.2.2 Equipment description and data.

As applicable, an equipment description and data information data module may be included and shall be prepared in accordance with [5.89.1.6](#).

5.114.1.2.3 Maintenance (Required).

A general maintenance manual shall contain one or more maintenance sections. These sections shall contain maintenance procedures data modules and/or general maintenance data modules.

5.114.1.2.4 Supporting information (Required).

Supporting information shall be prepared and shall contain the following in the order provided as applicable:

- a. References (Required).
- b. Expendable and durable items list.
- c. Additional supporting information.

5.114.1.2.4.1 References (Required).

References for the general maintenance manual shall be included. This data module shall be prepared in accordance with [5.103.1.1.2](#).

5.114.1.2.4.2 Expendable and durable items list.

Expendable and durable items required for general maintenance shall be included. This data module shall be prepared in accordance with [5.93.1.20](#).

5.114.1.2.4.3 Additional supporting information.

This data module shall be prepared as required for information not covered in [5.114.1.2.4.1](#) through [5.114.1.2.4.2](#). This data module shall be prepared in accordance with [5.103.1.1.4](#).

5.114.1.3 Technical Bulletins (TBs).

The requirements provided in this section provide the technical content requirements for the preparation of Technical Bulletins (TBs) other than warranty TBs, medical TBs, or calibration TBs.

5.114.1.3.1 Definitions.

In addition to the definitions in [3](#) of this standard, the following definition applies to this appendix:

5.114.1.3.1.1 Technical Bulletin (TB).

A document used to provide supplementary information to the technical manuals. TBs may contain such things as maintenance expenditure limits, equipment improvement recommendation material, functional group code information, general information, procedures for kit installation or special mission changes to materiel, warranty information, schematics/diagrams to supplement an IETM, ammunition information, etc. Technical bulletins do not contain

operator or maintenance instructions, are not used for quick reference guides or other similarly named publications, are not used in lieu of operator/maintenance manuals or to change them, and do not contain parts information.

5.114.1.3.2 Content and format.

When specified by the acquiring activity, a TB shall be prepared. Content of TBs prepared shall be limited to information/procedures related to maintenance expenditure limits, equipment improvement recommendation material, functional group code information, general information, procedures for kit installation or special mission changes to materiel, information, schematics/diagrams to supplement an IETM, ammunition information, etc. A TB shall consist of front matter, general information, maintenance procedures (optional) and/or supporting information (optional), and rear matter, if applicable.

5.114.1.3.3 General information.

General information for a technical bulletin shall be provided. It shall consist of the following:

- a. General information (Required).
- b. Equipment description and data (As required).

5.114.1.3.3.1 General information.

A general information data module shall be prepared and shall be prepared in accordance with [5.89](#).

5.114.1.3.3.2 Equipment description and data.

As applicable and as specified by the acquiring activity, an equipment description and data information data module may be included in the TB. If included, the data module shall be prepared in accordance with [5.89.1.6](#).

5.114.1.3.4 Maintenance.

Maintenance content may be prepared and may contain the following as applicable:

- a. Maintenance. A TB may contain maintenance data modules limited to the following tasks: "remove" and "install" (for kits), "inspect," "pack," "unpack," "load," "unload," "preparation for shipment," and "transport."
- b. Wiring diagrams. For a TB containing schematic diagrams for IETMs, it may contain wiring diagram(s).
- c. Additional maintenance. This data module shall be used for general supplementary information that does not fit in the above.

5.114.1.3.5 Supporting information.

Supporting information may be prepared and may contain the following in the order provided as applicable:

- a. References.
- b. Expendable and durable items list.
- c. Supporting information.

5.114.1.3.5.1 References.

As specified by the acquiring activity, references for the TB shall be included. This data module shall be prepared in accordance with [5.103.1.1.2](#).

5.114.1.3.5.2 Expendable and durable items list.

As specified by the acquiring activity, expendable and durable items required for the TB shall be included. This data module shall be prepared in accordance with [5.93.1.20](#).

5.114.1.3.5.3 Supporting information.

The TB may contain one or more supporting information data modules for supplementary information needed in the TB as specified by the acquiring activity. These data modules shall be prepared in accordance with [5.103.1.1.4](#).

5.115 S1000D Chapter 6.2 - Information presentation/use - Page-oriented publications.**5.115.1 Army business rules.****5.115.1.1 Use of the S1000D standard page-oriented presentation chapters.**

The requirements and guidance of the S1000D Chapter 6.2, Chapter 6.2.1, and Chapter 6.2.2 as augmented by these business rules shall be mandatory. (BR-ARMY-00296)

5.115.2 Project decisions.**5.115.2.1 Use of the S1000D standard page-oriented presentation chapters..**

BRDP-S1-00473: Decide whether to use the S1000D standard page-oriented presentation given in Chap 6.2.2 and Chap 6.2.3 or to use any other rules for presentation to meet specific project or organization requirements. The business rules must specify the information needed to contract the desired presentation.

5.116 S1000D Chapter 6.2.1 - Information presentation/use - Page layout, paper publications, headers and footers.**5.116.1 Army business rules.****5.116.1.1 Page size.**

Technical manual page sizes shall be selected from the following list:

- a. Standard page size shall be 11 inches by 8 ½ inches. The usable area shall be 10 inches by 7 inches. In addition to standard manuals, the following shall also use the standard page size:
 - (1) Operator's technical manual
 - (2) Alternate operator's Maintenance Test Flight (MTF) manual
 - (3) Alternate operator's checklist
- b. Double standard page size shall be 17 inches by 11 inches. The usable area shall be 15 ¾ inches by 9 inches.

- c. Logbook page size shall be 9 ½ inches by 6 ½ inches. The usable area shall be 8 ½ inches by 5 ½ inches.
- d. Pocket page size shall be 5 ½ inches by 4 inches. The usable area shall be 5 inches by 3 1/8 inches.
- e. The standard operator's checklist and standard operator's MTF manual page size shall be 4 ½ inches wide by 8 inches in length. Usable area: 3 ½ x 7 ½. (BR-ARMY-00297)

5.116.1.2 Text position.

Text shall be positioned above and below the illustration, and not on the illustration's left or right side. (BR-ARMY-00298)

5.116.1.3 Pocket-size manuals.

Text for pocket-size manuals shall be on the right-hand pages with supporting illustration on the facing left-hand pages. (BR-ARMY-00299)

5.116.1.4 Emergency procedures.

The checklist pages that contain emergency procedure information/steps shall have heavy black diagonal lines around three edges. However, for operator's alternate checklists, page borders for emergency procedures shall be placed in the left and right margins only, instead of on three side of the page. (BR-ARMY-00300)

5.116.1.5 Presentation of inwork markings.

BRDP-S1-00477: Decide whether to present the inwork markings. The details must be documented.

When a data module in the stage of "in-work" is presented as a paper copy or PDF file, the planned issue number and the time of printing shall be included on each page. (BR-ARMY-00301)

5.116.1.6 Presentation of "Produced by" - "Printed in".

BRDP-S1-00478: Decide whether to present the responsible producer of the page-oriented output and/or where the publication was printed.

The S1000D option for printing the identity of the organization responsible for producing the page-oriented output on each page shall not be allowed. (JS-063)

5.116.1.7 Page orientation.

Orientation of pages, either vertical (portrait) or horizontal (landscape) shall be consistent throughout a given manual except where exceptions are allowed elsewhere by these business rules. (BR-ARMY-00302)

5.116.1.8 Page placement.

Headers and footers shall be placed outside the area of the page used for text, full-page tabular data, or fullpage illustrations, but within the printing area dimensions of the page. (BR-ARMY-00303)

5.116.1.9 Margin data.

Margin data (usually headers and footers) shall be placed outside the area of the page used for either text, full-page tabular data, or full-page illustrations, but within the printing area dimensions of the page. Complete headers shall be prepared for all pages except for DA Form 2028, back cover, and pocket-sized TMs (where the publication numbers shall only be on the front cover and back cover along with the PIN). Complete footers shall be prepared for all publication pages except front and back covers, authentication pages, and DA Form 2028. (BR-ARMY-00304)

5.116.1.10 Use of mirrored headers and footers.

BRDP-S1-00474: Decide whether to use mirrored headers and footers.

Mirrored headers and footers shall not be used. (BR-ARMY-00305)

5.116.1.11 Presentation of publication module code.

BRDP-S1-00479: Decide whether to use the S1000D standard page-oriented presentation rules for the publication module code or to create project or organization specific rules for its positioning and style within the header.

The project shall use the S1000D standard page-oriented presentation rules for the publication module code (BR-ARMY-00306)

5.116.1.12 Presentation of data module code.

BRDP-S1-00480: Decide whether to use the S1000D standard page-oriented presentation rules for the data module code or to create project or organization specific rules for its positioning and style within the footer.

The project shall use the S1000D standard page-oriented presentation rules for the data module code. (BR-ARMY-00307)

5.116.1.13 Presentation of issue date.

BRDP-S1-00481: Decide whether to use S1000D standard page-oriented presentation rules for the issue date or to create project or organization specific rules for its positioning in the bottom of the footer.

The project shall use the S1000D standard page-oriented presentation rules for the issue date. (BR-ARMY-00308)

5.116.1.14 Issue date.

The Issue date in the page footer shall be the publication date for the entire manual. This Issue date shall be updated when the entire manual is revised. (BR-ARMY-00309)

5.116.1.15 Presentation of page number.

BRDP-S1-00482: Decide whether to use the S1000D standard page-oriented presentation rules for the page number or to create project or organization specific rules for its positioning in the footer.

The project shall use the S1000D standard page-oriented presentation rules for the page number. (BR-ARMY-00310)

5.116.1.16 Blank pages, general.

Blank pages normally require no copy. However, if the reverse side of a blank page contains classified material, security markings for the blank page shall be bold and at the top and bottom center of the blank page. The blank page shall reflect the highest classification of the reverse side, and include the statement "This page is unclassified." (BR-ARMY-00311)

5.116.1.17 Blank pages, numbering.

A blank page shall be assigned a number, but it shall appear on the preceding or following page. (BR-ARMY-00312)

5.116.1.18 Use of page numbers.

Page numbers shall be published as follows:

- a. Each data module shall initially be assigned a four digit data module sequence number beginning with the number 0001. The data module sequence numbers shall run consecutively throughout the manual.
- b. Pages shall be numbered with the data module-sequence number followed by a page number beginning at 1 separated by a hyphen. For example, "0021-4" is the 4th page in the 21st data module in a manual.
- c. If a data module needs to be inserted between two existing data modules, the new data module-sequence number is increased by a decimal number. For example if a data module is added between the 21st and 22nd data modules, its number will be 0021.1. When a manual is revised, data modules shall be renumbered so that there are no decimal sequence numbers. (BR-ARMY-00313)

5.116.1.19 Front and rear matter page numbering.

Front matter and rear matter data modules shall be numbered consistently with the rest of the manual. Neither alphabetic nor roman numerals shall be used. (BR-ARMY-00314)

5.116.1.20 Page numbering of foldout pages.

BRDP-S1-00483: Decide whether to use double numbering of pages when printed on one (right-hand) side only (eg, 11/12, 13/14).

Foldout page numbers shall be numbered consecutively using Arabic numbers prefixed by the letters "FP." The reverse side of foldout pages shall be blank and each foldout page number shall include a blank page notation. (BR-ARMY-00315)

5.116.1.21 Presentation of applicability annotation.

BRDP-S1-00484: Decide whether to use the S1000D standard page-oriented presentation rules for the applicability annotation or to create project or organization specific rules for the presentation.

The project shall use the S1000D standard page-oriented presentation rules for the applicability annotation. (BR-ARMY-00016)

5.116.1.22 Classification.

The overall security classification assigned to a manual shall agree with the highest security classification assigned to any data module within, and shall be marked accordingly at the top and bottom of the front cover, title block page,

and rear cover sheets. The security classification markings for every page, including those for unclassified pages, shall be bold and at the top and bottom center of each page. (BR-ARMY-00317)

5.116.1.23 Presentation of security markings.

BRDP-S1-00485: Decide whether to present the security markings in sentence case instead of in uppercase.

Classification markings are not required at the top and bottom of pages in an unclassified manual. (BR-ARMY-00318)

5.116.1.24 Presentation of commercial classification and/or caveat as security markings.

BRDP-S1-00486: Decide whether to use the commercial classification (value of attribute **commercialClassification**) and/or national caveat (value of attribute **caveat**) as an alternative to the security classification (value of the attribute **securityClassification**).

Neither commercial classification nor national caveat shall be used as an alternative to security classification. (JS-093)

5.116.1.25 Presentation of the element <logo>.

BRDP-S1-00489: Decide whether to present any of the logotypes given in the element **<logo>** and how this element is presented (eg, size, color).

Manufacturer's, project's, or sponsor's logotype shall not be included in the header. (BR-ARMY-00320)

5.116.1.26 Presentation of "End of data module" statement.

BRDP-S1-00490: Decide on the text that will be used to identify the end of a data module, either "End of data module" or "End of" followed by the data module title.

The words "End of [*data module title*]" shall be placed at the end of every data module. (BR-ARMY-00321)

5.116.1.27 Placement of the end of data module statement.

BRDP-S1-00491: Decide whether to present the "End of" statement in the footer or in the body of the page.

The words "End of [*data module title*]" shall be placed in the body of the page. (BR-ARMY-00534)

5.116.1.28 Use of double column text.

BRDP-S1-00492: Decide whether to use double column text, and under what circumstances. Typography for double column page layout must be documented.

Double column text shall not be used. (BR-ARMY-00535)

5.116.1.29 Double sided printing of foldout pages.

BRDP-S1-00493: Decide whether to use double sided printing on foldout pages.

NOTE

A3L paper in A3L binders are normally printed on both sides.

Double sides printing on foldout pages shall not be used. (BR-ARMY-00536)

5.116.1.30 Foldout size.

Foldout pages, if needed, shall be the same height as regular pages in the standard manual only, and shall be folded 2, 4, or 6 times, depending on the width necessary. (BR-ARMY-00322)

5.116.1.31 Foldout apron.

Each foldout shall have a blank apron wide enough for the user to look at the data while reading text elsewhere in the manual. (BR-ARMY-00323)

5.116.1.32 Foldout use in IPD.

Foldouts shall not be used in IPD or operator-only manuals. (BR-ARMY-00324)

5.116.1.33 Foldout placement.

Foldout pages shall be the last printed material in the manual or volume. It is recommended that foldout figures be authored (tagged) into the DMs they are associated with and produced at the end of the manual or volume by means of the style sheet. This method will enable individual DMs to be reused in both paper and IETP outputs. The reference to the printed foldout can be uniquely styled on the element **<foldout>**. (BR-ARMY-00325)

5.116.2 Project decisions.

5.116.2.1 Page size.

BRDP-S1-00475: Decide which page size to be used (including sizes when foldouts are allowed) per publication.

5.116.2.2 Presentation of foldouts in page-oriented publications.

BRDP-S1-00476: Decide where (eg, interspersed or at the end of the publication) the foldouts must be located in page-oriented publications.

5.116.2.3 Applicability.

BRDP-ARMY-00092: When applicability is used, the project shall determine the use of either applicability codes, or a human readable expression.

5.116.2.4 Presentation of derivative classification markings.

BRDP-S1-00568: Decide whether to use and when to use the derivative classification (value of the **<classificationAction>** elements within the **<classificationActionGroup>** defined by the IDREF in the attribute **derivativeClassificationRefId**).

5.116.2.5 Exclude presentation of security markings for unclassified publications.

BRDP-S1-00487: Decide whether to exclude the presentation of security markings for unclassified publications.

5.116.2.6 Presentation of safety classification.

BRDP-S1-00488: Decide whether to use the S1000D standard page-oriented presentation rules for the safety classification (attribute **safetyLabel** of the element **<productSafety>**) or to create project or organization specific rules for the presentation.

5.117 S1000D Chapter 6.2.2 - Information presentation/use - Typography - Layout elements.

5.117.1 Army business rules.

5.117.1.1 Text.

All text (except where fixed font is required) shall be written in Arial font. (JS-065)

5.117.1.2 Fixed font.

Fixed font, if needed, shall be Courier New. (BR-ARMY-00326)

5.117.1.3 Text color.

Only black print shall be used for operator's checklist manuals. (BR-ARMY-00327)

5.117.1.4 Side heads.

Primary side heads shall divide text within chapters or sections. There shall be at least one primary side head in each chapter or section. Primary side heads shall begin two spaces below the preceding paragraph at the left margin. They shall be followed by a period and are stand alone (are not run in with text). (BR-ARMY-00328)

5.117.1.5 Present the prefix "Table" in the List of tables.

BRDP-S1-00499: Decide whether to present the prefix "Table" before the table number in the List of tables.

The caption "Table" shall not be added before the table number in the list of tables. (JS-117)

5.117.1.6 Present the prefix "Fig" in the List of figures.

BRDP-S1-00501: Decide whether to present the prefix "Fig" before the figure number in the List of figures.

The caption "Fig." shall not be added before the figure number in the list of illustrations. (JS-118)

5.117.1.7 Presentation of the document title.

BRDP-S1-00496: Decide whether to present the document title as a Centerhead No. 1 and a Centerhead No. 2 or as a Centerhead No. 1 only (including both element **<techName>** and element **<infoName>**).

The data module title shall be derived from the element <techName> and the element <infoName> separated by a hyphen [-] surrounded by blanks. They shall be presented together as centerhead No. 1. (JS-067)

5.117.1.8 Presentation of paragraphs of text.

BRDP-S1-00505: Decide whether to use the recommended presentation rules for type size, spacing and justification.

Text shall be left margin justified, with ragged (unjustified) right-hand edge. (JS-066)

5.117.1.9 Primary paragraphs.

Primary paragraph titles shall be capital case, and bold. Block text shall start on a separate line and shall have a blank line between title and text block. (BR-ARMY-00329)

5.117.1.10 Subparagraphs.

Subparagraph shall be presented in accordance with S1000D with the exception of Sidehead 4 which shall be bold (not Roman), and Sidehead 5 which shall be bold (and not italic). (BR-ARMY-00330)

5.117.1.11 Text wrap.

Lines of text should wrap, so that no line extends beyond the limits of the data pane or right margin, including when resized. Lines should be broken only between individual words or within a word when that word is explicitly hyphenated. (BR-ARMY-00331)

5.117.1.12 Paragraph titles.

Paragraphs and subparagraphs shall have titles. The title shall begin at the left margin. Multiple blocks of text under a title are allowed. (BR-ARMY-00332)

5.117.1.13 Paragraph spanning two pages.

When a paragraph is continued on subsequent pages, the first level paragraph title shall be placed at the top of those pages (e.g., REMOVAL - Cont). (BR-ARMY-00333)

5.117.1.14 Step numbering.

Procedural steps shall be used to present detailed step-by-step instructions for performing an operational or maintenance task. Subordinate steps may be used to further breakdown the step. When required, procedural steps shall be divided into no more than six levels. The following demonstrates, by example, how procedural steps and subordinate step levels shall be formatted and numbered. (BR-ARMY-00515)

5.117.1.15 First level step.

The first level of a procedural step shall be numbered using arabic numbers (e.g., 1, 2, 3, etc.). The numbers shall be flush left. Text shall begin two spaces after the period following the numeral. The text shall be blocked. (BR-ARMY-00516)

5.117.1.16 Second step level.

The second step level shall be numbered with lower case letters (e.g., a, b, c, etc.). The second level of the steps shall be immediately below the text of the first level of the step. The text shall be blocked. If additional second level subordinate step letters are required, use aa., ab., etc., after z. (BR-ARMY-00517)

5.117.1.17 Third step level.

The third level steps shall be numbered using arabic numbers in parentheses (e.g., (1), (2), (3), etc.). The third level steps shall be immediately below the text of the second level steps. The text shall be blocked. (BR-ARMY-00518)

5.117.1.18 Fourth step level.

The fourth level steps shall be numbered using letters in parentheses (e.g., (a), (b), (c), etc.). The fourth level steps shall be immediately below the text of third level steps. The text shall be blocked. If additional fourth level step letters are required, use (aa), (ab), etc., after (z). (BR-ARMY-00519)

5.117.1.19 Fifth step level.

The fifth level steps shall be numbered using underlined arabic numbers (e.g., 1, 2, 3, etc.). The fifth level steps shall be immediately below the text of fourth level steps. The text shall be blocked. (BR-ARMY-00520)

5.117.1.20 Sixth step level.

The sixth level steps shall be numbered using underlined letters (e.g., a, b, c, etc.). Sixth level steps shall be immediately below the text of the fifth level steps. The text shall be blocked. If additional sixth level step letters are required, use aa, ab, etc., after z. (BR-ARMY-00521)

5.117.1.21 Checklists.

All checklist titles shall be left justified and in boldfaced type. The main titles shall not be numbered. Checklist entries shall be listed numerically, in Arabic numbers, in the order they are to be performed and shall be blocked. Checklist entries shall have the first letters of each line of type aligned. Placarded items shall be boldfaced capital letters. If a series of checks continues from a right-hand page to a left-hand page, requiring that the page be turned to continue the procedure, the checklist title shall be repeated at the upper corner of the lefthand page followed by "(Cont.)." (BR-ARMY-00522)

5.117.1.22 Inline footnotes.

Inline footnotes shall not be used. (BR-ARMY-00334)

5.117.1.23 Presentation of footnote numbers.

BRDP-S1-00508: Decide whether to present the footnote markers as superscripted numbers (default) or as numbers presented within parenthesis.

Superscripted numbers shall be used for table footnote markers. Unless numbers would cause confusion, use consecutive superior numbers beginning with 1 for numbering footnotes to tables. The numbering system is by table. Superior lowercase letters, asterisks, or other designations may be used where numbers would cause confusion. Place footnote references at the right of letters, words, or symbols, and at the left of numbers (also at the left of such words

as "None" in columns with numbers). Number references to footnotes across the page from left to right. Separate two or more footnote references occurring together by spaces, not commas. (BR-ARMY-00335)

5.117.1.24 Presentation of table footnotes.

BRDP-S1-00510: Decide whether to present the footnotes on the relevant page, if the table is split over several pages. Refer to Fig 2 and Fig 3.

Table footnotes shall be placed at the bottom of the table or the bottom of the page, whichever is encountered first. Indent all table footnotes five spaces from the left margin of the table and return carryover lines to the left margin of the table. Separate the footnote numbers or other designators. (JS-070)

5.117.1.25 Alignment. Deleted

5.117.1.26 Table titles.

Table titles shall appear above the table. If a table appears on more than one page, the table title shall be presented (above the table) on each page that the table appears. Column headers shall be repeated as the first row on each page that the table appears. (BR-ARMY-00337)

5.117.1.27 Linking.

Tables shall be linked to the appropriate text to allow for display. (BR-ARMY-00338)

5.117.1.28 Column headers.

Table column headers shall be in boldface, uppercase letters. (BR-ARMY-00339)

5.117.1.29 Table borders.

All tables shall have outside horizontal and vertical borders. Table headers shall include a bottom border, as applicable. (BR-ARMY-00340)

5.117.1.30 Table placement.

Tables shall be inserted in the manual on the same page or as soon after the first reference in the text as possible. Full-page tables using a horizontal (landscape) format shall be positioned so that the page shall be rotated 90 degrees clockwise to be read. The table number and title shall be placed at the top of the table. (BR-ARMY-00341)

5.117.1.31 Dense tables.

For dense tables with more than 20 rows of single line text shall have 4 extra points of leading inserted at every 5th line to improve readability. (BR-ARMY-00342)

5.117.1.32 Use of the alternative individual numbering of multi sheet illustrations at presentation numbering.

BRDP-S1-00512: Decide whether to use one of the alternative methods for individual numbering of multi sheet illustrations. The chosen method must be used throughout the project.

When an illustration requires several sheets, identification similar to (Sheet X of Y) shall be added after the title. All sheets of a multi-sheet illustration shall be considered one figure.

All sheets of a multi-sheet illustration shall be considered one figure. Multisheet figures shall be consecutively numbered and the total number of sheets following the title; for example, "Figure 1. Wing Hydraulic Assembly (Sheet 1 of 3)." Remaining sheets shall be numbered in consecutive order, "Figure 1. Wing Hydraulic Assembly (Sheet 2 of 3)," "Figure 1. Wing Hydraulic Assembly (Sheet 3 of 3)." (JS-071)

5.117.1.33 Presentation of warnings and cautions.

BRDP-S1-00513: Decide whether to use the alternative rule to present the warnings before the step/para number.

NOTE

Projects must be aware of potential hazards when allowing step numbers to follow the warning and ensure that there is a clear connection in the presentation between the warning and the associated steps.

Warnings shall be presented immediately after the label (step or para number) and the associated title (if present) and immediately preceding the associated text.

Cautions shall be presented immediately after the label (step or para number) and the associated title (if present) and immediately preceding the associated text.

If multiple warnings, cautions, and notes apply to the same text, warnings shall appear first, cautions shall appear second, and notes shall appear last. (JS-013)

5.117.1.34 Alert headers.

- a. For publications other than flight manuals: The header WARNING, CAUTION, or NOTE shall be bold and centered above the appropriate text. Headers shall not be numbered. When a warning, caution, or note consists of two or more paragraphs, the header WARNING, CAUTION, or NOTE shall not be repeated above each paragraph.
- b. For flight manuals only: Warnings and cautions may be numbered. Warnings, cautions, and procedural steps shall not be divided across pages. For example, a single warning shall not span two pages, but a "Warning 2" may appear on the second page. (BR-ARMY-00343)

5.117.1.35 Multiple warnings, cautions and notes.

Warnings, cautions, and notes on unrelated topics that pertain to the same task, procedure, or step(s) may be grouped under one heading. When grouping warnings, cautions, or notes each warning, caution, or note shall be separated by at least one line and may be bulleted. (BR-ARMY-00344)

5.117.1.36 Alert indentation.

Warning, caution, and note text shall be indented on the right and left. (BR-ARMY-00345)

5.117.1.37 Printing warnings, cautions, and notes.

Warnings, cautions, or notes shall not be divided so that first lines or groups of icons appear on one page and remaining lines or group of icons appear on another page. In printed publications, warning, cautions, and notes shall appear

on the same page as the associated text unless the length of the warning, caution, or note exceeds a full page. (JS-068)

5.117.1.38 First aid.

Warnings shall include basic first aid instructions/guidance in the event of exposure/injury (e.g., flush eyes with water, seek medical attention, cleanse affected area with soap and water, etc). (BR-ARMY-00346)

5.117.1.39 Presentation of symbols in warnings and cautions.

BRDP-S1-00514: Decide whether to present symbols in warnings and cautions. The symbols must be standardized and documented.

Warnings may have safety or hazard icon(s) and shall appear below the warning header. Cautions may have icon(s) depicting equipment damage and shall appear below the caution header. (BR-ARMY-00347)

5.117.1.40 Use of numbered notes within a data module at presentation.

BRDP-S1-00516: Decide whether to use numbered notes within a data module.

Numbered notes shall not be used within a data module. (BR-ARMY-00348)

5.117.1.41 Issue number.

All pages of a changed data module shall include the applicable issue number located on the outer edge of the page opposite the binding side. (BR-ARMY-00349)

5.117.1.42 Display of change marks.

BRDP-S1-00517: Decide whether to display change marks.

Changes shall be presented with a change bar in the form of a vertical black line in the outside margin adjacent to the changed lines. (JS-069)

5.117.1.43 Presentation of change marking of individual table rows.

BRDP-S1-00519: Decide whether to change marks for individual table rows.

Changes to tables shall be indicated by a vertical bar opposite the updated, deleted, or added table row. A change bar shall be placed adjacent to the table title only if the table title is changed or a new table is added. (JS-072)

5.117.1.44 General illustration changes.

Changes to illustrations shall be indicated by a pointing hand symbol opposite the updated content. Revisions confined to the same general area of an illustration shall be indicated only once. (BR-ARMY-00350)

5.117.1.45 Illustrations - Callouts.

If a callout is deleted from an illustration, the word "DELETED" may be placed after the appropriate number in the legend, if applicable. If a callout is deleted from an illustration without a legend, such as those used to supplement

illustrated parts data, the word "DELETED" may be placed on the illustration at the end of the leader line. (BR-ARMY-00351)

5.117.1.46 Illustrations - Index numbers.

When an illustration is changed, index numbers added between existing numbers may be the same as the preceding index number with added alpha characters. This system may also be used in basic manuals when errors are discovered so late in preparation that renumbering of all following index numbers would delay submittal. Index numbers with added alpha characters shall be eliminated for a complete revision. (BR-ARMY-00352)

5.117.1.47 Illustrations - References.

When an illustration contains embedded references (this practice is highly discouraged) to other illustrations or tables, the referenced table and illustration numbers shall not be changed. When an illustration or table, in the data module, is added or deleted prior to the referenced table or illustration the use of point illustration or table number is permitted and shall be in accordance with the LPD plan. (BR-ARMY-00353)

5.117.1.48 Presentation of references.

Page-oriented publication references to data modules shall include the referenced data module title followed by the data module code (e.g., "See Radio XYZ - Safety Summary [DMC]."). (BR-ARMY-00354)

5.117.1.49 Linear dimensions.

Except for weight and balance values in Chapter 6 (refer to [5.106.1.13](#)) of an Operator's manual, linear dimensions shall be stated in feet and inches or in inches and decimal fractions, unless otherwise specified by the acquiring activity. No more than 3 decimal places shall be used. When dimensions are less than a foot, they shall be expressed in inches and decimal fractions. All dimensions, tolerances, clearances, measurements, and decimal equivalents appearing in Chapters 8 (refer to [5.106.1.15](#)) and 9 (refer to [5.106.1.16](#)) of an Operator's manual shall be stated in bold capital lettering in the text and on illustrations. (BR-ARMY-00355)

5.117.1.50 Use of manufacturer's names.

The use of manufacturers' names in the operator's manual shall be prohibited without prior approval of the acquiring activity. (BR-ARMY-00356)

5.117.1.51 Emergency procedures.

Pages of the operator's manual (Chapter 9) that contain emergency procedure information/steps shall have heavy black diagonal lines around three edges. (BR-ARMY-00357)

5.117.1.52 Designator symbols.

Designator symbols such as **B** shall be used in conjunction with text headings, text contents, and illustrations to show limited applicability of the material. Designator symbols shall be defined by the use of the element **<inline-SignificantData>** and the attribute **significantParaDataType** with the value "psd55" (refer to [5.52.1.54](#)). If more than one model is described or the aircraft has a variety of configurations, one or more symbols may follow a text heading or illustration title to highlight that part of the text that pertains to the aircraft or systems in question. If the material applies to all series and configurations, no designator symbols shall be used. Where

practicable, descriptive information shall be condensed and combined for all series to avoid duplication. A table showing designator symbols shall be included. (BR-ARMY-00358)

5.117.1.53 Checklist titles.

All checklist titles, such as "BEFORE EXTERIOR CHECK" shall be boldfaced capital type. Checklist entries shall be listed numerically and shall be blocked. Checklist entries shall have the first letters of each line of type aligned. Placarded items shall be in boldfaced capital letters. Paragraphs shall have type returned to the left margin. (BR-ARMY-00359)

5.117.1.54 Presentation of controlled content.

BRDP-S1-00570: Decide how to present controlled content using the attributes **authorityName** and **authorityDocument**.

The attributes **authorityName** and **authorityDocument** shall not be used. (BR-ARMY-00523)

5.117.2 Project decisions.

5.117.2.1 Presentation of the target titles in cross-references.

BRDP-S1-00097: Decide whether to present the target titles given in the element **<title>**.

NOTE

Presentation of the titles depends on the presentation system and its settings.

5.117.2.2 Number of sidehead levels to be presented in the Table of contents.

BRDP-S1-00497: Decide whether to present more than three sidehead levels in the table of contents. The allowed number of sidehead levels must be stated in the business rules.

5.117.2.3 Presentation of data module titles in the reference table.

BRDP-S1-00520: Decide whether to present the data module title in the reference table ("Table 1 References").

5.117.2.4 Order of presentation of references in the reference table.

BRDP-S1-00522: Decide in which order the referenced document is presented in the reference table ("Table 1 References"): In order of appearance, alphabetical order, data modules before publications, etc.

5.117.2.5 Presentation (layout) of titles.

BRDP-S1-00502: Decide whether to use the S1000D standard presentation rules for titles (Sidehead 1 thru Sidehead 5 or if used thru Sidehead 8) or to create project or organization specific rules such as type size, leading and justification.

5.117.2.6 Presentation of the leveled para titles from the element <levelledPara> on level six thru eight.

BRDP-S1-00503: Decide whether to present the titles for the element <levelledPara> on level six thru eight.

5.117.2.7 Presentation of the procedural step titles from the element <proceduralStep>.

BRDP-S1-00494: Decide whether to present the titles for the element <proceduralStep> and to which level.

5.117.2.8 Presentation of the crew drill step titles from the element <crewDrillStep>.

BRDP-S1-00495: Decide whether to present the titles for the element <crewDrillStep> and to which level.

NOTE

Presentation of the titles for steps on level six thru level eight are not given. The use of these elements is discouraged and their use and presentation are project decisions.

5.117.2.9 Use of the alternative method for labeling procedural steps at presentation.

BRDP-S1-00504: Decide whether to use the preferred or the alternative method for labeling procedural steps.

5.117.2.10 Presentation of hierarchical indented steps, when used without titles in procedural steps.

BRDP-S1-00506: Decide whether to use hierarchical indented steps, when used without titles.

5.117.2.11 Prefixes to be used for random lists at presentation.

BRDP-S1-00507: Decide whether to use a consistent set of prefixes for random list throughout the project.

NOTE

See [BR-ARMY-00223](#).

5.117.2.12 Presentation of List of tables.

BRDP-S1-00498: Decide whether to present the List of tables.

5.117.2.13 Presentation of List of figures.

BRDP-S1-00500: Decide whether to present the List of figures.

5.117.2.14 Presentation of inline footnotes.

BRDP-S1-00509: Decide whether to present the inline footnotes at the bottom of the page (default) or at the end of the data module.

5.117.2.15 Presentation of vertical lines in formal tables.

BRDP-S1-00511: Decide whether to, in exceptional cases, allow presentation of vertical lines in formal table.

NOTE

The rendering of the table must be based on the elements and attributes in the XML files. The author must apply elements and attributes as defined in Chap 3.9.5.2.1.6 in order to achieve the layout described in this chapter.

5.117.2.16 Presentation of ICN.

BRDP-S1-00569: Decide whether to present the ICN (content of attribute **infoEntityIdent**) for each illustration.

5.117.2.17 Color use.

BRDP-ARMY-00094: Decide whether to use black and shades of black (gray scale) for figures in page oriented publications or an alternative coloring method.

5.117.2.18 Use of symbolic presentation of warnings and cautions.

BRDP-S1-00515: Decide whether to use symbolic presentations of warnings and cautions.

5.117.2.19 Presentation of change marks.

BRDP-S1-00518: Decide whether to use an alternative visual presentation as change marker

5.117.2.20 Presentation of the name of spares, supplies and support equipment.

BRDP-S1-00524: Decide whether to present the name (element **<name>**) or the abbreviated alternate name (element **<shortName>**), as the cross-reference in the text.

5.117.2.21 Presentation of publication module/non S1000D publication titles in the reference table.

BRDP-S1-00521: Decide whether to present the title (element **<pmTitle>/<externalPubTitle>**) or the short title (element **<shortPmTitle>/<shortExternalPubTitle>**), or both, in the reference table ("Table 1 References").

5.117.2.22 Inline presentation of non-S1000D publication titles.

BRDP-S1-00523: Decide whether to present the external publication code (element **<externalPubCode>**), the title (element **<externalPubTitle>**) or the short title (element **<shortExternalPubTitle>**) as the inline reference.

5.117.2.23 Use of the alternative method for presentation of applicability statements.

BRDP-S1-00525: Decide whether to use the preferred or the alternative method for presentation of applicability statements.

5.117.2.24 Decide on highlighting the applicability default heading and statement at presentation.

BRDP-S1-00526: Decide whether to highlight (blue and bold) the default heading and applicability statement at presentation.

5.118 S1000D Chapter 6.2.3 - Information presentation/use - Layout.

5.118.1 Army business rules.

5.118.1.1 Page layout.

The page layout examples in Chapters 6.2.3 through 6.2.3.5 are not to be interpreted as the only interpretation of S1000D layout rules. No new requirements are described in these chapters. (BR-ARMY-00360)

5.118.1.2 Elements and attributes to be presented on the List of effective pages.

BRDP-S1-00530: Decide which elements and attributes to be presented on the List of effective pages.

NOTE

The decisions must be coordinated/based on the decisions taken for the Business rules decision points given in Chap 3.9.4 and Chap 3.9.5.2.16.

See [JS-014](#). (BR-ARMY-00524)

5.118.2 Project decisions.

5.118.2.1 Elements and attributes to be presented on the Title page.

BRDP-S1-00527: Decide which elements and attributes to be presented on the Title page.

NOTE

The decisions must be coordinated/based on the decisions taken for the Business rules decision points given in Chap 3.9.4 and Chap 3.9.5.2.16.

5.118.2.2 Size of the product illustration on the Title page.

BRDP-S1-00528: Decide on the height of the product illustration on the Title page, if used.

5.118.2.3 Elements and attributes to be presented on the Table of contents page.

BRDP-S1-00529: Decide which elements and attributes to be presented on the Table of contents page.

NOTE

The decisions must be coordinated/based on the decisions taken for the Business rules decision points given in Chap 3.9.4 and Chap 3.9.5.2.16.

5.118.2.4 Number of levels in Table of contents.

BRDP-S1-00571: Decide on the number of levels to be presented in Table of contents.

5.118.2.5 Elements and attributes to be presented on the List of effective data modules.

BRDP-S1-00531: Decide which elements and attributes to be presented on the List of effective data modules.

NOTE

The decisions must be coordinated/based on the decisions taken for the Business rules decision points given in Chap 3.9.4 and Chap 3.9.5.2.16.

5.118.2.6 Elements and attributes to be presented on the Highlights data modules.

BRDP-S1-00532: Decide which elements and attributes to be presented on the Highlights data modules.

NOTE

The decisions must be coordinated/based on the decisions taken for the Business rules decision points given in Chap 3.9.4 and Chap 3.9.5.2.16.

5.118.2.7 Presentation of data module code extension in references and tables.

BRDP-S1-00572: Decide whether and when to present the DME in references and tables.

5.118.2.8 Presentation of issue number of the data module or the technical publication in references and tables.

BRDP-S1-00573: Decide whether and when to present the issue number of the data module or the technical publication in references and tables.

5.118.2.9 Presentation of Production management data.

BRDP-S1-00574: Decide whether to present Production management data.

5.118.2.10 Presentation of Name and Alternate name.

BRDP-S1-00575: Decide whether to present only Name or both Name and Alternate name in the list of support equipment. When an Alternate name is used, this is the name that is presented in the data module when referred to by its attribute **internalRefId**.

5.119 S1000D Chapter 6.3 - Information presentation/use - Interactive electronic technical publications.

5.119.1 Army business rules.

5.119.1.1 Use of rules and guidance for IETP.

BRDP-S1-00533: Decide whether to use the rules and guidance for look and feel, and printed output from an IETP detailed in Chap 6.3.1 or an alternate output specification.

The requirements and guidance of the S1000D Chapter titled, "IETP Output specification" as augmented by these business rules shall be mandatory. (JS-073)

5.119.2 Project decisions.

None.

5.120 S1000D Chapter 6.3.1 - IETP - Output specification.

5.120.1 Army business rules.

5.120.1.1 Title bar, general.

The Title Bar shall contain the following items: security classification of the displayed publication module (if the publication is classified), appropriate CUI marking (if controlled), publication module title, and publication module code. When the data is classified, security classification shall be presented first. CUI marking, when required, shall be presented before the publication module title and publication module code. (JS-075)

5.120.1.2 Inner shell, general.

The inner shell shall contain, as a minimum:

- a. Reset area
- b. Table of contents panel
- c. Navigation panel
- d. Subtitle bar
- e. Main menu bar
- f. Main content area. (JS-077)

5.120.1.3 Inner shell status bar, general.

The status bar shall be a horizontal bar located at the bottom of the inner shell. The status bar shall contain status information including status indicators and icons for active (persistent) warnings, cautions, and notes. The status bar may be toggled on and off when there are no persistent alert icons. The status bar shall not be toggled off when persistent alert icons are displayed. (BR-ARMY-00361)

5.120.1.4 Toggle.

The inner shell status bar shall have the capability to be toggled on or off. (BR-ARMY-00362)

5.120.1.5 TOC panel, general.

The table of contents panel shall include as a minimum (links to) the following content if applicable:

- a. Table of Contents (listing each Publication Module and Data Module)
- b. Safety summary (e.g. Hazardous Materials Warnings)
- c. List of illustrations
- d. List of tables (JS-078)

5.120.1.6 TOC order.

TOC information shall be displayed in the order mandated by the applicable content selection matrix. (BR-ARMY-00363)

5.120.1.7 TOC items.

TOC items shall be generated from every data module title. (BR-ARMY-00364)

5.120.1.8 TOC initial display.

When the TOC is initially displayed only the first level (publication module and first level nested publication modules) items shall be shown. When subordinate items are collapsed, an expand indicator shall be displayed before the item name, this is shown as a plus sign button. Clicking the expand indicator displays the subordinate items and changes the indicator to a collapse indicator, shown as a minus sign button. (BR-ARMY-00365)

5.120.1.9 Front and rear matter.

Information that is normally considered part of the front and rear matter but are typically not part of the page-based table of contents, shall be accessible from the IETPs table of contents or the navigation panel. (BR-ARMY-00366)

5.120.1.10 TOC references.

TOC references shall require a single click. (BR-ARMY-00367)

5.120.1.11 Reset area.

The mandatory reset area provides a special mechanism for navigation and preferences. (BR-ARMY-00369)

5.120.1.12 Reset area placement.

The reset area shall be large enough to be visible and user selectable. It shall be located above the TOC panel and to the left of the Main Menu Bar and Subtitle Bar. It shall be resized with the TOC panel, navigation panel, and classification bar. (BR-ARMY-00370)

5.120.1.13 Use of a compass rose icon in the reset area.

If minimizing the reset area to a compass rose icon, it shall be a graphical representation of the Webdings character (108) for a compass rose. (JS-081)

5.120.1.14 Functions.

At a minimum, the reset area shall provide the following mandatory functions:

- a. Reset user interface to standard default view.
- b. View revision summary/link to highlights
- c. Exit reset area menu
- d. Suspend (conditional).
- e. Restart (conditional).

If any of the above are not applicable to the data module being displayed, it shall be grayed out. (JS-080)

5.120.1.15 Suspend and restart functionalities.

Suspend and restart functionalities are required if the IETP includes state table functionality. They are prohibited if the IETP does not include the use of a state table. (BR-ARMY-00371)

5.120.1.16 Reset area functionalities.

The reset area may provide the following optional functions:

- a. Print screen - prints the entire screen, even content that shall be scrolled to view on screen.
- b. Print Data Module - prints the entire data module, which may include more information than the screen.
- c. Change to page view - displays a printable view of the data module formatted (to the extent possible) as a MIL-specification compliant printed manual.
- d. Open new IETP.
- e. Toggle browse mode.
- f. Toggle screen panels/bars on and off - this functionality includes individual toggles for each panel or bar that can be minimized.
- g. Drill up/drill down.
- h. Other custom functions as determined by the acquiring activity. (BR-ARMY-00372)

5.120.1.17 Placement.

The navigation panel shall appear above the main content area. (JS-074)

5.120.1.18 Subtitle bar.

The subtitle bar is mandatory and may have the capability to be toggled on or off. (BR-ARMY-00373)

5.120.1.19 Subtitle bar contents.

The Subtitle Bar shall contain the following items: security classification of the displayed data module (if the data module is classified) appropriate CUI marking (if controlled), the data module title, and data module code. When the data is classified, security classification shall be presented first. CUI marking, when required, shall be presented before the data module title and data module code. (JS-076)

5.120.1.20 Security markings.

If the data module content is classified, security markings shall be displayed in the subtitle bar as well as the title bar of the outer shell. (BR-ARMY-00374)

5.120.1.21 Main menu bar.

The main menu bar is mandatory and may have the capability to be toggled on or off. (BR-ARMY-00375)

5.120.1.22 IETP main menu bar contents.

The main menu bar shall provide the following minimum set of mandatory navigation and control functions, which shall be made available to the user and common to all IETPs. The functions shall be provided in the following exact order: Previous, Next, Table of Contents (TOC), History, Search, Print, Feedback, Exit, Help, and IDSTATUS. (JS-082)

5.120.1.23 Cascading menus.

Cascading menus may appear as a child of a function when selected. In a drop-down menu, this appears next to the function selected. There may be several levels of cascading menus. Functions that are not active during any rendering shall be presented as disabled (grayed out). (BR-ARMY-00376)

5.120.1.24 Print icon.

The Print icon function provide access to a menu allowing the user to choose either Print Screen or Print Data Module. The Print Screen function is a part of the operating system and shall not be additionally included as an IETP function. (BR-ARMY-00377)

5.120.1.25 Custom IETP functions.

Any custom functions that the IETP provides shall be placed in the additional information bar. (BR-ARMY-00378)

5.120.1.26 Session Control.

Session control is the ability to stop and start an IETP session in the middle of work. Session control shall involve saving the state of the session to reestablish the session back to the previous state before the interruption. IETPs shall support the "complete" (save and update history file) and "suspend/restart" functionality. The "abort" function shall only be allowed in "browse" mode on the end-user client. (BR-ARMY-00379)

5.120.1.27 IETP busy.

If the IETP viewer is expected to be busy for more than 2 seconds, the cursor shall change to an hourglass until the busy condition passes. Once the busy condition passes, the cursor shall return to its previous form. (BR-ARMY-00380)

5.120.1.28 Session control icons.

The following table contains the preferred session control icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00381)

TABLE LXX. Session control icons.

SESSION	DESCRIPTION	INDICATOR	ICON
Complete	Normal exit save and update history. Clear state table.	Icon: Check Mark (Unicode = E3B0) Text: Complete (Optional)	☐
Suspend	Save current state and do not update history.	Icon: Pause (two vertical bars) (Unicode = E0CB) Text: Pause Session (Optional)	⏸
Restart	Reinstate previous suspended session.	Text: Session Restart	Session Restart
Abort	Browse only - Do not save session or update history. Clear state table.	Icon: Rain Clouds (E16A) Text: Abort (Optional)	☁

5.120.1.29 Bookmark icons.

The following table contains the preferred bookmark icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00382)

TABLE LXXI. Bookmark icons.

BOOK-MARK	FUNCTION	INDICATOR	ICON
Create	Shall ask whether creating or navigating to Bookmark.	Icon: Open Book (Unicode = E005) Location: Additional information bar.	📖
GoTo	Shall ask whether creating or navigating to Bookmark. Navigating to a bookmark, the TOC shall be updated and the content pane shall display bookmark destination	Icon: Open Book (Unicode = E005) Location: Additional information bar.	📖
Minimized	Indicates location is a bookmark.	Icon: Open Book (Unicode = E005) Location: Content pane.	📖

5.120.1.30 Annotation function icons.

The following table contains the preferred annotation function icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00383)

Table LXXII. Annotation function icons.

ELEMENT	FUNCTION	INDICATOR	ICON
Create User Note	A dialog box is displayed to insert the user note at the current cursor location.	Icon: Black (public) and blue (personal) hand with pen (Unicode = E01E) Location: Additional information bar.	
User Note Minimized	Selecting opens the user note as a dialog message box.	Icon: Black (public) and blue (personal) hand with pen (Unicode = E01E) Location: Content pane.	

5.120.1.31 Redline function icons.

The following table contains the preferred redline function icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00384)

TABLE LXXIII. Redline function icons.

ELEMENT	FUNCTION	INDICATOR	ICON
Redline mode	Toggle on and off redline functionality	Icon: Red pencil (Unicode = E000) Location: Additional information bar.	
Create comment	A dialog box is displayed to insert the redline comment at the current cursor location.	Icon: Piece of paper with upper right corner turned in (Unicode = E10E) Location: Additional information bar.	
Comment minimized	Selecting opens the redline comments as a dialog message box.	Icon: Piece of paper with upper right corner turned in (Unicode = E38F) Location: Content pane.	

5.120.1.32 Browsing display icons.

The following table contains the preferred browsing display icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00385)

TABLE LXXIV. Browsing display icons.

ELEMENT	FUNCTION	INDICATOR	ICON
Begin	Initiates browse mode capability by single click on icon button. Denotes to user the system is in browse mode	con: Eyeglasses unselected (Unicode = E003) Location: Additional information bar.	
Browse previous	Act similar to PREVIOUS functions except no interaction system variables are set.	Icon: Double left pointing arrows (unicode = 21C7) Location: Additional information bar.	
Browse next	Act similar to NEXT functions except no interaction system variables are set.	Icon: Double right pointing arrows (Unicode = 21C9) Location: Additional information bar.	
Mode indicator	Denotes to user the system is in browse mode.	Icon: Eyeglasses (Unicode = E003) Text: Browse Mode On Location: Status bar	
	Denotes to user the system is not in browse mode.	Icon: Eyeglasses (Unicode = E003) with "no or don't" slash (Unicode = E3B7) Text: Browse Mode Off Location: Status bar	
End	Ends browse mode capability by single click on icon button. Denotes to user the system is not in browse mode.	Icon: Eyeglasses unselected (Unicode = E003) Location: Additional information bar.	

5.120.1.33 Navigation icons.

The following table contains the preferred navigation icons. The exact icons provided are not required, but icons used shall match the visual intent of the icons provided. (BR-ARMY-00386)

TABLE LXXV. Navigation icons.

ELEMENT	FUNCTION	INDICATOR	ICON
Save to disk	Save a graphic to a disk	Icon: 3.5" Floppy Disk (Wingdings #060) Location: Navigation panel	
Print	Print the graphic	Icon: Printer (Unicode = E396) Location: Navigation panel	
E-mail	E-mail the graphic	Icon: Unopened envelope (Unicode = E009) Location: Navigation panel	
Save to a folder	Saving graphic to graphic/photo area folder	Icon: Folder (Unicode = E00F) Location: Navigation panel	
Zoom In	Toggle on and off graphic zoom in function	Icon: Magnifying glass with plus (Graphic) (Unicode = 2BEA)	

TABLE LXXV.. Navigation icons. (continued)

ELEMENT	FUNCTION	INDICATOR	ICON
		Location: Navigation panel	
Zoom Out	Toggle on and off graphic zoom out function	Icon: Magnifying glass with minus (Graphic) (Unicode = 2BEB) Location: Navigation panel	
Pan graphic	Toggle on and off pan graphic	Icon: Open hand (Unicode = E028) Location: Navigation panel	
	Move graphic in the pane	Icon: Open hand (Unicode = E028) Location: Content pane	

5.120.1.34 Use of color.

Any colors used shall comply with the rules in Chapter 3.9.2. The recommended color scheme for standard text display shall be black on a white background. (BR-ARMY-00387)

5.120.1.35 Font (general) and back ground colors.

The text shall be black (#000000 or #000033) sans serif font except as noted elsewhere. Background shall be white (#FFFFFF) except as noted elsewhere. This aids printing without loss of content. There may be operational exceptions such as night operations and where color has special meaning. (JS-083)

5.120.1.36 Font (specific).

Arial font shall be used for all titles, headings, narrative, callouts and special characters. (BR-ARMY-00388)

5.120.1.37 IETP font size.

Text shall not be displayed smaller than 8 points. (BR-ARMY-00389)

5.120.1.38 Cursor movement.

Cursor movement within dialog boxes shall be consistent throughout the IETP. (BR-ARMY-00390)

5.120.1.39 Cursor location.

The default location of the cursor (the location of the cursor when the dialog box is initially displayed) in a dialog box shall be at the first selectable item (uppermost). (BR-ARMY-00391)

5.120.1.40 Tab key.

Cursor forward movement shall be accomplished through the Tab key or pointing device, such as a mouse, trackball, or stylus. When tabbed, the cursor shall move only to items, which require input from the user. The user shall be able to move the cursor back within the dialog box either through the Shift-Tab key or pointing device. Pressing the Enter

key when the push button is highlighted shall perform the action associated with the push button. (BR-ARMY-00392)

5.120.1.41 Push buttons.

Dialog boxes shall contain graphical controls called push buttons as a means for the user to communicate with the IETP. (BR-ARMY-00393)

5.120.1.42 Push buttons display.

A push button shall be a word or graphic icon on the screen used to select or initiate an action. Push buttons shall be large enough allow positioning of the cursor on the push button. Push buttons shall provide visual feedback when selected. Push buttons shall be found on every type of dialog box. They shall each be single action entities. Push buttons shall indicate selections made or invoke a general action (e.g., "CANCEL" or "OK"). Push button shapes shall be consistent, such as a box, circle, or button. Function push buttons shall contain the name of the selection or action written inside of the shape. Common function push buttons ("OK", "CANCEL", "HELP") shall be displayed along the bottom of the dialog box. The common function buttons shall correspond to completing the last selection before leaving the dialog box. (BR-ARMY-00394)

5.120.1.43 Push button functions.

The common function push buttons shall be displayed in the following order centered along the bottom of the dialog box: "OK", and where they exist, "CANCEL" and "HELP."

- a. The "OK" push button shall communicate the entered or selected information to the IETP and proceed to the next action.
- b. The "CANCEL" push button shall not send user-inputted information to the IETP and the IETP shall return to its previous display.
- c. The "HELP" function shall provide further information about the current dialog box in message dialog box. (BR-ARMY-00395)

5.120.1.44 Procedural steps and illustrations.

Procedural steps and their corresponding illustrations shall be presented together. Illustrations shall not be presented with non-corresponding steps. (BR-ARMY-00396)

5.120.1.45 Table titles.

Table titles shall appear above the table. If a table is scrollable, the table shall have "sticky" column headers. (BR-ARMY-00397)

5.120.1.46 Table shading.

If shading alternate rows is decided by the project, the alternate shaded rows shall be gray (Hexadecimal value: #CECECE). (BR-ARMY-00398)

5.120.1.47 Interactive Electronic Technical Publication (IETP) footnote presentation.

For IETP presentations, footnotes shall be linked from the marker to their location at the end of the table. Mouseover of the marker may be used to display the footnote in addition to the hyperlink. (JS-085)

5.120.1.48 Presentation of references.

References to data modules in IETPs shall include the referenced data module title and optionally the data module code (e.g., "See Radio XYZ - Safety summary [RADIOXYZ-001-001-23-4750-01000-012J-A]."). (BR-ARMY-00399)

5.120.1.49 References to tables and figures.

References to tables and figures shall be hyperlinked, and may be presented as text or as inline thumbnails or icons. (BR-ARMY-00400)

5.120.1.50 Links to multimedia.

Links to view animations, videos, etc., shall require a single click of a text hotspot or an icon hotspot. The object shall display in a separate pane or application window. The links or hotspots for multimedia (animation, video, etc.) clips shall precede the step(s) to which they apply. A note shall also precede the step(s) to which the multimedia clips apply which tells the user to follow the written instructions after viewing the multimedia clips and which step(s) the multimedia clips apply to. (BR-ARMY-00401)

5.120.1.51 Inline figures and tables.

A single click of an inline figure or table reference shall display the object in a separate pane of the main content area. (BR-ARMY-00402)

5.120.1.52 Pop up windows.

Pop up windows to display a graphic or table shall only be used if necessary to display large and very detailed graphics or tables. To avoid problems related to screen stacking, all pop up windows shall close when the user navigates to or views switches to other content. (BR-ARMY-00403)

5.120.1.53 Link display.

Hyperlink formatting shall be consistent throughout the IETP. (BR-ARMY-00404)

5.120.1.54 Placement of warnings, cautions, and notes.

Warnings and cautions shall appear inline as follows:

- a. For data modules, they shall follow the preliminary requirements and precede any procedures or tasks.
- b. For tasks, they shall follow the title of the associated task.
- c. For procedures, they shall follow the title of the associated procedure.
- d. For steps, they shall precede the associated step(s). If a warning or caution applies to multiple steps, it shall precede the first step it applies to and indicate in the warning or caution the steps to which it applies.

- e. Alert paragraphs shall be indented from left and right margins. (BR-ARMY-00405)

5.120.1.55 Multiple warnings and cautions.

Warnings and cautions on unrelated topics that pertain to the same task, procedure or step(s) may be grouped under one heading. When grouping warnings and cautions, each warning or caution shall be separated by at least one line and may be bulleted. (BR-ARMY-00406)

5.120.1.56 Order of multiple warnings and cautions.

If multiple warnings and cautions apply to the same text, warnings shall appear first and cautions shall appear second. If notes are also applicable to the text, they shall appear after the applicable warnings and cautions. (BR-ARMY-00407)

5.120.1.57 Display of warnings and cautions.

The WARNING or CAUTION shall be displayed described below. Headers shall not be numbered. When a warning or caution consists of two or more paragraphs, the header WARNING or CAUTION shall not be repeated above each paragraph. (BR-ARMY-00408)

5.120.1.58 Warning header.

The warning header shall have the word WARNING in white text preceded with a white exclamation point surrounded with a black triangle () and inside a red rectangle box with a black border. Warnings may have safety or hazard icon(s) and shall appear below the warning header. The warning header, icons, text, and "OK" pushbutton shall be enclosed within a larger white box with a red border. (BR-ARMY-00409)

5.120.1.59 Caution header.

The caution header shall have the word CAUTION in black text preceded with a white exclamation point surrounded with a black triangle () and inside a yellow rectangle box with a black border. Cautions may have icon(s) depicting equipment damage and shall appear below the caution header. The header, icons, text, and "OK" pushbutton shall be enclosed within a larger white box with a yellow border. (BR-ARMY-00410)

5.120.1.60 Numbering of warning and caution headers.

Warning and caution headers shall not be numbered. When a warning or caution consists of two or more paragraphs, the header WARNING or CAUTION shall not be repeated above each paragraph. (BR-ARMY-00411)

5.120.1.61 First aid.

Warnings shall include basic first aid instructions/guidance in the event of exposure/injury (e.g., flush eyes with water, seek medical attention, cleanse affected area with soap and water, etc). (BR-ARMY-00412)

5.120.1.62 Acknowledgement of alerts.

If acknowledgment of alerts is used, alerts shall be displayed and acknowledged as follows:

- a. An "OK" pushbutton in the alert shall be used for acknowledgment. The text following the alert shall not be displayed until the alert is acknowledged. The alerts shall stay inline after the user acknowledges the alert. All functions (including the scrolling function if provided) shall be disabled until the alert has been acknowledged.
- b. When multiple alerts are displayed in the same pane, the "OK" pushbutton in each alert shall be used for acknowledgment. The text following an alert shall not be displayed until that alert is acknowledged.
- c. When alerts apply to the entire task or procedure, the alerts shall be displayed in-line prior to the applicable data.
- d. After an alert has been acknowledged, the applicable persistent alert icon shall be displayed in the status bar of the inner shell and remain persistent until the applicable step, task and/or procedure has been completed. Clicking on the persistent alert icon, at any time during the task or procedure, shall display the applicable alert (s). (BR-ARMY-00413)

5.120.1.63 Icons.

The following rules apply to warning and caution icons.

- a. Equipment damage caution icons shall be approved by the acquiring activity. Icons used shall be defined in the General Data data module (info code 010A) under the list of abbreviations/acronyms.
- b. The use of standardized icons to improve readers' recognition of hazards is required (<https://www.ldac.army.mil/tmss-publications> ("TMSS Warning Icons" tab). Additional non-standardized warning icons shall be approved by the acquiring activity.
- c. Hazards that result from a combination of materials shall clearly be identified to indicate that mixing or combining the materials creates the hazard.
- d. Hazardous materials warnings with icons consist of a WARNING header, the icon(s), and a full description of the hazardous material and the precautions to be taken. (BR-ARMY-00414)

5.120.1.64 Placement of notes.

Notes shall appear in-line as follows:

- a. For data modules, they shall follow the preliminary requirements and precede the procedures or tasks.
- b. For tasks, they shall follow the title of the associated task.
- c. For procedures, they shall follow the title of the associated procedure.
- d. For steps, they shall precede the associated step. (BR-ARMY-00416)

5.120.1.65 Multiple notes.

If multiple notes apply to the same text, the warnings shall appear first, cautions shall appear second, and notes shall appear last. Notes on unrelated topics that pertain to the same task, procedure or step(s) may be grouped under one heading. Each note shall be separated by at least one line and may be bulleted. (BR-ARMY-00417)

5.120.1.66 Note numbering.

The NOTE headers shall not be numbered. When a note consists of two or more paragraphs, the header NOTE shall not be repeated above each paragraph. (BR-ARMY-00418)

5.120.1.67 Note headers.

The note header shall have the word NOTE in blue text inside a white rectangle box with a black border. Notes may have an optional note icon below the note header. The note header, icons, and text shall be enclosed within a larger white box with a blue border. Notes used in the manual other than a task, a procedure or a step shall have the header NOTE in bold and centered above the note text. The note text shall be indented on right and left. (BR-ARMY-00419)

5.120.1.68 Note acknowledgement.

A note shall be acknowledged if it is deemed important enough by the acquiring activity. The only push button in the note message dialog box shall be the "OK" push button which shall be used for acknowledgement. Unlike warnings and cautions, text that follows a note may be viewable prior to acknowledgement and a persistent note icon shall not be displayed in the status bar of the inner shell after the note is acknowledged. (BR-ARMY-00420)

5.120.1.69 Change marks.

Each change shall be discretely marked or identified in the IETP. (BR-ARMY-00421)

5.120.1.70 Change mark appearance.

Change marks shall be vertical bars adjacent to the line where a change occurred. The text is not annotated with what has been revised only that a revision has occurred. (BR-ARMY-00422)

5.120.1.71 Links from changes.

There shall not be links from changed material to the highlights page. (BR-ARMY-00423)

5.120.1.72 Reason for update.

Reason for update shall not be displayed to the user (via pop up or any other means). (BR-ARMY-00424)

5.120.1.73 Acronym and abbreviation function.

Any acronyms and abbreviations that are in the displayed data module can have a function that displays the meaning as a tool tip when the cursor hovers over the acronym or abbreviation. (BR-ARMY-00425)

5.120.1.74 Modes of visual indication.

The following shall be the three acceptable modes of visual indication of hotspots in graphics:

- a. Persistent visual indication that an area is hot.
- b. Cursor changes shape or color when cursor is over a hotspot area.
- c. Object changes shape or color when cursor is over a hotspot area. (BR-ARMY-00426)

5.120.1.75 Illustration borders.

Border rules and boxes shall not be used for single illustrations, but are used to separate multi-section illustrations in the same pane or for locator/detail views. (BR-ARMY-00427)

5.120.1.76 Tool tips.

Tool tips shall not be used in IPD graphics. (BR-ARMY-00428)

5.120.1.77 Printed output from IETP.

The IETP may provide the capability to print a discrete data module. Beyond the printed technical data, the following additional information shall be printed: Time/Date stamp, classified security marks, and the following statement: "Destruction procedures shall follow unit Standard Operating Procedure (SOP)." (BR-ARMY-00429)

5.120.2 Project decisions.

5.120.2.1 Main menu bar functions in the IETP viewer.

BRDP-S1-00534: Decide which, if any, of the basic set of main menu bar functions to mandate.

5.120.2.2 Additional information bar in the IETP viewer.

BRDP-S1-00536: Decide on the use of an additional information bar. If used, it must be decided which information to be available in the additional information bar.

5.120.2.3 Additional Table Of Contents (TOC) items.

BRDP-ARMY-00126: The project shall decide the use of additional items in the TOC.

5.120.2.4 Navigation icons.

BRDP-ARMY-00095: The project shall decide if the main menus bar functions are presented as text, graphics, or text and graphics. Graphical presentation of the functions is the preferred method. If graphic icons are implemented, the icons provided at the LDAC Web site (<https://www.ldac.army.mil/mil40051/tmsspecs.cfm>) are mandatory and the function text shall be presented on mouseover.

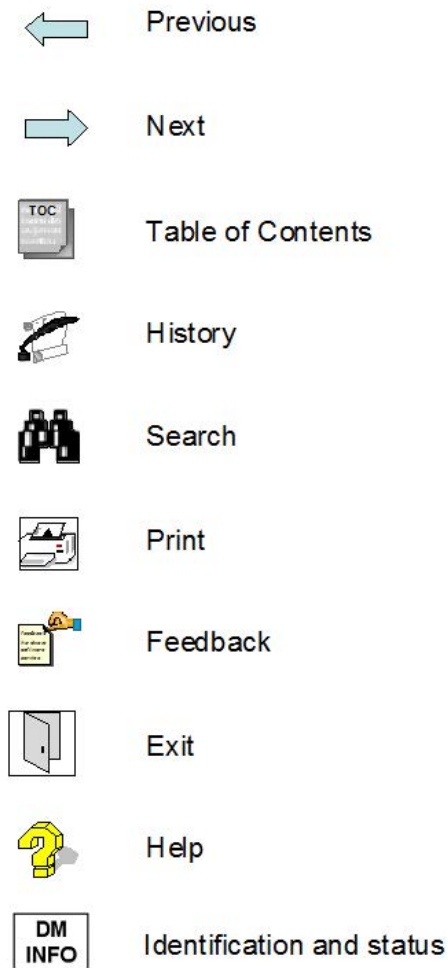


FIGURE 24. Main menu bar navigation icons.

5.120.2.5 Printing of classified data.

BRDP-S1-00535: Decide whether to allow the printing of classified data. If not allowed, the print function must be disabled when classified data is presented in the IETP viewer.

5.120.2.6 Font size.

BRDP-ARMY-00097: The minimum recommended font size is 12 pt. Based on intended viewing environment, projects may decide upon an alternate minimum font size.

5.120.2.7 Tool tips.

BRDP-ARMY-00098: Decide on the use of tool tips. Tool tips display further information about what the purpose of the control. They appear when the user hovers over the control with the mouse pointer.

5.120.2.8 Viewer help function.

BRDP-ARMY-00099: The optional help function will provide further information about the dialog box. The project shall determine if help will be provided as a dialog function and the decision shall be documented in the functionality matrix (Context Sensitive Help).

5.120.2.9 Dialog display.

BRDP-ARMY-00100: The project shall specify in their project-specific business rules how the viewer will handle dialogs (pop-up vs. in-line).

5.120.2.10 Viewer background.

BRDP-ARMY-00101: It is preferred that the background be white. Where the table is long, it can be acceptable to change the background colors of alternate rows to aid readability.

5.120.2.11 Viewer table display.

BRDP-ARMY-00102: Tables may appear in-line or within the inner shell main content area in a pane separate from the text content. Tables may, by exception and project decision, appear in a separate window if necessary for clear and proper display.

5.120.2.12 Presentation of referenced data module code.

BRDP-ARMY-00103: The project shall decide if the data module codes for referenced data modules will be presented inline as part of the references (e.g., "See Radio XYZ - Safety summary [DMC-RADIOXYZ- 001-001-23-4750-01000-012J-A]."), as mouse over tool tips, or not at all.

5.120.2.13 Acknowledgement of alerts.

BRDP-ARMY-00104: The project shall determine if acknowledgement of alerts will be required.

5.120.2.14 Pop up windows.

BRDP-ARMY-00105: The project shall decide on one of two methods for displaying pop ups and use that method consistently throughout the IETP: replacing the current window (i.e., inline), or in a separate window on top of the current window (i.e., pop up).

5.120.2.15 Use of tool tips.

BRDP-ARMY-00106: The project shall decide on the use of tool tips. If required, hovering over an area of a graphic tool tips can provide some means of descriptive data. Tool tip pop ups shall not interfere with the ability of a user to access any area of the graphic (including access to another tool tip).

5.120.2.16 Viewer illustration display.

BRDP-ARMY-00107: Illustrations may appear in-line or within the inner shell main content area in a pane separate from the text content. Illustrations may, by exception and project decision, appear in a separate window if necessary for clear and proper display.

5.121 S1000D Chapter 6.4.1 - Functionality - Background and explanation.**5.121.1 Army business rules.****5.121.1.1 Use of the functionality matrix.**

BRDP-S1-00537: Decide whether to use the functionality matrix. If used, fill in the functionality matrix. Refer to Chap 6.4.2.

The functionality matrix shall be completed and included in contract documents. The use of Interactive Electronic Technical Publication (IETP) classes in contracts is prohibited. (JS-087)

5.121.1.2 Restart conditions.

At the time of restart, the user shall be advised that some key parameters/condition settings may be out-of-date. (BR-ARMY-00430)

5.121.1.3 Viewer exit function.

The system shall support the three exit modes.

- a. Complete (save and update history)
- b. Abort (do not save or update history) (Browse mode only)
- c. Suspend (save current session state and do not update history). (BR-ARMY-00431)

5.121.1.4 Global data annotations.

Global data annotations (a functionality listed in S1000D, but not in D.5) shall not be acquired as a functionality for Army IETPs. It is a prohibited functionality. (BR-ARMY-00432)

5.121.1.5 Interactive Electronic Technical Publication (IETP) installation.

The following rules apply to IETP installation.

- a. Information on installing the disc on the computer and launching the IETP shall be prepared.
- b. The installation routine shall have an uninstall capability and shall determine if ample space is available for the install.
- c. Installation data shall include instructions for operating the IETP with and without web access.
- d. Installation routine shall check for previously installed versions of the IETP and display software and shall prompt the user to indicate whether they want to overwrite older versions of the software and/or IETP.
- e. The viewer software shall not have hardcoding of software versions within the viewing software for other software required for use with the viewing software (e.g., Java)
- f. The installation information shall be printed and shall be part of the packaging of the disc.
- g. The following types of install/capabilities shall be available to the user.
 - (1) The minimum installation is loading to the viewer only those files necessary to access the program and data on the CD. This requires that the programs for the IETPs be executable from the CD and be able to read the data from the CD. This is the preferred method.

- (2) Installation of the required files for the viewer to operate as a workstation on a LAN. In these cases, the program and data would be loaded to a server, and the PMA would access the program and data via a LAN. This type of install may be desirable in a flight line or motor pool environment. IETP viewers shall be server-based rather than client-based so that multiple users can view the IETP from LAN or web simultaneously.
 - (3) Loading the executable program to the hard drive. This will require the data be accessed from the disc. This may be used when multiple CDs for a system use the same reader program and the program is loaded to the hard drive for faster operation.
- h.** When more than one publication (e.g., IETP, PDF, etc) is resident on a disc, the first information that shall appear on the viewer is the disc content frame. This frame shall provide the publication number and title of all publications that are contained on the disc. Only DA-authenticated publications shall be placed on a DA-authenticated disc or disc set. Unauthenticated commercial publications, contractor publications, command-authenticated publications, etc, shall not be placed on a DA-authenticated disc or disc set. (BR-ARMY-00525)

5.121.1.6 Deliverable contents.

Projects shall determine deliverable requirements. Deliveries shall include, at minimum, all CSDB objects including XML-tagged source file(s), and graphics shall be a mandatory part of each final product delivered. (BR-ARMY-00433)

5.121.1.7 Non-automatic test equipment.

Troubleshooting procedures using non-automatic test equipment shall be established on a system test concept. To meet the objectives of reduced maintenance downtime and decreased fault detection time, malfunction symptoms shall be identified to specific points of entry into the testing/troubleshooting cycle. Every effort shall be employed to avoid repetition of time consuming end-to-end tests. (BR-ARMY-00434)

5.121.1.8 Lookup tables and software.

Lookup tables for manually tested systems or software coding for semi-automatic and automatic systems shall be prepared so the maintenance technician may properly interpret these displays and isolate and correct malfunctions. (BR-ARMY-00435)

5.121.1.9 Use of photos.

Photos shall not be the primary instruction to perform the task, but shall be a supplement to the narrative instruction. (BR-ARMY-00436)

5.121.1.10 Use of voice navigation.

Voice I/O should be used only as supplemental input/output and navigation. Keyboard and pointing devices should be the primary input, and visual display should be the primary output. (BR-ARMY-00438)

5.121.1.11 Multimedia.

Multimedia shall never be the primary means of presenting information. (BR-ARMY-00439)

5.121.1.12 Animation.

Audio, video, and animation techniques shall only be used in an IETP when it results in enhancing the presentation of the information or makes the procedures more effective.(BR-ARMY-00440)

5.121.1.13 Multimedia and classified information.

Neither audio nor video shall be provided for classified information.(BR-ARMY-00441)

5.121.1.14 Sounds. Deleted**5.121.1.15 How to use the manual.**

The following rules apply relative to the "How to use the IETP" data module.

- a. A link may be made to an IETP tutorial (when required) to explain use of the IETP.
- b. Information to familiarize the user with special or unusual features of the IETP shall be prepared using a descriptive "How to use this manual" data module (info code 018B). Coverage shall lead the user through the IETP and explain important features of the organization and content.
- c. Any peculiarities in the basic structure of the IETP shall be described. "How to Use This IETP" information shall not repeat instructions given within the data modules.
- d. For all IETPs (excluding operators) the "How to Use This IETP" information shall include an explanation on how and where parts information is located and accessed.
- e. For troubleshooting, an explanation on how troubleshooting data is presented in the IETP shall be included. If applicable, an explanation on how failure symptom indexes and malfunction codes corresponds to maintenance operational checks and troubleshooting procedures for individual systems and components shall be provided.
- f. An explanation on how to identify hotspots and how they are used and activated shall be provided.
- g. An explanation and use of all icons and buttons shall be provided.
- h. If a double king sized paged-based paper manual containing the supporting schematic and wiring diagrams has been authorized and developed, a reference to this manual by TM number shall be provided.
- i. When a standard form (i.e., DA Form 2408-13, DA Form 2404, etc.) shall be used in the process of performing a task, instructions shall be provided on how these forms are accessed, used, and filled out.
- j. Provide an explanation on how to fill out a DA Form 2028 (or equivalent) and emphasize that reference shall be made to a data module by the exact title that is provided in the table of contents.(BR-ARMY-00443)

5.121.2 Project decisions.**5.121.2.1 Modification of the functionality matrix due to selection of information sets.**

BRDP-S1-00538: Decide on which modifications are needed in the functionality matrix due to the selection of information sets. Refer to [BRDP-S1-00004](#).

5.121.2.2 Selection of functionality using the functionality matrix.

BRDP-S1-00539: Decide on which functionality is required in the technical publications.

5.121.2.3 Audit trail.

BRDP-ARMY-00108: The project shall determine which IETP audit trail data is collected for maintenance data collection or other purposes.

5.122 S1000D Chapter 6.4.2 - Functionality - Functionality matrices.

5.122.1 Army business rules.

5.122.1.1 Mandatory functionalities.

The following functionalities are mandatory:

- a. Deficiency Report
- b. Parts Ordering
- c. Login
- d. Exit
- e. History of Traversed Links
- f. Next and Previous
- g. Search - Full Text
- h. Print Screen
- i. Data Module specific printing
- j. Content Sensitive Help
- k. Context Sensitive Help
- l. Active Change Indications and markings (BR-ARMY-00444)

5.122.2 Project decisions.

None.

5.123 S1000D Chapter 7.3.3 - CSDB Objects - Multimedia.

5.123.1 Army business rules.

None.

5.123.2 Project decisions.

5.123.2.1 Multimedia types.

BRDP-ARMY-00109: The project shall determine the multimedia types used.

5.124 S1000D Chapter 7.4.3 - Generation of publications - Inclusion of legacy information.

5.124.1 Army business rules.

None.

5.124.2 Project decisions.

5.124.2.1 Population of the element `<externalPubCode>`.

BRDP-S1-00540: Decide the preferred syntax to identify legacy data by a publication code.

5.124.2.2 Use of the attribute `pubCodingScheme`.

BRDP-S1-00541: Decide whether to use the attribute `pubCodingScheme`. If used, decide on the set of allowed coding schemes and the syntax of those schemes.

5.124.2.3 Method to include legacy information in an Interactive Electronic Technical Publication (IETP).

BRDP-S1-00542: Decide whether to include legacy information by encapsulating it in data modules or by referencing it as external publications using the publication module.

5.124.2.4 IETP reference format.

BRDP-S1-00543: Decide the syntax and semantics of the links established to reference legacy data.

5.125 S1000D Chapter 7.5.1 - Software interchange - File based transfer.

5.125.1 Army business rules.

None.

5.125.2 Project decisions.

5.125.2.1 Use of file compression techniques.

BRDP-S1-00544: Decide whether to use compression techniques on files being transferred and which techniques to be used.

5.125.2.2 Defined file formats.

BRDP-ARMY-00110: The project shall decide on the allowable file formats, if any, beyond those given in S1000D Chapter 7.5.1.

5.125.2.3 Training data module code extensions.

BRDP-ARMY-00111: The project shall decide whether to use the learn code and learn event code or not.

5.126 S1000D Chapter 7.8 - Information processing - Applicability.**5.126.1 Army business rules.**

None.

5.126.2 Project decisions.**5.126.2.1 Format of generated display text.**

BRDP-S1-00547: Decide on the format for generating the displayed applicability annotation from the computable applicability annotation that will best fulfill industry and/or customer display requirements.

5.126.2.2 Modifying an assigned product attribute value in the PCT.

BRDP-S1-00548: Decide if modifications to PCT assigned values are allowed.

5.127 S1000D Chapter 8.2 - SNS, information codes and learn codes - Maintained SNS.**5.127.1 Army business rules.**

None.

5.127.2 Project decisions.**5.127.2.1 Translation of SNS titles and definitions.**

BRDP-S1-00549: Decide whether to translate and use the SNS titles and the definitions in the languages adopted by the project.

5.128 S1000D Chapter 8.2.1 - Maintained SNS - Generic.**5.128.1 Army business rules.****5.128.1.1 Use of the generic standard numbering system.**

Use of the generic SNS is allowed if the program is not using FGC for equipment breakdown coding. Projects using FGC coding shall document how the SNS will be coded for generic content that is not defined by FGC. Generic content includes the content identified in S1000D Chapter 8.2.1. (BR-ARMY-00446)

5.128.2 Project decisions.

5.128.2.1 Project use of the generic standard numbering system.

BRDP-ARMY-00127: Decide whether to use the generic SNS defined in S1000D Chapter 8.2.1.

5.129 S1000D Chapter 8.2.2 - Maintained SNS - Support and training equipment.

5.129.1 Army business rules.

None.

5.129.2 Project decisions.

5.129.2.1 Use of the support and training equipment standard numbering system.

BRDP-ARMY-00128: The project shall decided if and how to use the support and training equipment SNS provided in S1000D Chapter 8.2.2.

5.130 S1000D Chapter 8.2.3 - Maintained SNS - Ordnance.

5.130.1 Army business rules.

None.

5.130.2 Project decisions.

5.130.2.1 Use of the ordnance standard numbering system.

BRDP-ARMY-00129: The project shall decided if and how to use the ordnance SNS provided in S1000D Chapter 8.2.3.

5.131 S1000D Chapter 8.2.4 - Maintained SNS - General communications.

5.131.1 Army business rules.

None.

5.131.2 Project decisions.

5.131.2.1 Use of the general communications standard numbering system.

BRDP-ARMY-00130: The project shall decided if and how to use the general communications SNS provided in S1000D Chapter 8.2.4.

5.132 S1000D Chapter 8.2.5 - Maintained SNS - Air vehicle, engines and equipment.

5.132.1 Army business rules.

None.

5.132.2 Project decisions.

5.132.2.1 Use of the air vehicle standard numbering system.

BRDP-ARMY-00131: The project shall decided if and how to use the air vehicle SNS provided in S1000D Chapter 8.2.5.

5.133 S1000D Chapter 8.2.6 - Maintained SNS - Tactical missiles.

5.133.1 Army business rules.

None.

5.133.2 Project decisions.

5.133.2.1 Use of the tactical missiles standard numbering system.

BRDP-ARMY-00132: The project shall decided if and how to use the tactical missiles SNS provided in S1000D Chapter 8.2.6.

5.134 S1000D Chapter 8.2.7 - Maintained SNS - General surface vehicles.

5.134.1 Army business rules.

None.

5.134.2 Project decisions.

5.134.2.1 Use of the surface vehicles standard numbering system.

BRDP-ARMY-00133: The project shall decided if and how to use the surface vehicles SNS provided in S1000D Chapter 8.2.7.

5.135 S1000D Chapter 8.2.8 - Maintained SNS - General sea vehicles.

5.135.1 Army business rules.

None.

5.135.2 Project decisions.**5.135.2.1 Use of the sea vehicle standard numbering system.**

BRDP-ARMY-00134: The project shall decide if and how to use the sea vehicle SNS provided in S1000D Chapter 8.2.8.

5.136 S1000D Chapter 8.4 - SNS, information and learn codes - Information Codes.**5.136.1 Army business rules.****5.136.1.1 Information codes.**

The information codes in [APPENDIX A](#) shall be used to identify the functional content of each data module. Programs that identify a data module function that cannot be satisfied with an existing information code shall coordinate that requirement with LDAC using the change process described in [5.3.1.1](#). (BR-ARMY-00455)

5.136.1.2 Allocation of project specific information codes.

BRDP-S1-00550: Decide and agree on allocation of project specific information codes and give them short and full definitions.

Projects shall not use unassigned information codes. If a project determines the need to assign a new information code, the information code and its corresponding information name and definition shall be submitted to the appropriate Service Representative to the Joint Service IETM Technology Working Group (JSITWG). (JS-090)

5.136.1.3 Information code variants.

Information code variants shall be used as defined in [B.5](#). (BR-ARMY-00456)

5.136.2 Project decisions.**5.136.2.1 Translation of information code definitions.**

BRDP-S1-00551: Decide whether to translate and use the information code definitions in the languages adopted by the project.

5.137 S1000D Chapter 8.5 - SNS, information codes and learn codes - Learn codes.**5.137.1 Army business rules.**

None.

5.137.2 Project decisions.

5.137.2.1 Translation of learn code definitions.

BRDP-S1-00552: Decide whether to translate and use the learn code definitions in the languages adopted by the project.

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6 NOTES

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

6.1 Intended use.

MIL-STD-3031 prescribes business rule requirements applicable to various types of technical publications developed for the Army using S1000D Issue 4.2.

6.2 Acquisition requirements.

Acquisition documents should cite the following:

- a. Title, number, and date of this standard.
- b. Title, number, and date of S1000D.
- c. Filled out functionality matrix.
- d. Filled out content selection matrix.
- e. Project-specific business rules.

6.3 Associated Data Item Descriptions (DIDs).

This standard has been assigned an Acquisition Management Systems Control (AMSC) number authorizing it as the source document for the following DIDs. When it is necessary to obtain the data, the applicable DIDs must be listed on the Contract Data Requirements List (DD Form 1423).

<u>DID Number</u>	<u>DID Title</u>
DI-TMSS-81784	ARMY S1000D PROJECT BUSINESS RULES

The above DIDs were current as of the date of this standard. The ASSIST database should be researched at <https://quicksearch.dla.mil/> to ensure that only current and approved DIDs are cited on the DD Form 1423.

6.4 Tailoring guidance.

The acquiring activity should tailor any required options offered herein in accordance with the following:

- a. S1000D Chapter 1.4
- b. This document ([4.3](#) and [A.1](#)).

6.5 Subject term (key word) listing.

The following terms are to be used to identify the MIL-STD-3031B document during retrieval searches:

- a. Additional Authorization List (AAL).
- b. Basic Issue Items (BII).
- c. Basis of Issue (BOI).
- d. Computer Graphics Metafile (CGM).
- e. Components of End Item (COEI).
- f. Depot Maintenance Work Requirement (DMWR).
- g. Expendable and durable items list.
- h. Extensible Markup Language (XML).

6.6 Changes from previous issue.

The margins of this standard are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

APPENDIX A

CONTENT SELECTION MATRICES.

A.1 SCOPE.

This appendix provides the publication technical content selection matrices for all major weapon systems and all types of equipment, including test and support equipment. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance. These requirements are applicable for all maintenance levels through overhaul (depot), including DMWRs/NMWRs.

A.2 APPLICABLE DOCUMENTS.

This section is not applicable to this appendix.

A.3 DEFINITIONS.

This section is not applicable to this appendix.

A.4 GENERAL REQUIREMENTS.

A.4.1 General.

Content Selection Matrices list specific technical content requirements for each type of maintenance manual, including multilevel TMs/IETPs, covered by this standard. Each type of TM/IETP shall provide in detail the maintenance coverage prescribed for the applicable maintenance level(s) by the Maintenance Allocation Chart (MAC) and SMR-coded items.

A.4.2 Content selection.

[TABLE A-II](#) through [TABLE A-XXVIII](#) simplifies tailoring the technical content requirements of technical manuals prepared using this standard as a guide. The tables indicate which portions of this standard are applicable and list the content requirements for each type of TM/IETP. The content requirements for each applicable TM/IETP shall be arranged in the order presented in the tables.

A.4.3 Intended use.

First determine the types of TMs/IETPs required for each acquisition and then select the table(s) that contains the content requirements for those types of TMs/IETPs. [TABLE A-II](#) through [TABLE A-XXVIII](#) contain the following columns:

- a. Column Heading: Content Requirement - Identifies the title of the content requirement.
- b. Column Heading: Req. - For each type of TM/IETP selected, indicate in the open blocks of the information set desired by entering an "R" for "REQUIRED" content or a "P" for content that is "PROHIBITED." All blocks for the selected TM IETP types shall be completed with an "R" or a "P" for each acquisition. The blocks that already contain an "R" are required by the Army and cannot be changed. The blocks containing "P" are prohibited by the Army for that type of TM/IETP and shall not be included. The blocks that are blank indicate "AS REQUIRED" and shall be identified by the project when needed to support the equipment or condition. These blocks shall be filled in with "R" or "P," as applicable. A remarks page can be used to provide the contractor additional instructions. Where applicable, this column heading will also identify the applicable publication code from [TABLE LXIV](#).

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- c. Column Heading: Ref - Identifies the paragraph in this document that provides details about the content requirement in column 1.
- d. Column Heading: PM Entry Title - Identifies the publication module entry title to be used with the corresponding content (refer to [5.52.1.42](#)). The publication module entry title applies to all rows spanned by the cell.
- e. Column Heading: DM Type - Identifies the data module type that shall be used for the corresponding content requirement. The data module type applies to all rows spanned by the cell. Unless otherwise directed by the acquiring activity, a single data module shall be used for the content in the spanned rows.
- f. Column Heading: Info Code - Identifies the information code for the corresponding content requirement. A notation "PD" in this column indicates that the information code and information code variant shall be determined by the project based on the content of the data module.
- g. Column Heading: ICV - Identifies the information code variant for the corresponding content requirement. A blank cell implies that the variant "A" shall be used.
- h. Column Heading: Info Name - Identifies the information name for the corresponding content requirement.

A.4.3.1 Content that is not applicable.

If the "Req." column indicates a content requirement that is not applicable to the equipment (for example, the requirement for weapons weight and balance information for an aircraft that does not have weapons), the project shall indicate that "This content is not applicable."

A.4.4 Acquisition requirements.

The properly executed content selection matrix table becomes contractually binding when it is made part of the contract, statement of work or any other contractual instrument.

A.5 DETAILED REQUIREMENTS.

A.5.1 Tailoring requirements for technical manuals.

Tailoring of the technical content requirements can be achieved with the content selection matrices in [TABLE A-II](#) through [TABLE A-XXVIII](#). The tables list applicable technical content requirements for the development of the following publications. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance. Copies of the applicable tables will be completed and added as an attachment to the Document Summary List of the contract. [TABLE A-II](#) through [TABLE A-XXVIII](#) are available in Excel at <https://www.ldac.army.mil/s1000d-publications/>.

A.5.2 Front and rear matter.

[TABLE A-II](#) and [TABLE A-III](#) contain the content selection requirements from IETP introductory matter and page-based front and rear matter. Depending on output requirements (either page-based or IETP), projects shall comply with the content requirements identified in the tables. These tables shall be combined with the other content selection matrices ([TABLE A-VI](#) through [TABLE A-XXVIII](#)) to form the basis for the project publication output requirements.

A.5.3 Publication titles.

- a. All publication titles shall correspond to the titles in [TABLE A-II](#) through [TABLE A-XXVIII](#)

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- b. If the publication does not contain parts list information, the words "including parts information" or "including parts list" shall be omitted from the title.

TABLE A-I. Publication Types, Titles, and Associated Content Matrices

Title	Applicable Table	S1000D Code (Maint level)
<u>Front and rear matter</u>		
Front Matter	TABLE A-II	NA
Page-Based Rear Matter	TABLE A-III	NA
<u>General Publications</u>		
Operator Manual	TABLE A-IV	OPI (-10)
Operator and Field Maintenance Manual		MM3 (-12)
Operator and Field Maintenance Manual including Parts Information		M3B (-12&P)
Field Maintenance Manual	TABLE A-V	MM2 (-20)
Field Maintenance Manual including Parts Information		M2B (-20&P)
Field Maintenance Repair Parts and Special Tools Information Manual	TABLE A-VI	M2P (-20P)
National Maintenance Work Requirements (NMWR) including Parts Information	TABLE A-VII	NWP
Depot Maintenance Work Requirements (DMWR) Including Parts Information		DWP
NMWR		NWR
DMWR		DMR
Software User's Manual	TABLE A-VIII	SFU
Software Administrator's Manual		SAM
Software Users and software administrator's manual		SUA
<u>Armament Publications</u>		
Depot Maintenance Work Requirements (DMWRs) For Maintenance/Demilitarization	TABLE A-IX	DWR (Ammo DMWR)
Ammunition Data Sheets Manual	TABLE A-X	ADS (Ammo Data Sheets)
<u>Aviation Publications</u>		
Aviation Field Maintenance Manual	TABLE A-XI	MM2 (-20)
Aviation Field Maintenance Manual including Parts Information		M2B (-20&P)
Aircraft Preventive Maintenance Daily	TABLE A-XII	PMD (PMD)
Aircraft Preventive Maintenance Services		MSM (PMS)
Aircraft Phased Maintenance Inspection Checklist	TABLE A-XIII	PMI

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TABLE A-I. Publication Types, Titles, and Associated Content Matrices (continued)

Title	Applicable Table	S1000D Code (Maint level)
<u>Other Maintenance</u>		
Battle Damage Assessment and Repair (BDAR)	TABLE A-XIV	BDR
Destruction of Equipment to Prevent Enemy Use Manual	TABLE A-XV	DTM
Lubrication Order	TABLE A-XVI	LBO
Preventive Maintenance Checklist	TABLE A-XVII	PMC
General Maintenance Manual	TABLE A-XVIII	GSM
Hand Receipt Technical Manual	TABLE A-XIX	HDR
Technical Bulletin	TABLE A-XX	TEB
Supplemental Information for Commercial Off-The-Shelf (COTS) Manuals	TABLE A-XXI	NA
Aircraft Operator Manual	TABLE A-XXII	OPI (Aviation -10)
Pilot/Crew checklist (aircraft)	TABLE A-XXIII	CCL (-CL)
Maintenance Test Flight Manual	TABLE A-XXIV	FMM (-MTF)
Demilitarization of Surplus Military Items Manual	TABLE A-XXV	DMS (Demil manual)
Warranty Technical Bulletin (WTB)	TABLE A-XXVI	WTB
Modification Work Order (MWO)	TABLE A-XXVII	MWO
Preparation for Shipment of Army Aircraft Manual	TABLE A-XXVIII	CLG

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TABLE A-II. Front Matter

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111	Front matter				
Front Cover ³	R	5.111.1.1.35-.111.1.2.6		Front matter	001	B	Front cover
(MC) Signature page		5.111.1.1.45-.111.1.2.4		Descriptive	023	M	Signature page
List of effective data modules ³	R	5.111.1.1.6		Descriptive	00S	A	List of effective data modules
Highlights ³		5.111.1.1.7		Descriptive	00U	A	Highlights
Warning Summary		5.111.1.1.55-.111.1.2.5		Descriptive	012	J	Safety summary
Title Block Page ⁴		5.111.1.1.8		Descriptive	001	A	Title page
Table of Contents ³	R ⁵	5.111.1.1.95-.111.1.2.7		Descriptive	009	A	Table of contents
Glossary*		5.111.1.1.10-5.111.1.2.10		Descriptive	006	A	List of terms
How to Use This Manual		5.111.1.1.11-5.111.1.2.8		Descriptive	018	B	How to use this manual

3. Optionally generated
4. By project decision, a combined cover/title block may be used.
5. A table of contents is not required for Operator's Checklists or manuals that are less than eight pages.

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TABLE A-III. Rear Matter

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
REAR MATTER	R	5.111.1.3.1	Rear matter				
Alphabetical Index		5.111.1.3.1.2		Descriptive	014	B	Alphabetical index
DA Form 2028 (or IETP equivalent)	R ⁶¹	5.111.1.3.1.4		Descriptive	023	B	Reporting errors and recommending improvements
Authentication Page	R	5.111.1.3.1.3		Descriptive	023	C	Authentication page
Foldout pages		5.111.1.3.1.5		Descriptive	PD		
Back cover		5.111.1.3.1.6		Descriptive	001	C	Back cover

-
6. Maintenance Test Flight, Checklists, and manuals smaller than standard size do not require DA Form 2028.

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TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	R	R	5.111					
GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION	R	R	R	5.89	General information, equipment description, and theory of operation				
<i>GENERAL DATA</i>	R	R	R	5.89.1.4		Descriptive	010	A	General data
Scope	R	R	R	5.89.1.4.2					
Ozone Depleting Substances (ODS)				5.89.1.4.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	R	5.89.1.4.4					
Preparation for Storage or Shipment	R	R	R	5.89.1.4.5					
Transportability Guidance	R	R	R	5.89.1.4.6					
Nomenclature Cross-Reference List				5.89.1.4.7					
List of Abbreviations/ Acronyms	R	R	R	5.89.1.4.8					
Safety, Care, and Handling	R	R	R	5.89.1.4.9					
Calibration				5.89.1.4.10					
Supporting information for repair parts, special tools/ kits, TMDE, and support equipment	P	R	P	5.89.1.4.11					

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Copyright Credit Line				5.89.1.4.12					
Item Unique Identification (IUID)				5.89.1.4.13					
Mandatory Replacement Parts (MRP)				5.93.1.21		Descriptive	075	D	Mandatory replacement parts
<i>GENERAL INFORMATION</i>	R			5.89.1.5		Descriptive	010	B	General information
Maintenance Forms, Records, and Reports	R	R	R	5.89.1.5.2					
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	5.89.1.5.3					
Hand Receipt (HR) Information				5.89.1.5.4					
Corrosion Prevention and Control (CPC)	R	R	R	5.89.1.5.5					
Warranty Information				5.89.1.5.6					
Quality of material	P		R	5.89.1.5.7					
Nuclear Hardness				5.89.1.5.8					
<i>EQUIPMENT DESCRIPTION AND DATA</i>	R	R	R	5.89.1.6		Descriptive	000	B	Equipment description and data
Equipment Characteristics, Capabilities, and Features	R	R	R	5.89.1.6.2					

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Location and Description of Major Components	R	R	R	5.89.1.6.3					
Equipment Differences				5.89.1.6.4					
Equipment Data	R	R	R	5.89.1.6.5					
<i>THEORY OF OPERATION</i>	R	R	R	5.89.1.7		Descriptive	042	F	Theory of operation
OPERATOR INSTRUCTIONS	R	R	R	5.88.1.3	Operator instructions				
<i>DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS</i>	R	R	R	5.88.1.4		Descriptive	111	A	Controls and indicators
<i>OPERATION UNDER USUAL CONDITIONS</i>	R	R	R	5.88.1.4.4					
Security measures for electronic data				5.88.1.4.4.2		Descriptive		D	Security measures for electronic data
Siting requirements				5.88.1.4.4.3		Procedural		A	Siting
Shelter requirements				5.88.1.4.4.4		Procedural		A	Shelter
Assembly and preparation for use				5.88.1.4.4.5		Procedural	870	A	Procedure to prepare item for use after storage
Initial adjustments, before use and self-test				5.88.1.4.4.6		Procedural		B	Initial adjustments, before use and self-test

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
Operating procedures	R	R	R	5.88.1.4.4.7		Procedural		A	Normal operation procedures
Operating auxiliary equipment				5.88.1.4.4.9		Procedural		A	Normal operation procedures
Preparation for movement				5.88.1.4.4.-10		Procedural		S	Preparation for movement
<i>OPERATION UNDER UNUSUAL CONDITIONS</i>	R	R	R	5.88.1.4.5					
Security measures for electronic data				5.88.1.4.5.1		Descriptive		C	Security measures for electronic data (Unusual conditions)
Unusual environment/ weather	R	R	R	5.88.1.4.5.2		Procedural	142	B	Unusual environment / weather
Fording and swimming				5.88.1.4.5.3		Procedural	131	R	Fording and swimming
Interim Chemical, Biological, Radiological, Nuclear, and explosives (CBRNE) decontamination procedures				5.88.1.4.5.4		Procedural	139	B	Interim Chemical, Biological, Radiological, Nuclear, and explosives (CBRNE) decontamination procedures
Jamming and Electronic Countermeasures (ECM) procedures				5.88.1.4.5.5		Procedural	144	A	Jamming and Electronic Countermeasures (ECM) procedures

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Degraded operation procedures				5.88.1.4.5.6		Procedural	142	C	Degraded operation procedures
<i>EMERGENCY</i>				5.88.1.4.6		Procedural	140	B	Operation under emergency conditions
<i>DECAL / DATA PLATE GUIDE</i>				5.88.1.4.7		Descriptive	067	B	Stowage and decal/data plate guide
<i>ON-VEHICLE EQUIPMENT LOADING PLAN</i>				5.97.1.1		Descriptive	160	C	On-vehicle equipment loading plan
TROUBLE-SHOOTING MASTER INDEX					Trouble-shooting master index				
<i>TROUBLE-SHOOTING INDEX</i>				5.91.1.27.2		Descriptive	410	F	Malfunction index
				5.91.1.27.2		Descriptive	140	B	Symptom index
				5.91.1.27.4		Descriptive	140	C	System/Sub-system index
TROUBLE-SHOOTING PROCEDURES			R	5.91	Trouble-shooting procedures				
<i>NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included.</i>									
<i>INTRODUCTION</i>				5.91.1.25		Descriptive	018	C	Trouble-shooting introduction
<i>TROUBLE-SHOOTING INDEX</i>				5.91.1.27.2		Descriptive	410	F	Malfunction index

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name		
				5.91.1.27.2		Descriptive	410	B	Symptom index		
				5.91.1.27.4		Descriptive	410	C	System/Sub-system index		
<i>*OPERATIONAL CHECKOUT</i>				5.91.1.30		Descriptive	018	V	Operational checkout introduction		
						Procedural	331	B	Pretest setup procedures		
						Procedural	320	C	Operational checkout test procedure		
						Descriptive	410	G	Message index		
						Descriptive	410	H	Fault code reference index		
						Procedural	334	C	Post-operational checkout shutdown procedures		
	<i>*TROUBLE-SHOOTING PROCEDURES</i>						5.91.1.31	Descriptive	018	C	Trouble-shooting introduction
								Procedural	PD		General troubleshooting procedures and precautions
				Procedural		331		B	Pretest setup procedures		
				Fault		421		B	Trouble-shooting procedure		
				Procedural		334		B	Post-trouble-shooting shutdown procedures		

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>*DIAGNOSTICS</i>				5.91.1.31.-6.2		Process	429	A	Diagnostics
PMCS MAIN-TENANCE IN-STRUCTIONS				5.90.1.4	PMCS maintenance instructions				
<i>PMCS INTRODUCTION</i>				5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS, INCLUDING LUBRICATION INSTRUCTIONS</i>				5.90.1.6		Checklist		B	PMCS
MAINTENANCE IN-STRUCTIONS	R	R	R	5.90	Maintenance instructions				
<i>SERVICE UPON RECEIPT</i>		R	R	5.90.1.3					
Siting				5.88.1.4.4.3		Procedural	122	A	Siting
Shelter requirements				5.88.1.4.4.4		Procedural	123	A	Shelter
Service upon receipt of materiel				5.90.1.3.2					
Unpacking				5.90.1.3.2.1		Procedural	840	B	Unpacking
Checking unpacked equipment				5.90.1.3.2.2		Checklist	870	B	Checking unpacked equipment
Processing unpacked equipment				5.90.1.3.2.3		Procedural	870	C	Processing unpacked equipment
Installation instructions				5.90.1.3.3					
Assembly of equipment				5.90.1.3.3.4		Procedural	720	C	Install procedure
Installation of the equipment				5.90.1.3.3.1		Procedural	710	A	Assembly procedure

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
Special application installation instructions				5.90.1.3.3.2		Procedural	720	B	Special application installation instructions
Van and shelter procedure				5.90.1.3.3.3		Procedural	123	C	Van and shelter procedure
Preliminary servicing of equipment				5.90.1.3.4		Procedural	200	F	Preliminary servicing
Preliminary checks and adjustment of equipment				5.90.1.3.5		Procedural	271	B	Preliminary checks and adjustment of equipment
Preliminary calibration of equipment				5.90.1.3.6		Procedural	273	D	Preliminary calibration of equipment
Circuit alignment				5.90.1.3.7		Procedural	272	B	Circuit alignment
Ammunition service upon receipt	P			5.90.1.3.8		Procedural	200	G	Service upon receipt
Additional maintenance task				5.90.1.3.9		Procedural	PD		
Follow-on maintenance				5.90.1.11		Procedural	PD		
<i>EQUIPMENT/ USER FITTING INSTRUCTIONS</i>				5.96.1.1		Procedural	913	B	Equipment/ User fitting instructions
<i>PMCS INTRODUCTION</i>				5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS</i>				5.90.1.6		Checklist	200	B	PMCS
<i>MAINTENANCE</i>	R	R	R	5.90.1.10					
Inspect				5.90.1.10.4					
Test and inspection				5.90.1.10.-4.1		Procedural	300	B	Test and inspection

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Inspection of conventional and chemical ammunition or components containing radioactive materials				5.90.1.10.-4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection				5.90.1.10.-4.3		Procedural	310	N	Pre-embarkation inspection
Inspection of installed items				5.90.1.10.-4.4		Procedural	310	J	Inspection of installed items
Inspection-acceptance and rejection criteria				5.90.1.10.-4.5		Procedural	310	D	Inspection – Acceptance and rejection criteria
Test				5.90.1.10.5		Procedural	340	C	Testing
Service				5.90.1.10.6		Procedural	200	A	Servicing
Adjust				5.90.1.10.7		Procedural	271	A	Adjust
Align				5.90.1.10.8		Procedural	272	A	Align
Calibrate				5.90.1.10.9		Procedural	273	A	Calibrate
Remove				5.90.1.10.-10		Procedural	520	A	Removal procedure
Install				5.90.1.10.-11		Procedural	720	A	Install procedure
Replace				5.90.1.10.-12		Procedural	685	C	Replace
Repair				5.90.1.10.-13		Procedural	685	A	Repair
Paint				5.90.1.10.-14		Procedural	257	B	Painting

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
Overhaul	P			5.90.1.10.-15		Procedural	664	B	Overhaul procedure
Rebuild	P			5.90.1.10.-16		Procedural	664	C	Rebuild
Lubricate				5.90.1.10.-17		Procedural	240	A	Lubrication
Mark				5.90.1.10.-18		Procedural	067	D	Mark
Pack				5.90.1.10.-19		Procedural	713	A	Pack procedure
Unpack				5.90.1.10.-20		Procedural	840	B	Unpacking
Preserve				5.90.1.10.-21		Procedural	810	A	Preservation procedure
Prepare for use				5.90.1.10.-22		Procedural	870	A	Procedure to prepare item for use after storage
Assemble				5.90.1.10.-23		Procedural	710	A	Assembly procedure
Disassemble				5.90.1.10.-24		Procedural	530	A	Disassembly procedure
Clean				5.90.1.10.-25		Procedural	PD		
Nondestructive inspection				5.90.1.10.-26		Procedural	350	B	Non-destructive testing inspection
Radio interference suppression				5.90.1.10.-27		Procedural	143	A	Radio interference suppression
Place in service				5.90.1.10.-28		Procedural	870	P	Placing in service
Ground handling				5.90.1.10.-29					
Towing				5.90.1.10.-29.1		Procedural	174	A	Towing

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
Jacking				5.90.1.10.-29.2		Procedural	172	A	Jacking
Parking				5.90.1.10.-29.3		Procedural	170	J	Parking
Mooring				5.90.1.10.-29.4		Procedural	17A	A	Mooring
Covering				5.90.1.10.-29.5		Procedural	170	B	Covering
Hoisting				5.90.1.10.-29.6		Procedural	171	B	Hoisting
Sling loading				5.90.1.10.-29.7		Procedural	178	B	Sling loading
External power				5.90.1.10.-29.8		Procedural	170	C	External power
Preparation for storage				5.90.1.10.-30		Procedural	810	L	Preparation for storage
Preparation for shipment				5.90.1.10.-31		Procedural	811	Q	Preparation for shipment
Transport				5.90.1.10.-32		Procedural	831	L	Transport
Arm				5.90.1.10.-33		Procedural	120	G	Procedures to activate ammunition
Load				5.90.1.10.-34		Procedural	PD		
Unload				5.90.1.10.-35		Procedural	PD		
Install peripheral device				5.90.1.10.-36		Procedural	C23	C	Install peripheral device
Uninstall peripheral device				5.90.1.10.-31		Procedural	C20	K	Uninstall peripheral device
Upgrade/patch software				5.90.1.10.-32		Procedural	C20	L	Software upgrade/patch
Configure software				5.90.1.10.-37		Procedural	C20	M	Configure software

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
Debug software				5.90.1.10.-38		Procedural	C14	B	Debug software
Additional maintenance task				5.90.1.10.-41		Procedural	PD		
Follow-on maintenance				5.90.1.11		Procedural	PD		
<i>GENERAL MAINTENANCE</i>				5.90.1.12		Procedural	PD		
<i>LUBRICATION INSTRUCTIONS</i>				5.90.1.13		Procedural	240	B	Lubrication instructions
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS (MAINTAINER LEVEL)</i>	P	R	R	5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS (MAINTAINER LEVEL)</i>	P			5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS (MAINTAINER LEVEL)</i>	P			5.92		Descriptive	051	A	Wiring diagrams
AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS					Auxiliary equipment maintenance instructions				
<i>AUXILIARY EQUIPMENT MAINTENANCE</i>				5.96.1.2		Procedural	PD		
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>	P			5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>	P			5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>	P			5.92		Descriptive	051	A	Wiring diagrams

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
AMMUNITION MAINTENANCE INSTRUCTIONS					Ammunition maintenance instructions				
<i>AMMUNITION IDENTIFICATION</i>				5.90.1.22		Procedural	067	C	Ammunition identification
<i>AMMUNITION MAINTENANCE</i>				5.90.1.23		Procedural		K	Ammunition maintenance
<i>FOREIGN AMMUNITION</i>				5.90.1.24		Procedural	011	B	Foreign ammunition
DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE				5.98.1.3	Destruction of equipment to prevent enemy use				
<i>NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.</i>									
<i>DESTRUCTION PROCEDURES INTRODUCTION</i>				5.98.1.3.6.2		Descriptive	997	D	Destruction general information
Authority to destroy				5.98.1.2.6.3					
Reporting Destruction				5.98.1.3.6.4					
General Destruction Information				5.98.1.3.6.5					
Degree of Destruction				5.98.1.3.6.6					

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Essential Components and Spare Parts				5.98.1.3.6.7					
<i>DESTRUCTION PROCEDURES</i>									
Parts List				5.98.1.3.7		Descriptive		B	Parts list
Specific Destruction Procedures				5.98.1.3.8		Procedural		B	Destruction procedures
BATTLE DAMAGE ASSESSMENT AND REPAIR INFORMATION	P			5.99.1					
GENERAL INFORMATION	P			5.99.1.7	General information				
<i>GENERAL INFORMATION</i>	P					Descriptive	018	G	BDAR introduction
<i>BDAR GENERAL INFORMATION</i>	P			5.99.1.7.2		Descriptive	010	B	General information
Standards and practices	P			5.99.1.7.3					
Tasks and responsibilities	P			5.99.1.7.4					
Combat threats (aviation only)	P			5.99.1.7.5					
ASSESSING BATTLE DAMAGE	P			5.99.1.8	Assessing battle damage				
<i>BATTLE DAMAGE ASSESSMENT</i>	P					Descriptive	410	E	General fault assessment tables
Introduction	P			5.99.1.8.1					
General fault assessment tables	P			5.99.1.8.2					

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
GENERAL REPAIR	P				General repair				
Introduction	P			5.99.1.8.1					
Repair procedure	P			5.99.1.9					
General Repair - Repair Procedure	P			5.99.1.9.1		Procedural	PD		
End item - Repair procedure	P			5.99.1.9.2		Procedural	PD		
Major Functional Groups - Repair Procedure	P			5.99.1.9.3		Procedural	PD		
Auxiliary Equipment - Repair Procedure	P			5.99.1.9.4		Procedural	PD		
<i>SPECIAL OR FABRICATED TOOLS</i>	P			5.99.1.11	Descriptive	605	B	Support equipment and tools	
<i>SUBSTITUTE MATERIALS/ PARTS</i>	P			5.99.1.13	Descriptive	607	D	Substitute materials/ parts	
SOFTWARE INFORMATION					Software				

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Req.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
<i>SOFTWARE GENERAL INFORMATION</i>				5.114.1.1.-6.1	infor- mation	Descrip- tive	010	B	General information
System Overview									
Document Overview									
<i>SOFTWARE SUMMARY</i>				5.114.1.1.-6.2		Descrip- tive	C15	A	Summary of content
<i>SOFTWARE EFFECTIVITY</i>				5.114.1.1.-6.3					
<i>DIFFERENCES BETWEEN SOFTWARE VERSIONS</i>				5.114.1.1.-6.4					
<i>FEATURES AND CAPABILITIES</i>						Descrip- tive	033	C	Software description
<i>FUNCTIONAL DISPLAY</i>									
<i>SOFTWARE OPERATOR INSTRUCTIONS</i>				5.114.1.1.-6.6					
SECURITY AND PRIVACY PROCEDURES						Procedur- al	C73	A	Security procedures
SUPERVISORY CONTROLS						Procedur- al	C20	A	System administration
POWER UP AND ACCESS SOFTWARE PROCEDURES						Procedur- al	131	U	Start-up procedure
SOFTWARE OPERATOR PROCEDURES						Procedur- al	100	A	Operation
POWER DOWN AND EXIT						Procedur- al	131	V	Shutdown procedure

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
SOFTWARE PROCEDURES									
MESSAGES						Descriptive	410	A	General fault description
RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES						Procedural	134	B	Error recovery
PARTS INFORMATION	P	P	R	5.93	Parts information				
INTRODUCTION	P	P	R	5.93.1.9		Descriptive	018	E	Parts introduction
REPAIR PARTS LIST	P	P	R	5.93.1.10		IPD	941	A	Illustrated parts data
REPAIR PARTS FOR SPECIAL TOOLS	P	P		5.93.1.12		IPD	607	B	Repair parts for special tools
KIT PARTS LIST	P	P		5.93.1.13		IPD	607	C	Kit parts list
BULK ITEMS	P	P		5.93.1.14		IPD	603	B	Bulk items
SPECIAL TOOLS LIST	P	P		5.93.1.15		IPD	604	B	Special tools list
NSN INDEX	P	P	R	5.93.1.16.5		Descriptive	942	F	National stock number index
P/N INDEX	P	P	R	5.93.1.16.6		Descriptive	942	B	Part number index
REFERENCE DESIGNATOR INDEX	P	P		5.93.1.16.7		Descriptive	942	C	Reference designator index
SUPPORTING INFORMATION	R	R	R	5.103.1.1	Supporting information				
REFERENCES	R	R	R	5.103.1.1.2		Descriptive	017	B	References
INTRODUCTION FOR NON-AVIATION TWO-	P	R	R	5.94.1.1		Descriptive	018	D	MAC introduction

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**TABLE A-IV. Operator and Combined Operator/Maintainer Maintenance requirements
(continued)**

Content Requirement	O-PI (-1-0) Re-q.	M-M3 (-12) Req.	M3-B (-12-&P) Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
<i>LEVEL MAINTENANCE MAC</i>									
<i>MAC (NON-AVIATION TWO-LEVEL)</i>	P	R	R	5.94.1.3		Schedule	916	A	MAC
<i>COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS</i>	R	R	R	5.93.1.17		Descriptive/IPD	105	D	Components of End Item (COEI) list
				5.93.1.18		Descriptive/IPD	105	C	Basic Issue Items (BII) list
<i>ADDITIONAL AUTHORIZATION LIST (AAL)</i>				5.93.1.19		Descriptive/ IPD		C	Additional Authorization List (AAL)
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>	R	R	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>TOOL IDENTIFICATION</i>	P	R	R	5.100.1.1		Descriptive	062	B	Tool identification list
<i>MANDATORY REPLACEMENT PARTS</i>				5.93.1.21		Descriptive	075	D	Mandatory replacement parts
<i>CRITICAL SAFETY ITEMS</i>				5.93.1.22		Descriptive	075	E	Critical Safety Items (CSI)
<i>SUPPORT ITEMS</i>				5.103.1.1.3		Descriptive	061	B	Support equipment and tools
<i>ADDITIONAL SUPPORTING INFORMATION</i>				5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	R	R	5.111.1.3.1					

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TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	R	5.111					
GENERAL INFORMATION EQUIPMENT DESCRIPTION AND THEORY OF OPERATION	R	R		General information, equipment description, and theory of operation				
<i>GENERAL DATA</i>	R	R	5.89.1.4		Descriptive	010	A	General data
Scope	R	R	5.89.1.4.2					
Ozone Depleting Substances (ODS)			5.89.1.4.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.89.1.4.4					
Preparation for Storage or Shipment	R	R	5.89.1.4.5					
Transportability guidance	R	R	5.89.1.4.6					
Nomenclature Cross-Reference List			5.89.1.4.7					
List of Abbreviations/Acronyms	R	R	5.89.1.4.8					
Safety, Care, and Handling	R	R	5.89.1.4.9					
Calibration			5.89.1.4.10					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.89.1.4.11					
Copyright Credit Line			5.89.1.4.12					

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0-&-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Item Unique Identification			5.89.1.4.13					
<i>GENERAL INFORMATION</i>	R	R	5.89.1.5		Descriptive	010	B	General information
Maintenance Forms, Records, and Reports	R	R	5.89.1.5.2					
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.89.1.5.3					
Hand Receipt (HR) Information			5.89.1.5.4					
Corrosion Prevention and Control (CPC)	R	R	5.89.1.5.5					
Warranty Information			5.89.1.5.6					
Quality of Material	P	P	5.89.1.5.7					
Nuclear Hardness			5.89.1.5.8					
<i>EQUIPMENT DESCRIPTION AND DATA</i>	R	R	5.89.1.6		Descriptive	000	B	Equipment description and data
Equipment Characteristics, Capabilities, and Features	R	R	5.89.1.6.2					
Location and Description of Major Components	R	R	5.89.1.6.3					
Equipment Differences			5.89.1.6.4					
Equipment Data	R	R	5.89.1.6.5					
<i>THEORY OF OPERATION</i>	R	R	5.89.1.7		Descriptive	042	F	Theory of operation

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0-&-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
TROUBLE-SHOOTING MASTER INDEX				Trouble-shooting master index				
<i>TROUBLESHOOTING INDEX</i>			5.91.1.27.3		Descriptive	410	D	Master index
TROUBLE-SHOOTING PROCEDURES	R	R	5.91	Trouble-shooting procedures				
NOTE: The notation (*) indicates that at least one of the these content items shall be included.								
<i>INTRODUCTION</i>			5.91.1.25		Descriptive	018	C	Troubleshooting introduction
<i>TROUBLESHOOTING INDEX</i>			5.91.1.27		Descriptive	410	F	Malfunction index
					Descriptive	410	B	Symptom index
					Descriptive	410	C	System/sub-system index
<i>*OPERATIONAL CHECKOUT</i>			5.91.1.30		Descriptive	018	V	Operational checkout introduction
					Procedural	331	B	Pretest setup procedures
					Procedural	320	C	Operational checkout test procedure
					Descriptive	410	G	Message index
					Descriptive	410	J	Fault reports
					Procedural	334	C	Post-operational

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0-&-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
								checkout shut-down procedures
<i>*TROUBLESHOOTING PROCEDURES</i>			5.91.1.31		Descriptive	018	C	Troubleshooting introduction
					Procedural	PD		General troubleshooting procedures and precautions
					Procedural	331	B	Pretest setup procedures
					Fault	421	B	Troubleshooting procedure
					Procedural	334	B	Post-troubleshooting shut-down procedures
<i>*DIAGNOSTICS</i>			5.91.1.31.6.2		Process	429	A	Diagnostics
PMCS MAINTENANCE INSTRUCTIONS				PMCS maintenance instructions				
<i>PMCS INTRODUCTION</i>			5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS, INCLUDING LUBRICATION INSTRUCTIONS</i>			5.90.1.6		Checklist	200	B	PMCS
MAINTENANCE INSTRUCTIONS	R	R	5.90	Maintenance instructions				
SERVICE UPON RECEIPT	R	R	5.90.1.3					
Siting			5.88.1.4.4.3		Procedural	122	A	Siting
Shelter requirements			5.88.1.4.4.4		Procedural	123	A	Shelter

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Service upon receipt of material			5.90.1.3.2					
Unpacking			5.90.1.3.2.1		Procedural	840	B	Unpacking
Checking unpacked equipment			5.90.1.3.2.2		Checklist	870	B	Checking unpacked equipment
Processing unpacked equipment			5.90.1.3.2.3		Procedural	870	C	Processing unpacked equipment
Installation instructions			5.90.1.3.3					
Assembly of equipment			5.90.1.3.3.4		Procedural	710	C	Assembly of equipment
Installation of the equipment			5.90.1.3.3.1		Procedural	720	A	Install procedure
Special application installation instructions			5.90.1.3.3.2		Procedural	720	B	Special application installation instructions
Van and shelter procedure			5.90.1.3.3.3		Procedural	123	C	Van and shelter procedure
Preliminary servicing of equipment			5.90.1.3.4		Procedural	200	F	Preliminary servicing
Preliminary checks and adjustment of equipment			5.90.1.3.5		Procedural	271	B	Preliminary checks and adjustment of equipment
Preliminary calibration of equipment			5.90.1.3.6		Procedural	273	D	Preliminary calibration of equipment
Circuit alignment			5.90.1.3.7		Procedural	272	B	Circuit alignment
Ammunition service upon receipt			5.90.1.3.8		Procedural	200	G	Service upon receipt

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Additional service upon receipt task			5.90.1.3.9		Procedural	PD		
Follow-on maintenance			5.90.1.11		Procedural	PD		
<i>EQUIPMENT/USER FITTING INSTRUCTIONS</i>			5.96.1.1		Procedural	913	B	Equipment/ user fitting instructions
<i>PMCS INTRODUCTION</i>			5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS</i>			5.90.1.6		Checklist	200	B	PMCS
MAINTENANCE	R	R	5.90.1.10					
Inspect			5.90.1.10.4					
Test and inspection			5.90.1.10.4.1		Procedural	300	B	Test and inspection
Inspection of conventional and chemical ammunition or components containing radioactive materials			5.90.1.10.4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection			5.90.1.10.4.3		Procedural	310	N	Pre-embarkation inspection
Inspection of installed items			5.90.1.10.4.4		Procedural	310	J	Inspection of installed items
Inspection - acceptance and rejection criteria			5.90.1.10.4.5		Procedural	310	D	Inspection - Acceptance and rejection criteria
Test			5.90.1.10.5		Procedural	340	C	Testing
Service			5.90.1.10.6		Procedural	200	A	Servicing
Adjust			5.90.1.10.7		Procedural	271	A	Adjust

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Align			5.90.1.10.8		Procedural	272	A	Align
Calibrate			5.90.1.10.9		Procedural	273	A	Calibrate
Remove			5.90.1.10.10		Procedural	520	A	Removal procedure
Install			5.90.1.10.11		Procedural	720	A	Install procedure
Replace			5.90.1.10.12		Procedural	685	C	Replace
Repair			5.90.1.10.13		Procedural	685	A	Repair
Paint			5.90.1.10.14		Procedural	257	B	Painting
Overhaul			5.90.1.10.15		Procedural	664	B	Overhaul procedure
Rebuild			5.90.1.10.16		Procedural	664	C	Rebuild
Lubricate			5.90.1.10.17		Procedural	240	A	Lubrication
Mark			5.90.1.10.18		Procedural	067	D	Mark
Pack			5.90.1.10.19		Procedural	713	A	Pack procedure
Unpack			5.90.1.10.20		Procedural	840	B	Unpacking
Preserve			5.90.1.10.21		Procedural	810	A	Preservation procedure
Prepare for use			5.90.1.10.22		Procedural	870	A	Procedure to prepare item for use after storage
Assemble			5.90.1.10.23		Procedural	710	A	Assemble procedure

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Disassemble			5.90.1.10.24		Procedural	530	A	Disassembly procedure
Clean			5.90.1.10.25		Procedural	PD		
Nondestructive inspection			5.90.1.10.26		Procedural	350	B	Non-destructive testing inspection
Radio interference suppression			5.90.1.10.27		Procedural	143	A	Radio interference suppression
Place in service			5.90.1.10.28		Procedural	870	P	Placing in service
Ground handling			5.90.1.10.29					
Towing			5.90.1.10.29-.1		Procedural	174	A	Towing
Jacking			5.90.1.10.29-.2		Procedural	172	A	Jacking
Parking			5.90.1.10.29-.3		Procedural	170	J	Parking
Mooring			5.90.1.10.29-.4		Procedural	17A	A	Mooring
Covering			5.90.1.10.29-.5		Procedural	170	B	Covering
Hoisting			5.90.1.10.29-.6		Procedural	171	B	Hoisting
Sling loading			5.90.1.10.29-.7		Procedural	178	B	Sling loading
External power			5.90.1.10.29-.8		Procedural	170	C	External power
Preparation for storage			5.90.1.10.30		Procedural	810	L	Preparation for storage
Preparation for shipment			5.90.1.10.31		Procedural	811	Q	Preparation for shipment

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0-&-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Transport			5.90.1.10.32		Procedural	831	L	Transport
Arm			5.90.1.10.33		Procedural	120	G	Procedures to activate ammunition
Load			5.90.1.10.34		Procedural	PD		
Unload			5.90.1.10.35		Procedural	PD		
Install peripheral device			5.90.1.10.36		Procedural	C23	C	Install peripheral device
Uninstall peripheral device			5.90.1.10.37		Procedural	C20	K	Uninstall peripheral device
Upgrade/patch software			5.90.1.10.38		Procedural	C20	L	Software upgrade/patch
Configure software			5.90.1.10.39		Procedural	C20	M	Configure software
Debug software			5.90.1.10.40		Procedural	C14	B	Debug software
Additional maintenance task			5.90.1.10.41		Procedural	PD		
Follow-on maintenance			5.90.1.11		Procedural	PD		
<i>GENERAL MAINTENANCE</i>			5.90.1.12		Procedural	PD		
<i>LUBRICATION INSTRUCTIONS</i>			5.90.1.13		Procedural	240	B	Lubrication instructions
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>			5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>			5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>			5.92		Descriptive	051	A	Wiring diagrams

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS				Auxiliary equipment maintenance instructions				
<i>AUXILIARY EQUIPMENT MAINTENANCE</i>			5.96.1.2		Procedural	PD		
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>			5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>			5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>			5.92		Descriptive	051	A	Wiring diagrams
AMMUNITION MAINTENANCE INSTRUCTIONS				Ammunition maintenance instructions				
<i>AMMUNITION IDENTIFICATION</i>			5.90.1.22		Procedural	067	C	Ammunition identification
<i>AMMUNITION MAINTENANCE</i>			5.90.1.23		Procedural	200	K	Ammunition maintenance
<i>FOREIGN AMMUNITION</i>			5.90.1.24		Procedural	011	B	Foreign ammunition
DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE			5.98.1.3	Destruction of equipment to prevent enemy use				
<i>DESTRUCTION PROCEDURES INTRODUCTION</i>			5.98.1.3.6.2		Descriptive	997	D	Destruction general information
Authority to destroy			5.98.1.2.6.3					
Reporting destruction			5.98.1.3.6.4					
General destruction information			5.98.1.3.6.5					

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Degree of destruction			5.98.1.3.6.6					
Essential components and spare parts			5.98.1.3.6.7					
<i>DESTRUCTION PROCEDURES</i>								
Parts list			5.98.1.3.7		Descriptive	907	B	Parts list
Specific destruction procedures			5.98.1.3.8		Procedural	997	B	Destruction procedures
BATTLE DAMAGE ASSESSMENT AND REPAIR INFORMATION			5.99.1					
GENERAL INFORMATION			5.99.1.7	General information				
<i>GENERAL INFORMATION</i>					Descriptive	018	G	BDAR introduction
<i>BDAR GENERAL INFORMATION</i>			5.99.1.7.2		Descriptive	010	B	General information
Standards and practices			5.99.1.7.3					
Tasks and responsibilities			5.99.1.7.4					
Combat threats (aviation only)			5.99.1.7.5					
ASSESSING BATTLE DAMAGE			5.99.1.8	Assessing battle damage				
<i>BATTLE DAMAGE ASSESSMENT</i>					Descriptive	410	E	General fault assessment tables
Introduction			5.99.1.8.1					
General fault assessment tables			5.99.1.8.2					

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
GENERAL REPAIR				General repair				
Introduction			5.99.1.8.1					
Repair procedure			5.99.1.9					
General Repair - Repair Procedure			5.99.1.9.1		Procedural	PD		
End item - Repair procedure			5.99.1.9.2		Procedural	PD		
Major Functional Groups - Repair Procedure			5.99.1.9.3		Procedural	PD		
Auxiliary Equipment - Repair Procedure			5.99.1.9.4		Procedural	PD		
<i>SPECIAL OR FABRICATED TOOLS</i>			5.99.1.11	Descriptive	605	B	Support equipment and tools	
<i>SUBSTITUTE MATERIALS/PARTS</i>			5.99.1.13	Descriptive	607	D	Substitute materials/parts	
SOFTWARE INFORMATION				Software information				

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0-&-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
SOFTWARE GENERAL INFORMATION			5.114.1.1.6.1		Descriptive	010	B	General information
System Overview								
Document Overview								
SOFTWARE SUMMARY			5.114.1.1.6.2		Descriptive	C15	A	Summary of content
SOFTWARE EFFECTIVITY			5.114.1.1.6.3					
DIFFERENCES BETWEEN SOFTWARE VERSIONS			5.114.1.1.6.4					
FEATURES AND CAPABILITIES					Descriptive	033	C	Software description
FUNCTIONAL DISPLAY								
SOFTWARE OPERATOR INSTRUCTIONS			5.114.1.1.6.6					
SECURITY AND PRIVACY PROCEDURES					Procedural	C73	A	Security procedures
SUPERVISORY CONTROLS					Procedural	C20	A	System administration
POWER UP AND ACCESS SOFTWARE PROCEDURES					Procedural	131	U	Start-up procedure
SOFTWARE OPERATOR PROCEDURES					Procedural	100	A	Operation
POWER DOWN AND EXIT SOFTWARE PROCEDURES					Procedural	131	V	Shutdown procedure

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>MESSAGES</i>					Descriptive	410	A	General fault description
<i>RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES</i>					Procedural	134	B	Error recovery
PARTS INFORMATION	P	R	5.93	Parts information				
<i>INTRODUCTION</i>	P	R	5.93.1.9		Descriptive	018	E	Parts introduction
<i>REPAIR PARTS LIST</i>	P	R	5.93.1.10		IPD	941	A	Illustrated parts data
<i>REPAIR PARTS FOR SPECIAL TOOLS</i>	P		5.93.1.12		IPD	607	B	Repair parts for special tools
<i>KIT PARTS LIST</i>	P		5.93.1.13		IPD	607	C	Kit parts list
<i>BULK ITEMS</i>	P		5.93.1.14		IPD	603	B	Bulk items
<i>SPECIAL TOOLS LIST</i>	P		5.93.1.15		IPD	604	B	Special tools list
<i>NSN INDEX</i>	P		5.93.1.16.5		Descriptive	942	F	National stock number index
<i>P/N INDEX</i>	P		5.93.1.16.6		Descriptive	942	B	Part number index
<i>REFERENCE DESIGNATOR INDEX</i>	P		5.93.1.16.7		Descriptive	942	C	Reference designator index
SUPPORTING INFORMATION	R	R	5.103.1.1	Supporting information				
<i>REFERENCES</i>	R	R	5.103.1.1.2		Descriptive	017	B	References
<i>INTRODUCTION FOR NON-AVIATION MAC</i>	R	R	5.94.1.1		Descriptive	018	D	MAC introduction
<i>MAINTENANCE ALLOCATION CHART</i>	R	R	5.94.1.3		Schedule	916	A	MAC

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**TABLE A-V. Field Maintenance Manual/Field Maintenance Manual including Parts Information
(continued)**

Content Requirement	M-M2 (-2-0) Re-q.	M-2B (-2-0- &-P) Re-q.	Ref.	PM Entry Title	DM Type	In-fo Co-de	IC-V	Info Name
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>	R	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>TOOL IDENTIFICATION LIST</i>	R	R	5.100.1.1		Descriptive	062	B	Tool identification list
<i>MANDATORY REPLACEMENT PARTS</i>			5.93.1.21		Descriptive	075	D	Mandatory replacement parts
<i>CRITICAL SAFETY ITEMS</i>			5.93.1.22		Descriptive	075	E	Critical safety items (CSI)
<i>SUPPORT ITEMS</i>			5.103.1.1.3		Descriptive	061	B	Support equipment and tools
<i>ADDITIONAL SUPPORTING INFORMATION</i>			5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	R	5.111.1.3.1					

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TABLE A-VI. Field Maintenance Repair Parts and Special Tools Information Manual

Content Requirement	M2P (-20P) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	5.111					
REPAIR PARTS AND SPECIAL TOOLS LIST	R	5.93	Parts information				
<i>INTRODUCTION</i>	R	5.93.1.9		Descriptive	018	E	Parts introduction
<i>REPAIR PARTS LIST</i>	R	5.93.1.10		IPD	941	A	Illustrated parts data
<i>REPAIR PARTS FOR SPECIAL TOOLS</i>		5.93.1.12		IPD	607	B	Repair parts for special tools
<i>KIT PARTS LIST</i>		5.93.1.13		IPD	607	C	Kit parts list
<i>BULK ITEMS</i>		5.93.1.14		IPD	603	B	Bulk items
<i>SPECIAL TOOLS LIST</i>		5.93.1.15		IPD	604	B	Special tools list
<i>NSN INDEX</i>		5.93.1.16.5		Descriptive	942	F	National stock number index
<i>P/N INDEX</i>		5.93.1.16.6		Descriptive	942	B	Part number index
<i>REFERENCE DESIGNATOR INDEX</i>		5.93.1.16.7		Descriptive	942	C	Reference designator index
REAR MATTER	R	5.111.1.3.1					

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TABLE A-VII. DMWR/NMWR

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	R	R	5.111					
GENERAL INFORMATION, DESCRIPTION AND THEORY OF OPERATION	R	R	R	5.89	General information, equipment description, and theory of operation	Descriptive	010	A	General data
<i>GENERAL DATA</i>	R	R	R	5.89.1.4					
Scope	R	R	R	5.89.1.4.2					
Ozone Depleting Substances (ODS)				5.89.1.4.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	R	5.89.1.4.4					
Preparation for Storage or Shipment	R	R	R	5.89.1.4.5					
Transportability guidance	R	R	R	5.89.1.4.6					
Nomenclature cross-reference list				5.89.1.4.7					
List of abbreviations/ acronyms	R	R	R	5.89.1.4.8					
Safety, care, and handling				5.89.1.4.9					

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Calibration				5.89.1.4.10					
Supporting information for repair parts, special tools, TMDE, and support equipment				5.89.1.4.11					
Copyright credit line				5.89.1.4.12					
Item Unique Identification (IUID)				5.89.1.4.13					
<i>GENERAL INFORMATION</i>	R	R	R	5.89.1.5					
Maintenance forms, records, and reports	R	R	R	5.89.1.5.2					
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	5.89.1.5.3					
Hand receipt (HR)				5.89.1.5.4					
Corrosion Prevention and Control (CPC)	R	R	R	5.89.1.5.5					
Warranty information				5.89.1.5.6					
					Descriptive	010	B		General information

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Quality of material	R	R	R	5.89.1.5.7					
Nuclear hardness				5.89.1.5.8					
Quality Assurance (QA)				5.89.1.5.9					
Critical Safety Items (CSI) (Aircraft only)				5.89.1.5.10					
Engineering Change Proposals (ECP)	R	R	R	5.89.1.5.11					
Modifications				5.89.1.5.12					
Deviations and exceptions	R	R	R	5.89.1.5.13					
Mobilization requirements	R	R	R	5.89.1.5.14					
Cost considerations	R	R	R	5.89.1.5.15					
<i>EQUIPMENT DESCRIPTION AND DATA</i>	R	R	R	5.89.1.6		Descriptive	000	B	Equipment description and data
Equipment characteristics, capabilities, and features	R	R	R	5.89.1.6.2					
Location and description of major components	R	R	R	5.89.1.6.3					

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Equipment differences				5.89.1.6.4					
Equipment data	R	R	R	5.89.1.6.5					
<i>THEORY OF OPERATION</i>				5.89.1.7		Descriptive	042	F	Theory of operation
DMWR/NMWR TROUBLE-SHOOTING PROCEDURES Note The notation (*) indicates that at least one of the these content items shall be included.	R	R	R	5.91	Trouble-shooting procedures				
<i>INTRODUCTION</i>				5.91.1.25		Descriptive	018	C	Trouble-shooting introduction
<i>TROUBLE-SHOOTING INDEX</i>				5.91.1.27		Descriptive	410	F	Malfunction index
						Descriptive	410	B	Symptom index
						Descriptive	410	C	System/sub-system index
<i>PRESHOP ANALYSIS</i>	R	R	R	5.91.1.28		Procedural	341	C	Preshop analysis
<i>COMPONENT CHECKLIST</i>				5.91.1.29		Descriptive	341	B	Component checklist

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>*OPERATIONAL CHECKOUT</i>				5.91.1.30		Descriptive	018	V	Operational checkout introduction
						Procedural	331	B	Pretest setup procedures
						Procedural	320	C	Operational checkout test procedure
						Descriptive	410	G	Message index
						Descriptive	410	H	Fault code reference index
						Procedural	334	C	Post-operational checkout shutdown procedures
<i>*TROUBLE-SHOOTING PROCEDURES</i>				5.91.1.31		Descriptive	018	C	Trouble-shooting introduction
						Procedural	PD		General troubleshooting procedures and precautions
						Procedural	331	B	Pretest setup procedure
						Fault	421	B	Trouble-shooting procedure

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
						Procedural	334	B	Post-troubleshooting shutdown procedures
DIAGNOSTICS				5.91.1.31.-6.2		Process	429	A	Diagnostics
DEPOT MAINTENANCE INSTRUCTIONS	R	R	R	5.90	Depot maintenance instructions				
<i>PRESERVATION, PACKAGING, AND MARKING</i>	R	R	R	5.90.1.14		Descriptive	810	H	Preservation, packaging, and marking
<i>EQUIPMENT/ USER FITTING INSTRUCTIONS</i>				5.96.1.1		Procedural	913	B	Equipment/ User fitting instructions
<i>MAINTENANCE</i>	R	R	R	5.90.1.10					
Inspect				5.90.1.10.4					
Test and inspection				5.90.1.10.-4.1		Procedural	300	B	Test and inspection
Inspection of conventional and chemical ammunition or components containing radioactive materials				5.90.1.10.-4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection				5.90.1.10.-4.3		Procedural	310	A	Pre-embarkation inspection

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Inspection of installed items				5.90.1.10.-4.4		Procedural	310	J	Inspection of installed items
Inspection-acceptance and rejection criteria				5.90.1.10.-4.5		Procedural	310	D	Inspection-Acceptance and rejection criteria
Test				5.90.1.10.5		Procedural	340	C	Testing
Service				5.90.1.10.6		Procedural	200	A	Servicing
Adjust				5.90.1.10.7		Procedural	271	A	Adjust
Align				5.90.1.10.8		Procedural	272	A	Align
Calibrate				5.90.1.10.9		Procedural	273	A	Calibrate
Remove				5.90.1.10.-10		Procedural	520	A	Removal procedure
Install				5.90.1.10.-11		Procedural	720	A	Install procedure
Replace				5.90.1.10.-12		Procedural	685	C	Replace
Repair				5.90.1.10.-13		Procedural	685	A	Repair
Paint				5.90.1.10.-14		Procedural	257	B	Painting
Overhaul				5.90.1.10.-15		Procedural	664	B	Overhaul procedure

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Rebuild				5.90.1.10.-16		Procedural	664	C	Rebuild
Lubricate				5.90.1.10.-17		Procedural	240	A	Lubrication
Mark	R	R	R	5.90.1.10.-18		Procedural	067	D	Mark
Pack	R	R	R	5.90.1.10.-19		Procedural	713	A	Pack procedure
Unpack				5.90.1.10.-20		Procedural	840	B	Unpacking
Preserve	R	R	R	5.90.1.10.-21		Procedural	810	A	Preservation procedure
Prepare for use				5.90.1.10.-22		Procedural	870	A	Procedure to prepare item for use after storage
Assemble				5.90.1.10.-23		Procedural	710	A	Assemble procedure
Disassemble				5.90.1.10.-24		Procedural	530	A	Disassembly procedure
Clean				5.90.1.10.-25		Procedural	PD		
Nondestructive inspection				5.90.1.10.-26		Procedural	350	B	Non-destructive testing inspection
Radio interference suppression				5.90.1.10.-27		Procedural	143	A	Radio interference suppression

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Place in service				5.90.1.10.-28		Procedural	870	P	Placing in service
Ground handling				5.90.1.10.-29					
Towing				5.90.1.10.-29.1		Procedural	174	A	Towing
Jacking				5.90.1.10.-29.2		Procedural	172	A	Jacking
Parking				5.90.1.10.-29.3		Procedural	175	B	Parking
Mooring				5.90.1.10.-29.4		Procedural	17A	A	Mooring
Covering				5.90.1.10.-29.5		Procedural	170	B	Covering
Hoisting				5.90.1.10.-29.6		Procedural	171	B	Hoisting
Sling loading				5.90.1.10.-29.7		Procedural	178	B	Sling loading
External power				5.90.1.10.-29.8		Procedural	170	C	External power
Preparation for storage	R	R	R	5.90.1.10.-30		Procedural	810	L	Preparation for storage
Preparation for shipment	R	R	R	5.90.1.10.-31		Procedural	811	Q	Preparation for shipment
Transport	R	R	R	5.90.1.10.-32		Procedural	831	L	Transport
Arm				5.90.1.10.-33		Procedural	120	G	Procedures to activate ammunition

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
Load				5.90.1.10.-34		Procedural	PD		
Unload				5.90.1.10.-35		Procedural	PD		
Install peripheral device				5.90.1.10.-36		Procedural	C23	C	Install peripheral device
Uninstall peripheral device				5.90.1.10.-37		Procedural	C20	K	Uninstall peripheral device
Upgrade/patch software				5.90.1.10.-38		Procedural	C20	L	Software upgrade/patch
Configure software				5.90.1.10.-39		Procedural	C20	M	Configure software
Debug software				5.90.1.10.-40		Procedural	C14	B	Debug software
Additional maintenance task				5.90.1.10.-41		Procedural	PD		
Follow-on maintenance				5.90.1.11		Procedural	PD		
<i>GENERAL MAINTENANCE</i>				5.90.1.12		Procedural	PD		
<i>LUBRICATION INSTRUCTIONS</i>				5.90.1.13		Procedural	240	B	Lubrication instructions
<i>FACILITIES</i>				5.90.1.15		Descriptive	915	A	Facilities
<i>OVERHAUL INSPECTION PROCEDURES (OIP)</i>				5.90.1.17		Procedural	310	C	Overhaul inspection procedures

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>DEPOT MOBILIZATION REQUIREMENTS</i>	R	R	R	5.90.1.18		Descriptive	800	K	Depot mobilization requirements
<i>QUALITY ASSURANCE REQUIREMENTS</i>	R	R	R	5.90.1.19		Descriptive	315	A	Quality assurance requirements
<i>ILLUSTRATION LIST OF MANUFACTURED ITEMS</i>	R	R	R	5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>				5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>				5.92		Descriptive	051	A	Wiring diagram
AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS					Auxiliary equipment maintenance instructions				
<i>AUXILIARY EQUIPMENT MAINTENANCE</i>				5.96.1.2		Procedural	PD		
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>	R	R	R	5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>				5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>				5.92		Descriptive	051	A	Wiring diagram

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
AMMUNITION MAINTENANCE INSTRUCTIONS					Ammunition maintenance instructions				
<i>AMMUNITION IDENTIFICATION</i>				5.90.1.22		Procedural	067	C	Ammunition identification
<i>AMMUNITION MAINTENANCE</i>				5.90.1.23		Procedural	200	K	Ammunition maintenance
<i>FOREIGN AMMUNITION</i>				5.90.1.24		Procedural	011	B	Foreign ammunition
SOFTWARE INFORMATION					Software information				
<i>SOFTWARE GENERAL INFORMATION</i>				5.114.1.1.-6.1		Descriptive	010	B	General information
System Overview									
Document Overview									
<i>SOFTWARE SUMMARY</i>				5.114.1.1.-6.2		Descriptive	C15	A	Summary of content
<i>SOFTWARE EFFECTIVITY</i>				5.114.1.1.-6.3					
<i>DIFFERENCES BETWEEN SOFTWARE VERSIONS</i>				5.114.1.1.-6.4					
<i>FEATURES AND CAPABILITIES</i>						Descriptive	033	C	Software description

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>FUNCTIONAL DISPLAY</i>									
<i>SOFTWARE OPERATOR INSTRUCTIONS</i>				5.114.1.1.-6.6					
SECURITY AND PRIVACY PROCEDURES						Procedural	C73	A	Security procedures
SUPERVISORY CONTROLS						Procedural	C20	A	System administration
POWER UP AND ACCESS SOFTWARE PROCEDURES						Procedural	131	U	Start-up procedure
SOFTWARE OPERATOR PROCEDURES						Procedural	100	A	Operation
POWER DOWN AND EXIT SOFTWARE PROCEDURES						Procedural	131	V	Shutdown procedure
<i>MESSAGES</i>						Descriptive	410	A	General fault description
<i>RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES</i>						Procedural	134	B	Error recovery

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
PARTS INFORMATION	P	R	R	5.93	Parts information				
<i>INTRODUCTION</i>		R	R	5.93.1.9		Descriptive	018	E	Parts introduction
<i>REPAIR PARTS LIST</i>		R	R	5.93.1.10		IPD	941	A	Illustrated parts data
<i>REPAIR PARTS FOR SPECIAL TOOLS</i>				5.93.1.12		IPD	607	B	Repair parts for special tools
<i>KIT PARTS LIST</i>				5.93.1.13		IPD	607	C	Kit parts list
<i>BULK ITEMS</i>				5.93.1.14		IPD	603	B	Bulk items
<i>SPECIAL TOOLS LIST</i>				5.93.1.15		IPD	604	B	Special tools list
<i>NSN INDEX</i>				5.93.1.16.5		Descriptive	942	F	National stock number index
<i>PART NUMBER INDEX</i>				5.93.1.16.6		Descriptive	942	B	Part number index
<i>REFERENCE DESIGNATOR INDEX</i>				5.93.1.16.7		Descriptive	942	C	Reference designator index
SUPPORTING INFORMATION	R	R	R	5.103.1.1	Supporting information				
<i>REFERENCES</i>	R	R	R	5.103.1.1.2		Descriptive	017	B	References
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>	R	R	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list

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TABLE A-VII. DMWR/NMWR (continued)

Content Requirement	D-M-W-R/N-M-W-R (D-W-R/N-W-R) Req.	DM-WR W/ Parts (D-WP) Req.	NM-WR W/ Parts (N-WP) Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
<i>TOOL IDENTIFICATION LIST</i>	R	R	R	5.100.1.1		Descriptive	062	B	Tool identification list
<i>MANDATORY REPLACEMENT PARTS</i>				5.93.1.21		Descriptive	075	D	Mandatory replacement parts
<i>CRITICAL SAFETY ITEMS (CSI)</i>				5.93.1.22		Descriptive	075	E	Critical Safety Items (CSI)
<i>SUPPORT ITEMS</i>				5.103.1.1.3		Descriptive	061	B	Support equipment and tools
<i>ADDITIONAL SUPPORTING INFORMATION</i>				5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	R	R	5.111.1.3.1					

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TABLE A-VIII. Software manual

Content Requirement	SF-U Req.	SA-M Req.	SUA Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	R	R	5.111					
SOFTWARE GENERAL INFORMATION	R	R	R	5.114.1.1.-6.1	General information, software summary				
<i>GENERAL DATA</i>	R	R	R	5.89.1.1 5.89.1.4.1		Descriptive	010	A	General data
Scope	R	R	R	5.89.1.4.2					
Destruction of Army software to prevent enemy use	R	R	R	5.89.1.4.4					
Nomenclature cross-reference list				5.89.1.4.7					
List of abbreviations/ acronyms	R	R	R	5.89.1.4.8					
Copyright credit line									
<i>GENERAL INFORMATION</i>						Descriptive	010	B	General information
Maintenance forms, records, and reports	R	R	R	5.89.1.5.2					
Software improvement recommendations (EIR)	R	R	R	5.89.1.5.3					
Warranty information				5.89.1.5.6					
Endorsement notice									
<i>SOFTWARE GENERAL INFORMATION</i>				5.114.1.1.-6.1		Descriptive	010	B	General information
System overview	R	R	R						
Document overview	R	R	R						

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TABLE A-VIII. Software manual (continued)

Content Requirement	SF-U Re-q.	SA-M Req.	SUA Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
<i>SOFTWARE SUMMARY</i>	R	R	R	5.114.1.1.-6.2		Descriptive	C96	B	Software requirements
Software application	R	R	R						
Software inventory	R	R	R						
Software environment		R	R						
Security and privacy	R	R	R						
Supervisory controls									
Assistance and problem reporting	R	R	R						
<i>SOFTWARE EFFECTIVITY</i>				5.114.1.1.-6.3		Descriptive	090	A	Software documentation
<i>DIFFERENCES BETWEEN SOFTWARE VERSIONS</i>				5.114.1.1.-6.4					
SOFTWARE DESCRIPTION/DATA	R	R	R		Software description/ data		033	C	Software description
<i>FEATURES AND CAPABILITIES</i>						Descriptive	C15	A	Summary of content
<i>FUNCTIONAL DISPLAY</i>	R	R	R			Descriptive	033	C	Software description
SOFTWARE OPERATOR INSTRUCTIONS	R	R	R		Software operating instructions				
<i>SECURITY AND PRIVACY PROCEDURES</i>	R	R	R			Procedural	C73	A	Security procedures
<i>SUPERVISORY CONTROLS</i>		R	R			Procedural	C20	A	System administration
						Procedural	C22	A	Description of command

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TABLE A-VIII. Software manual (continued)

Content Requirement	SF-U Req.	SA-M Req.	SUA Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
POWER UP AND ACCESS SOFTWARE PROCEDURES						Procedural	131	U	Start-up procedure
						Procedural	131	V	Shutdown procedure
SOFTWARE OPERATOR PROCEDURES						Procedural	C75	B	Login/Log-out procedure
POWER DOWN AND EXIT SOFTWARE PROCEDURES	R	R	R			Procedural	C22	A	Description of command
Power down procedures									
Exit procedures									
SOFTWARE TROUBLE-SHOOTING PROCEDURES	R	R	R		Software trouble-shooting procedures				
TROUBLE-SHOOTING INTRODUCTION	R	R	R	5.91.1.25		Descriptive	018	C	Trouble-shooting introduction
TROUBLE-SHOOTING INDEX		R	R	5.91.1.27		Descriptive	410	F	Malfunction index
						Descriptive	410	B	Symptom index
						Descriptive	410	C	System/sub-system index
MESSAGES		R	R			Descriptive	410	A	General fault description
RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES						Procedural	134	B	Error recovery
TROUBLE-SHOOTING						Fault	C14	A	Problem handling
DIAGNOSTICS				5.91.1.31.-6.2		Process	429	A	Diagnostics
SOFTWARE PMCS									

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TABLE A-VIII. Software manual (continued)

Content Requirement	SF-U Re-q.	SA-M Re-q.	SUA Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
<i>PMCS INTRODUCTION</i>									
<i>SOFTWARE PMCS</i>									
SOFTWARE MAINTENANCE INSTRUCTIONS		R	R		Software maintenance instructions				
<i>MAINTENANCE</i>		R	R	5.90					
Configure software				5.90.1.10.-37		Procedural	C20	M	Configure software
Debug software				5.90.1.10.-38		Procedural	C14	B	Debug software
Install peripheral device				5.90.1.10.-36		Procedural	C23	C	Install peripheral device
Install software				5.90.1.10.-11		Procedural	750	A	Load software procedure
Remove software				5.90.1.10.-10		Procedural	550	A	Unload software procedure
Repair software				5.90.1.10.-13		Procedural	663	A	Standard repair procedure
Test				5.90.1.10.5		Procedural	340	B	Test procedures
Upgrade/patch software				5.90.1.10.-32		Procedural	C20	L	Software upgrade/patch
Uninstall peripheral device				5.90.1.10.-31		Procedural	C20	K	Uninstall peripheral device
Additional maintenance task				5.90.1.10.-41		Procedural	PD		
SOFTWARE DESTRUCTION TO PREVENT ENEMY USE				5.98.1.3	Software destruction to				

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TABLE A-VIII. Software manual (continued)

Content Requirement	SF-U Re-q.	SA-M Req.	SUA Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
					prevent enemy use				
SUPPORTING INFORMATION	R	R	R	5.114.1.1.-6.10	Supporting information				
<i>REFERENCES</i>	R	R	R			Descriptive	017	B	References
<i>INTRODUCTION FOR TWO-LEVEL MAINTENANCE ALLOCATION CHART</i>						Descriptive	018	D	MAC introduction
<i>MAINTENANCE ALLOCATION CHART (MAC)</i>						Schedule	916	A	MAC
<i>SOFTWARE BASIC ISSUE ITEMS (BII) LISTS</i>	R	R	R			Descriptive	105	C	Basic issue items (BII) list
<i>ADDITIONAL AUTHORIZATION LIST (AAL)</i>						Descriptive	104	C	Additional Authorization List (AAL)
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>						Descriptive	070	D	Expendable and durable items list
<i>ADDITIONAL SUPPORTING</i>						Descriptive	PD		
REAR MATTER	R	R	R	5.111.1.3.1					

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TABLE A-IX. DMWR maintenance/demilitarization of ammunition

Content Requirement	DW-R Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION AND DMWR INTRODUCTION	R	5.90.1.25.4	General information and DMWR introduction				
<i>GENERAL DATA</i>		5.89.1.4		Descriptive	010	A	General data
Scope	R	5.89.1.4.2					
List of abbreviations	R	5.89.1.4.8					
<i>GENERAL INFORMATION</i>	R	5.89.1.5		Descriptive	010	B	General information
Maintenance forms, records, and reports	R	5.89.1.5.2					
Corrosion Prevention and Control (CPC)		5.89.1.5.5					
<i>DMWR INTRODUCTION</i>		5.90.1.25.4		Descriptive	018	A	Introduction
Work Planning	R	5.90.1.25.4.1					
Disposition	R	5.90.1.25.4.2					
Equipment	R	5.90.1.25.4.3					
Safety requirements	R	5.90.1.25.4.4					
Protection against general hazards	R	5.90.1.25.4.5					
Protection against specific hazards	R	5.90.1.25.4.6					
Hazard analysis	R	5.90.1.25.4.7					
Environmental regulation compliance	R	5.90.1.25.4.8					
Resource conservation and recovery regulations	R	5.90.1.25.4.9					
Resource recovery	R	5.90.1.25.4.-10					
Reporting requirements	R	5.90.1.25.4.-11					

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TABLE A-IX. DMWR maintenance/demilitarization of ammunition (continued)

Content Requirement	DW-R Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Tabulated Data	R	5.90.1.25.4.-12					
Flowchart		5.90.1.25.4.-13					
MAINTENANCE REQUIREMENTS	R	5.90.1.25.5	Main-tenance re-quire-ments				
Safety requirements	R			Procedural	PD		
Procedural steps	R						
Flowchart							
QUALITY ACCEPTANCE REQUIREMENTS	R	5.90.1.25.6	Quality acceptance re-quire-ments	Descriptive	315	A	Quality assurance requirements
Ammunition maintenance	R						
SUPPORTING INFORMATION	R	5.90.1.25.7	Supporting information				
<i>REFERENCES</i>	R	5.90.1.25.7.1		Descriptive	017	B	References
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>TOOL IDENTIFICATION LIST</i>		5.100.1.1.3		Descriptive	062	B	Tool identification list
<i>AMMUNITION PECULIAR EQUIPMENT (APE)</i>		5.90.1.25.7.4		Descriptive	PD		
<i>SPECIAL EQUIPMENT, LOCALLY AVAILABLE MATERIALS, AND SPECIAL FACILITIES</i>	R	5.90.1.25.7.5		Descriptive	105	B	Equipment and special facilities
<i>APPROVED INTRA-PLANT TRANSFER EQUIPMENT</i>	R	5.90.1.25.7.6		Descriptive	104	B	Approved intra-plant transfer equipment
<i>CHEMICALLY TREATED PACKING MATERIALS</i>	R	5.90.1.25.7.7		Descriptive	820	B	Chemically treated packing materials
<i>ENVIRONMENTAL REQUIREMENTS</i>	R	5.90.1.25.7.8		Descriptive	030	B	Environmental requirements

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APPENDIX A

TABLE A-IX. DMWR maintenance/demilitarization of ammunition (continued)

Content Requirement	DW-R Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>HAZARD ANALYSIS</i>	R	5.90.1.25.7.9		Descriptive	012	B	Hazard analysis
<i>HAZARDOUS COMPONENT SAFETY DATA STATEMENT (HCSDS)</i>	R	5.90.1.25.7.-10					
<i>OTHER SUPPORT-ING INFORMATION</i>		5.90.1.25.7.-11		Descriptive	PD	A	
REAR MATTER	R	5.111.1.3.1					

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TABLE A-X. Data sheets

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111 5.102.1.2					
GENERAL INFORMATION AND DATA SHEETS INTRODUCTION	R	5.102.1.4	General information and data sheets introduction				
<i>GENERAL INFORMATION</i>		5.102.1.3		Descriptive	010	B	General information
Scope	R	5.89.1.4.2					
Maintenance forms, records, and reports	R	5.89.1.5.2					
Reporting Equipment Improvement Recommendations (EIR)	R	5.89.1.5.3					
List of abbreviations	R	5.89.1.4.8					
<i>DATA SHEETS INTRODUCTION</i>	R	5.102.1.4		Descriptive	018	A	Introduction
DATA SHEETS	R	5.102.1.1	Data sheets				
<i>DATA SHEETS</i>	R			Descriptive	030	D	Munition equipment and ammunition data sheets
Figure of ammunition or munitions equipment item		5.102.1.5					
Use		5.102.1.5.2					
Description		5.102.1.5.3					
Functioning		5.102.1.5.4					
Differences between models		5.102.1.5.5					
Tabulated data		5.102.1.5.6					
Performance		5.102.1.5.7					
Temperature limits		5.102.1.5.8					
Drawings/ Specifications		5.102.1.5.9					
Packing configuration		5.102.1.5.10					

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TABLE A-X. Data sheets (continued)

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Packing Data		5.102.1.5.11					
Shipping and storage data		5.102.1.5.12					
Logistics data		5.102.1.5.13					
Limitations		5.102.1.5.14					
Remarks		5.102.1.5.15					
References		5.102.1.5.16					
Associated equipment		5.102.1.5.17					
Kits		5.102.1.5.18					
SUPPORTING INFORMATION	R	5.102.1.6	Supporting information				
<i>REFERENCES</i>	R	5.103.1.1.2		Descriptive	017	B	References
<i>DELETED ITEMS</i>		5.102.1.6.2		Descriptive	003	D	Deleted items
<i>OPERATIONAL INDEX</i>		5.102.1.6.3		Descriptive	942	D	Operational index
<i>PREPARATION AND HANDLING OF AMMUNITION PECULIAR EQUIPMENT FOR SHIPMENT AND STORAGE</i>		5.102.1.6.4		Descriptive	810	D	Preparation and handling of ammunition peculiar equipment for shipment and storage
<i>OTHER SUPPORTING INFORMATION</i>		5.102.1.6.5		Descriptive	PD		
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XI. Aviation Field Maintenance Manual

Content Requirement	MM2 (-20) M2B (-20-&P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION, EQUIPMENT, DESCRIPTION AND THEORY OF OPERATION	R	5.89	General information, equipment description, and theory of operation				
<i>GENERAL INFORMATION</i>	R	5.89.1.4		Descriptive	010	A	General data
Scope	R	5.89.1.4.2					
Ozone Depleting Substances (ODS)		5.89.1.4.3					
Destruction of equipment to prevent enemy use	R	5.89.1.4.4					
Preparation for storage or shipment	R	5.89.1.4.5					
Transportability guidance	R	5.89.1.4.6					
Nomenclature cross-reference list		5.89.1.4.7					
List of abbreviations	R	5.89.1.4.8					
Safety, care, and handling	R	5.89.1.4.9					
Calibration		5.89.1.4.10					
Supporting information for repair parts, special tools, TMDE, and support equipment		5.89.1.4.11					
Copyright credit line		5.89.1.4.12					
Item unique identification (IUID)		5.89.1.4.13					
GENERAL INFORMATION	R	5.89.1.5		Descriptive	010	B	General information

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Maintenance forms, records, and reports	R	5.89.1.5.2					
Reporting equipment improvement recommendations (EIR)	R	5.89.1.5.3					
Hand receipt (HR) manuals		5.89.1.5.4					
Corrosion prevention and control (CPC)	R	5.89.1.5.5					
Warranty information		5.89.1.5.6					
Quality of material	R	5.89.1.5.7					
Nuclear hardness		5.89.1.5.8					
Quality Assurance (QA)	R	5.89.1.5.9					
Critical Safety Items (CSI)	R	5.89.1.5.10					
Mandatory replacement parts (MRP)	R	5.93.1.21					
EQUIPMENT DESCRIPTION AND DATA	R	5.91.1.28		Descriptive	000	B	Equipment description and data
Equipment characteristics, capabilities, and features	R	5.89.1.6.2					
Location and description of major components	R	5.89.1.6.3					
Equipment differences		5.89.1.6.4					
Equipment Data	R	5.89.1.6.5					
THEORY OF OPERATION	R	5.89.1.7		Descriptive	042	F	Theory of operation

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20-&P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
TROUBLESHOOTING MASTER INDEX			Troubleshooting master index				
TROUBLESHOOTING INDEX		5.91.1.27.3		Descriptive	410	D	Master index
TROUBLESHOOTING PROCEDURES			Troubleshooting procedures				
<i>NOTE: The notation (*) indicates that at least one of these content items shall be included.</i>	R	5.91					
<i>INTRODUCTION</i>	R	5.91.1.25		Descriptive	018	C	Troubleshooting introduction
<i>TECHNICAL DESCRIPTION</i>	R	5.91.1.26		Procedural	030	A	Technical data
<i>TROUBLESHOOTING INDEX</i>		5.91.1.27		Descriptive	410	F	Malfunction index
				Descriptive	410	B	Symptom index
				Descriptive	410	C	System/Subsystem index
<i>*OPERATIONAL CHECKOUT</i>		5.91.1.30		Descriptive	018	V	Operational checkout introduction
				Procedural	331	B	Pretest setup procedures
				Procedural	320	C	Operational checkout test procedure
				Descriptive	410	H	Fault code reference index
				Descriptive	410	J	Fault reports
				Procedural	334	C	Post-operational checkout

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- & P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
							shutdown procedures
<i>*TROUBLESHOOTING PROCEDURES</i>		5.91.1.31		Descriptive	018	C	Troubleshooting introduction
				Procedural	331	B	Pretest setup procedures
				Fault	421	B	Troubleshooting procedure
				Procedural	334	B	Post-troubleshooting shutdown procedures
<i>*DIAGNOSTICS</i>		5.91.1.31.6.2		Process	426	A	Diagnostics
PMCS MAINTENANCE INSTRUCTIONS		5.90.1.4	PMCS maintenance instructions				
<i>PMCS INTRODUCTION</i>		5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS, INCLUDING LUBRICATION INSTRUCTIONS</i>		5.90.1.6		Checklist	200	B	PMCS
MAINTENANCE INSTRUCTIONS	R	5.90	Maintenance instructions				
SERVICE UPON RECEIPT		5.90.1.3					
Siting		5.88.1.4.4.3		Procedural	122	A	Siting
Shelter requirements		5.88.1.4.4.4		Procedural	123	A	Shelter
Service upon receipt of materiel		5.90.1.3.2					
Unpacking		5.90.1.3.2.1		Procedural	840	B	Unpacking
Checking unpacked equipment		5.90.1.3.2.2		Checklist	870	B	Checking unpacked equipment

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Processing un-packed equipment		5.90.1.3.2.3		Procedural	870	C	Processing un-packed equipment
Installation instructions		5.90.1.3.3					
Assembly of equipment		5.90.1.3.3.4		Procedural	710	C	Assembly of equipment
Installation of the equipment		5.90.1.3.3.1		Procedural	720	A	Install procedure
Special application installation instructions		5.90.1.3.3.2		Procedural	720	B	Special application installation instructions
Van and shelter procedure		5.90.1.3.3.3		Procedural	123	C	Van and shelter procedures
Preliminary servicing of equipment		5.90.1.3.4		Procedural	200	F	Preliminary servicing
Preliminary checks and adjustment of equipment		5.90.1.3.5		Procedural	271	B	Preliminary checks and adjustment of equipment
Preliminary calibration of equipment		5.90.1.3.6		Procedural	273	D	Preliminary calibration of equipment
Circuit alignment		5.90.1.3.7		Procedural	272	B	Circuit alignment
Ammunition service upon receipt		5.90.1.3.8		Procedural	200	G	Service upon receipt
Additional service upon receipt task		5.90.1.3.9		Procedural	PD		
Follow-on maintenance		5.90.1.11		Procedural	PD		
EQUIPMENT/USER FITTING INSTRUCTIONS		5.96.1.1		Procedural	913	B	Equipment/user fitting instructions

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
PREVENTIVE MAINTENANCE INSPECTION	R	5.90.1.9		Procedural	200	D	Preventive maintenance inspection
MAINTENANCE	R	5.90.1.10					
Inspect		5.90.1.10.4					
Test and inspection		5.90.1.10.4.1		Procedural	300	B	Test and inspection
Inspection of conventional and chemical ammunition or components containing radioactive materials		5.90.1.10.4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection		5.90.1.10.4.3		Procedural	310	N	Pre-embarkation inspection
Inspection of installed items		5.90.1.10.4.4		Procedural	310	J	Inspection of installed items
Inspection - acceptance and rejection criteria		5.90.1.10.4.5		Procedural	310	D	Inspection - Acceptance and rejection criteria
Test		5.90.1.10.5		Procedural	340	C	Testing
Service		5.90.1.10.6		Procedural	200	A	Servicing
Adjust		5.90.1.10.7		Procedural	271	A	Adjust
Align		5.90.1.10.8		Procedural	272	A	Align
Calibrate		5.90.1.10.9		Procedural	273	A	Calibrate
Remove		5.90.1.10.10		Procedural	520	A	Removal procedure
Install		5.90.1.10.11		Procedural	720	A	Install procedure
Replace		5.90.1.10.12		Procedural	685	C	Replace
Repair		5.90.1.10.13		Procedural	685	A	Repair
Paint		5.90.1.10.14		Procedural	257	B	Painting

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Overhaul		5.90.1.10.15		Procedural	664	B	Overhaul procedure
Rebuild		5.90.1.10.16		Procedural	664	C	Rebuild
Lubricate		5.90.1.10.17		Procedural	240	A	Lubrication
Mark		5.90.1.10.18		Procedural	067	D	Mark
Pack		5.90.1.10.19		Procedural	713	A	Pack procedure
Unpack		5.90.1.10.20		Procedural	840	B	Unpacking
Preserve		5.90.1.10.21		Procedural	810	A	Preservation procedure
Prepare for use		5.90.1.10.22		Procedural	870	A	Procedure to prepare item for use after storage
Assemble		5.90.1.10.23		Procedural	710	A	Assembly procedure
Disassemble		5.90.1.10.24		Procedural	530	A	Disassembly procedure
Clean		5.90.1.10.25		Procedural	PD		
Nondestructive inspection		5.90.1.10.26		Procedural	350	B	Non-destructive testing inspection
Radio interference suppression		5.90.1.10.27		Procedural	143	A	Radio interference suppression
Place in service		5.90.1.10.28		Procedural	870	P	Placing in service
Ground handling		5.90.1.10.29					
Towing		5.90.1.10.29-.1		Procedural	174	A	Towing
Jacking		5.90.1.10.29-.2		Procedural	172	A	Jacking
Parking		5.90.1.10.29-.3		Procedural	170	J	Parking

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Mooring		5.90.1.10.29-.4		Procedural	17A	A	Mooring
Covering		5.90.1.10.29-.5		Procedural	170	B	Covering
Hoisting		5.90.1.10.29-.6		Procedural	171	B	Hoisting
Sling loading		5.90.1.10.29-.7		Procedural	178	B	Sling loading
External power		5.90.1.10.29-.8		Procedural	170	C	External power
Preparation for storage		5.90.1.10.30		Procedural	810	L	Preparation for storage
Preparation for shipment		5.90.1.10.31		Procedural	811	Q	Preparation for shipment
Transport		5.90.1.10.32		Procedural	831	L	Transport
Arm		5.90.1.10.33		Procedural	120	G	Procedures to activate ammunition
Load		5.90.1.10.34		Procedural	PD		
Unload		5.90.1.10.35		Procedural	PD		
Install peripheral device		5.90.1.10.36		Procedural	C23	C	Install peripheral device
Uninstall peripheral device		5.90.1.10.37		Procedural	C20	K	Uninstall peripheral device
Upgrade/patch software		5.90.1.10.38		Procedural	C20	L	Software upgrade/patch
Configure software		5.90.1.10.39		Procedural	C20	M	Configure software
Debug software		5.90.1.10.40		Procedural	C14	B	Debug software
Additional maintenance task		5.90.1.10.41		Procedural	PD		
Follow-on maintenance		5.90.1.11		Procedural	PD		

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>GENERAL MAINTENANCE</i>		5.90.1.12		Procedural	PD		
<i>OVERHAUL AND RETIREMENT SCHEDULE</i>	R	5.90.1.16		Procedural	288	A	Overhaul and retirement schedule
<i>LUBRICATION INSTRUCTIONS</i>		5.90.1.13		Procedural	240	B	Lubrication instructions
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>		5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>		5.90.1.21		Procedural	711	B	Torque limits
<i>AIRCRAFT INVENTORY MASTER GUIDE</i>	R	5.11		Descriptive	102	B	Aircraft inventory master guide
<i>STORAGE OF AIRCRAFT (AIRCRAFT ONLY)</i>	R	5.108		Procedural	810	B	Flyable storage of aircraft
				Procedural	810	F	Short storage of aircraft
				Procedural	810	G	Intermediate storage of aircraft
<i>WEIGHING AND LOADING</i>	R	5.95.1.1		Procedural	160	B	Weighing and loading
<i>WIRING DIAGRAMS</i>		5.92		Descriptive	051	A	Wiring diagrams
TEST AND INSPECTION MAINTENANCE INSTRUCTIONS			Test and inspection maintenance instructions				
<i>MAINTENANCE</i>							
Inspection		5.90.1.10.4		Procedural	280	A	Inspection
Test		5.90.1.10.5		Procedural	340	B	Test procedures
AIRCRAFT PMS/ PMD		5.103.1.1					

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
GENERAL INFORMATION			General information				
GENERAL INFORMATION		5.89.1.8		Descriptive	010	D	General information (Preventive maintenance)
Maintenance Activities		5.89.1.8.2					
General Information		5.89.1.8.3					
PREVENTIVE MAINTENANCE SERVICES MAINTENANCE INFORMATION		5.90.1.7	Preventive maintenance services maintenance information				
PMS/PMD INSPECTION	R	5.90.1.7.1		Checklist	310	E	PMS inspection
				Checklist	310	P	PMD inspection
Aircraft Phased Maintenance Inspection		5.103.1.1					
GENERAL INFORMATION			General information				
GENERAL INFORMATION		5.89.1.9		Descriptive	010	E	General information
PHASED MAINTENANCE INSPECTION MAINTENANCE INFORMATION			Phased maintenance inspection maintenance information				
PM INSPECTION		5.90.1.8		Checklist	310	F	PM inspection
AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS			Auxiliary equipment				

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>AUXILIARY EQUIPMENT MAINTENANCE</i>		5.96.1.2	maintenance instructions	Procedural	PD		
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS</i>		5.90.1.20		Descriptive	670	E	Illustrated list of manufactured items
<i>TORQUE LIMITS</i>		5.90.1.21		Procedural	711	B	Torque limits
<i>WIRING DIAGRAMS</i>		5.92		Descriptive	051	A	Wiring diagrams
AMMUNITION MAINTENANCE INSTRUCTIONS			Ammunition maintenance instructions				
<i>AMMUNITION IDENTIFICATION</i>		5.90.1.22		Procedural	067	C	Ammunition identification
<i>AMMUNITION MAINTENANCE</i>		5.90.1.23		Procedural	200	K	Ammunition maintenance
<i>FOREIGN AMMUNITION</i>		5.90.1.24		Procedural	011	B	Foreign ammunition
DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE		5.98.1.3	Destruction of equipment to prevent enemy use				
<i>NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.</i>							
<i>DESTRUCTION PROCEDURES INTRODUCTION</i>		5.98.1.3.6.2		Descriptive	997	D	Destruction general information
Authority to destroy		5.98.1.3.6.3					
Reporting destruction		5.98.1.3.6.4					

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20-&P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
General destruction information		5.98.1.3.6.5					
Degree of destruction		5.98.1.3.6.6					
Essential components and spare parts		5.98.1.3.6.7					
<i>DESTRUCTION PROCEDURES</i>							
Parts list		5.98.1.3.7		Descriptive	907	B	Parts list
Specific destruction procedures		5.98.1.3.8		Procedural	997	B	Destruction procedures
BATTLE DAMAGE ASSESSMENT AND REPAIR INFORMATION		5.99.1					
GENERAL INFORMATION		5.99.1.7	General information				
<i>GENERAL INFORMATION</i>				Descriptive	018	G	BDAR introduction
<i>BDAR GENERAL INFORMATION</i>		5.99.1.7.2		Descriptive	010	B	General information
Standards and practices		5.99.1.7.3					
Tasks and responsibilities		5.99.1.7.4					
Combat threats (aviation only)		5.99.1.7.5					
ASSESSING BATTLE DAMAGE		5.99.1.8	Assessing battle damage				
<i>BATTLE DAMAGE ASSESSMENT</i>				Descriptive	410	E	General fault assessment tables
Introduction		5.99.1.8.1					
General fault assessment tables		5.99.1.8.2					

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
GENERAL REPAIR			General repair				
Introduction		5.99.1.8.1					
Repair procedure		5.99.1.9					
General Repair - Repair Procedure		5.99.1.9.1		Procedural	PD		
End item - Repair procedure		5.99.1.9.2		Procedural	PD		
Major Functional Groups - Repair Procedure		5.99.1.9.3		Procedural	PD		
Auxiliary Equipment - Repair Procedure		5.99.1.9.4		Procedural	PD		
SPECIAL OR FABRICATED TOOLS		5.99.1.11	Descriptive	605	B	Support equipment and tools	
SUBSTITUTE MATERIALS/PARTS		5.99.1.13	Descriptive	607	D	Substitute materials/parts	
SOFTWARE INFORMATION			Software information				
SOFTWARE GENERAL INFORMATION		5.114.1.1.6.1		Descriptive	010	B	General information
System Overview							
Document Overview							
SOFTWARE SUMMARY		5.114.1.1.6.2		Descriptive	C15	A	Summary of content
SOFTWARE EFFECTIVITY		5.114.1.1.6.3					

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Content Requirement	MM2 (-20) M2B (-20-&P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>DIFFERENCES BETWEEN SOFTWARE VERSIONS</i>		5.114.1.1.6.4					
<i>FEATURES AND CAPABILITIES</i>				Descriptive	033	C	Software description
<i>FUNCTIONAL DISPLAY</i>							
<i>SOFTWARE OPERATOR INSTRUCTIONS</i>		5.114.1.1.6.6					
SECURITY AND PRIVACY PROCEDURES				Procedural	C73	A	Security procedures
SUPERVISORY CONTROLS				Procedural	C20	A	System administration
POWER UP AND ACCESS SOFTWARE PROCEDURES				Procedural	131	U	Start-up procedure
SOFTWARE OPERATOR PROCEDURES				Procedural	100	A	Operation
POWER DOWN AND EXIT SOFTWARE PROCEDURES				Procedural	131	V	Shutdown procedure
<i>MESSAGES</i>				Descriptive	410	A	General fault description
<i>RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES</i>				Procedural	134	B	Error recovery
PARTS INFORMATION			Parts information				
Field maintenance (-20)	P	5.93					

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20-&P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Field maintenance w/parts (-20&P)	R						
<i>INTRODUCTION</i>		5.93.1.9		Descriptive	018	E	Parts information
<i>REPAIR PARTS LIST</i>		5.93.1.10		IPD	941	A	Illustrated parts data
<i>REPAIR PARTS FOR SPECIAL TOOLS</i>		5.93.1.12		IPD	607	B	Repair parts for special tools
<i>KIT PARTS LIST</i>		5.93.1.13		IPD	607	C	Kit parts list
<i>BULK ITEMS</i>		5.93.1.14		IPD	603	B	Bulk items
<i>SPECIAL TOOLS LIST</i>		5.93.1.15		IPD	604	B	Special tools list
<i>NSN INDEX</i>		5.93.1.16.5		Descriptive	942	F	National Stock Number Index
<i>P/N INDEX</i>		5.93.1.16.6		Descriptive	942	B	Park number index
<i>REFERENCE DESIGNATOR INDEX</i>		5.93.1.16.7		Descriptive	942	C	Reference designator index
SUPPORTING INFORMATION	R	5.103.1.1	Supporting information				
<i>REFERENCES</i>	R	5.103.1.1.2		Descriptive	017	B	References
<i>INTRODUCTION FOR AVIATION MAC</i>	R	5.94.1.2		Descriptive	018	D	MAC introduction
<i>MAINTENANCE ALLOCATION CHART</i>	R	5.94.1.3		Schedule	916	B	Aviation MAC
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>TOOL IDENTIFICATION LIST</i>	R	5.100.1.1		Descriptive	062	B	Tool identification list
<i>MANDATORY REPLACEMENT PARTS</i>		5.93.1.21		Descriptive	075	D	Mandatory replacement parts
<i>CRITICAL SAFETY ITEMS (CSI)</i>		5.93.1.22		Descriptive	075	E	Critical safety items (CSI)

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TABLE A-XI. Aviation Field Maintenance Manual (continued)

Content Requirement	MM2 (-20) M2B (-20- &P) (Aviation) Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>SUPPORT ITEMS</i>		5.103.1.1.3		Descriptive	061	B	Support equipment and tools
<i>ADDITIONAL SUPPORTING INFORMATION</i>		5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XII. Aircraft PMS or PMD

Content Requirement	PM-D/MS-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R		General information				
GENERAL INFORMATION	R	5.89.1.8		Descriptive	010	D	General information (Preventive maintenance)
Maintenance Activities	R	5.89.1.8.2					
General Information	R	5.89.1.8.3					
PREVENTIVE MAINTENANCE SERVICES MAINTENANCE INFORMATION	R	5.90.1.7	Preventive maintenance services maintenance information				
PMS/PMD INSPECTION	R	5.90.1.7.1		Checklist	310	E	PMS inspection
				Checklist	310	P	PMD inspection
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XIII. Aircraft Phased Maintenance Inspection

Content Requirement	PMI Req.	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R		General information				
GENERAL INFORMATION	R	5.89.1.9		Descriptive	010	E	General information
PHASED MAINTENANCE INSPECTION MAINTENANCE INFORMATION	R		Phased maintenance inspection maintenance information				
PM INSPECTION	R	5.90.1.8		Checklist	310	F	PM inspection
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XIV. BDAR

Content Requirement	BDR Req	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R	5.99.1.7	General information				
<i>GENERAL INFORMATION</i>	R			Descriptive	018	G	BDAR introduction
<i>BDAR GENERAL INFORMATION</i>	R	5.99.1.7.2		Descriptive	010	B	General information
Standards and practices	R	5.99.1.7.3					
Tasks and responsibilities	R	5.99.1.7.4					
Combat threats (aviation only)		5.99.1.7.5					
ASSESSING BATTLE DAMAGE	R	5.99.1.8	Assessing battle damage				
<i>BATTLE DAMAGE ASSESSMENT</i>	R			Descriptive	410	E	General fault assessment tables
Introduction	R	5.99.1.8.1					
General fault assessment tables	R	5.99.1.8.2					
GENERAL REPAIR	R		General repair				
Introduction	R	5.99.1.8.1					
Repair procedure	R	5.99.1.9					
General Repair - Repair Procedure		5.99.1.9.1		Procedural	PD		
End item - Repair procedure		5.99.1.9.2		Procedural	PD		
Major Functional Groups - Repair Procedure	R	5.99.1.9.3		Procedural	PD		
Auxiliary Equipment - Repair Procedure		5.99.1.9.4		Procedural	PD		
SUPPORTING INFORMATION			Supporting information				
<i>REFERENCES</i>	R	5.99.1.10		Descriptive	017	B	References
<i>SPECIAL OR FABRICATED TOOLS</i>		5.99.1.11		Descriptive	605	B	Support equipment and tools

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TABLE A-XIV. BDAR (continued)

Content Requirement	BDR Req	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>EXPENDABLE AND DURABLE ITEMS</i>	R	5.99.1.12		Descriptive	070	D	Expendable and durable items list
<i>SUBSTITUTE MATERIALS/PARTS</i>	R	5.99.1.13		Descriptive	607	D	Substitute materials/parts
REAR MATTER	R	5.111.1.3.1		Descriptive			

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TABLE A-XV. Stand-alone destruction of materiel manual

Content Requirement	DT-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R		General information				
<i>GENERAL INFORMATION</i>	R	5.98.1.3.6.2		Descriptive	010	B	General information
<i>DESTRUCTION PROCEDURES INTRODUCTION</i>	R						
Authority to destroy	R	5.98.1.3.6.3		Descriptive	997	D	Destruction general information
Reporting destruction	R	5.98.1.3.6.4					
General destruction information	R	5.98.1.3.6.5					
Degree of destruction	R	5.98.1.3.6.6					
Essential components and spare parts		5.98.1.3.6.7					
DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE	R		Destruction of equipment to prevent enemy use				
<i>DESTRUCTION PROCEDURES</i>	R						
Parts List		5.98.1.3.7		Descriptive	907	B	Parts list
Specific destruction procedures	R	5.98.1.3.8		Procedural	997	B	Destruction procedures
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XVI. Lubrication orders

Content Requirement	LBO Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R		General information				
<i>INTRODUCTION</i>	R	5.96.1.4.1.15		Descriptive	018	A	Introduction
MAINTENANCE PROCEDURES	R		Maintenance procedures				
<i>LUBRICATION PROCEDURES</i>	R	5.96.1.4.1.16		Procedural	240	B	Lubrication instructions
SUPPORTING INFORMATION	R		Supporting information				
<i>REFERENCE</i>		5.103.1.1.2		Descriptive	017	B	References
<i>TOOL IDENTIFICATION</i>		5.100.1.1		Descriptive	062	B	Tool identification list
<i>LUBRICANTS AND MILITARY SYMBOLS</i>	R	5.96.1.4.1.20		Descriptive	040	A	Description
<i>LUBRICANT TYPES</i>	R	5.96.1.4.1.21		Descriptive	040	A	Description
<i>SPECIAL NOTES</i>	R	5.96.1.4.1.23		Descriptive	040	A	Description
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XVII. Preventive maintenance checklists

Content Requirement	PMC Req.	Ref.	PM Entry Title	DM Type	Info Code	IC-V	Info Name
FRONT COVER	R	5.111.1.1.3					
<i>PMCS INTRODUCTION</i>	R	5.90.1.5		Descriptive	018	F	PMCS introduction
<i>PMCS</i>	R	5.90.1.6		Checklist	200	B	Preventive maintenance checklist
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XVIII. General Maintenance Manual

Content Requirement	GM-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R	5.114.1.2.2	General information				
<i>GENERAL DATA</i>	R	5.89.1.4		Descriptive	010	A	General data
Scope	R	5.89.1.4.2					
Nomenclature cross-reference list		5.89.1.4.7					
List of abbreviations/acronyms	R						
<i>GENERAL INFORMATION</i>	R	5.89.1.5		Descriptive	010	B	General information
Maintenance forms, records, and reports	R	5.89.1.5.2					
Equipment Improvement Recommendations (EIR)	R	5.89.1.5.3					
Policy							
Safety							
Warranty information							
<i>EQUIPMENT DESCRIPTION AND DATA</i>		5.89.1.6 5.114.1.2.2.2		Descriptive	000	B	Equipment description and data
MAINTENANCE PROCEDURES	R	5.90	Maintenance procedures				
<i>MAINTENANCE</i>							
Inspect		5.90.1.10.4					
Test and inspection		5.90.1.10.4.1		Procedural	300	B	Test and inspection
Inspection of conventional and chemical ammunition or components containing radioactive materials		5.90.1.10.4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection		5.90.1.10.4.3		Procedural	310	N	Pre-embarkation inspection
Inspection of installed items		5.90.1.10.4.4		Procedural	310	J	Inspection of installed items

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TABLE A-XVIII. General Maintenance Manual (continued)

Content Requirement	GM-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Inspection-acceptance and rejection criteria		5.90.1.10.4.5		Procedural	310	D	Inspection - Acceptance and rejection criteria
Test		5.90.1.10.5		Procedural	340	C	Testing
Service		5.90.1.10.6		Procedural	200	A	Servicing
Adjust		5.90.1.10.7		Procedural	271	A	Adjust
Align		5.90.1.10.8		Procedural	272	A	Align
Calibrate		5.90.1.10.9		Procedural	273	A	Calibrate
Remove		5.90.1.10.10		Procedural	520	A	Removal procedure
Install		5.90.1.10.11		Procedural	720	A	Install procedure
Replace		5.90.1.10.12		Procedural	685	C	Replace
Repair		5.90.1.10.13		Procedural	685	A	Repair
Paint		5.90.1.10.14		Procedural	257	B	Painting
Lubricate		5.90.1.10.17		Procedural	240	A	Lubrication
Mark		5.90.1.10.18		Procedural	067	D	Mark
Pack		5.90.1.10.19		Procedural	713	A	Pack procedure
Unpack		5.90.1.10.20		Procedural	840	B	Unpacking
Preserve		5.90.1.10.21		Procedural	810	A	Preservation procedure
Prepare for use		5.90.1.10.22		Procedural	870	A	Procedure to prepare item for use after storage
Assemble		5.90.1.10.23		Procedural	710	A	Assemble procedure
Disassemble		5.90.1.10.24		Procedural	530	A	Disassembly procedure
Clean		5.90.1.10.25		Procedural	PD		
Nondestructive inspection		5.90.1.10.26		Procedural	350	B	Non-destructive testing inspection
Place in service		5.90.1.10.28		Procedural	870	P	Placing in service

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TABLE A-XVIII. General Maintenance Manual (continued)

Content Requirement	GM-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Arm		5.90.1.10.33		Procedural	120	G	Procedures to activate ammunition
Load		5.90.1.10.34		Procedural	PD		
Unload		5.90.1.10.35		Procedural	PD		
Additional maintenance task		5.90.1.10.41		Procedural	PD		
Follow-on maintenance		5.90.1.11		Procedural	PD		
<i>GENERAL MAINTENANCE</i>		5.90.1.12		Procedural	PD		
SUPPORTING INFORMATION	R	5.103.1.1	Supporting information				
<i>REFERENCES</i>	R	5.103.1.1.2		Descriptive	017	B	References
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>		5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>ADDITIONAL SUPPORTING</i>		5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XIX. Hand Receipt

Content Requirement	HDR Req	Ref.	PM Entry Title	DM Type	Info Co-de	IC-V	Info Name
FRONT MATTER	R	5.111					
INTRODUCTION	R	5.93.1.23	Introduction				
<i>HR INTRODUCTION</i>	R	5.93.1.23.2		Descriptive	018	A	Introduction
HAND RECEIPT	R		Hand receipt				
Hand Receipt	R	5.93.1.23.3		Descriptive	028	A	General
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XX. Technical Bulletin

Content Requirement	TEB Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R	5.89	General information				
<i>GENERAL DATA</i>	R	5.89.1.1 5.89.1.4.1		Descriptive	010	A	General data
Scope	R	5.89.1.4.2					
Ozone Depleting Substances (ODS)		5.89.1.4.3					
Destruction of equipment to prevent enemy use		5.89.1.4.4					
Preparation for storage or shipment		5.89.1.4.5					
Transportability guidance		5.89.1.4.6					
Nomenclature cross-reference list		5.89.1.4.7					
List of abbreviations/acronyms		5.89.1.4.8					
Safety, care, and handling		5.89.1.4.9					
Calibration		5.89.1.4.10					
Copyright credit line		5.89.1.4.12					
Item Unique Identification (IUID)		5.89.1.4.13					
<i>GENERAL INFORMATION</i>		5.89.1.5		Descriptive	010	B	General information
Maintenance forms, records, and reports		5.89.1.5.2					
Reporting Equipment Improvement Recommendations (EIR)		5.89.1.5.3					
Hand Receipt (HR) manuals		5.89.1.5.4					
Corrosion Prevention and Control (CPC)		5.89.1.5.5					

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TABLE A-XX. Technical Bulletin (continued)

Content Requirement	TEB Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Warranty information		5.89.1.5.6					
Quality of material		5.89.1.5.7					
Nuclear hardness		5.89.1.5.8					
Supporting information for repair parts, special tools/kits, TMDE, and support equipment		5.89.1.4.11					
<i>EQUIPMENT DESCRIPTION AND DATA</i>		5.89.1.6		Descriptive	000	B	Equipment description and data
MAINTENANCE PROCEDURES		5.90	Maintenance procedures				
<i>MAINTENANCE</i>		5.90.1.10					
Inspect		5.90.1.10.4					
Test and inspection		5.90.1.10.4.1		Procedural	300	B	Test and inspection
Inspection of conventional and chemical ammunition or components containing radioactive materials (Maintainer, below depot sustainment, or ASB only)		5.90.1.10.4.2		Procedural	310	A	Visual examinations
Pre-embarkation inspection		5.90.1.10.4.3		Procedural	310	N	Pre-embarkation inspection
Inspection of installed items		5.90.1.10.4.4		Procedural	310	J	Inspection of installed items
Inspection-acceptance and rejection criteria		5.90.1.10.4.5		Procedural	310	D	Inspection - Acceptance and rejection criteria
Remove		5.90.1.10.10		Procedural	520	A	Removal procedure
Install		5.90.1.10.11		Procedural	720	A	Install procedure
Pack		5.90.1.10.19		Procedural	713	A	Pack procedure

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TABLE A-XX. Technical Bulletin (continued)

Content Requirement	TEB Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Unpack		5.90.1.10.20		Procedural	840	B	Unpacking
Preparation for shipment		5.90.1.10.31		Procedural	811	Q	Preparation for shipment
Transport		5.90.1.10.32		Procedural	831	L	Transport
Load		5.90.1.10.34		Procedural	PD		
Unload		5.90.1.10.35		Procedural	PD		
<i>WIRING DIAGRAMS</i>		5.92		Descriptive	051	A	Wiring diagram
<i>ADDITIONAL SUPPORTING</i>		5.103.1.1.4		Procedural	PD		
SUPPORTING INFORMATION	R	5.103.1.1	Supporting information				
<i>REFERENCES</i>	R	5.103.1.1.2		Descriptive	017	B	References
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>		5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>ADDITIONAL SUPPORTING INFORMATION</i>		5.103.1.1.4		Descriptive	PD		
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXI. Supplemental Information for Commercial Off-the-Shelf (COTS) Manual

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
Destruction of Military Materiel to Prevent Enemy Use	R	5.98.1.3.6.1	[Optional]	Descriptive	997	D	Destruction general information
Lubrication Instructions	R	5.96.1.3.4.3		Procedural	240	B	Lubrication instructions
Preventive Maintenance Checks and Services (PMCS)		5.90.1.4		Checklist	200	B	PMCS
Maintenance Allocation Chart (MAC)	R	5.94.1.3	[Optional]	Maintenance Planning	916	A	MAC
Components of End Item (COEI) and Basic Issue Items (BII) List	R	5.93.1.17		Descriptive	105	D	Components of End Item (COEI) list
				Descriptive	105	C	Basic Issue Items (BII) list
Additional Authorization List (AAL)	R	5.93.1.19		Descriptive	104	C	Additional Authorization List (AAL)
Expendable Supplies and Materials List	R	5.93.1.20		Descriptive	070	D	Expendable and durable items list
Repair Parts List	R	5.93.1.10		IPD	607	E	Repair parts information
Warranty Information		5.96.1.3.4.12		Descriptive	023	E	Warranty information
Copyright		5.96.1.3.4.13		Descriptive	021	A	Copyright
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXII. Aircraft Operator Manual

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
CHAPTER 1. INTRODUCTION	R	5.106.1.8	Intro- duction				
General	R	5.106.1.8		Crew	018	A	Introduction
Explanation of Warnings, Cautions, and Notes	R	5.106.1.8.1		Crew	012	H	Explanation of warnings, cautions, and notes
Description	R	5.106.1.8.2		Crew	042	F	Theory of Operation
Army Aviation Safety Program	R	5.106.1.8.3		Crew	017	B	References
Destruction of Army Materiel	R	5.106.1.8.3					
Forms and Records	R	5.106.1.8.3					
Explanation of Change Symbols	R	5.106.1.8.4		Crew	018	B	How to use this manual
Designator Symbols	R	5.106.1.8.4.1					
Explanation of the Use of Shall, Should and May	R	5.106.1.8.4.2					
Additional Introductory Information	R	5.106.1.8.4.3					
CHAPTER 2. AIRCRAFT AND SYSTEMS DESCRIPTION AND OPERATION	R	5.106.1.9	Aircraft and systems description and operation				
<i>SECTION I - AIRCRAFT</i>	R	5.106.1.9.2	Aircraft				
General	R	5.106.1.9.2.1		Crew	043	J	Description
Illustrations and Tables	R	5.106.1.9.2.2					

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Landing Gear System	R	5.106.1.9.2.4					
Instruments, Panels, and Consoles	R	5.106.1.9.2.5					
Canopies		5.106.1.9.2.6					
Doors		5.106.1.9.2.7					
Seats		5.106.1.9.2.8					
<i>SECTION II - EMERGENCY EQUIPMENT</i>	R	5.106.1.9.3	Emergency equipment	Crew	043	J	Description
<i>SECTION III - ENGINES AND RELATED SYSTEMS</i>	R	5.106.1.9.4	Engines and related systems				
Engines	R	5.106.1.9.4.1		Crew	043	J	Description
<i>SECTION IV - FUEL SYSTEM</i>	R	5.106.1.9.5	Fuel system				
Controls and Indicators	R	5.106.1.9.5.2		Crew	043	J	Description
Fuel System Management	R	5.106.1.9.5.3					
<i>SECTION V - FLIGHT CONTROL SYSTEM</i>	R	5.106.1.9.6	Flight control system				
Automatic Flight Control	R	5.106.1.9.6.2		Crew	043	J	Description
<i>SECTION VI - HYDRAULIC AND PNEUMATIC SYSTEMS</i>		5.106.1.9.7	Hydraulic and pneumatic systems	Crew	043	J	Description
<i>SECTION VII - POWER TRAIN SYSTEM</i>	R	5.106.1.9.8	Power train system	Crew	043	J	Description
<i>SECTION VIII - ROTORS OR PROPELLERS</i>	R	5.106.1.9.9	Rotors or propellers	Crew	043	J	Description

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>SECTION IX - UTILITY SYSTEMS</i>	R	5.106.1.9.10	Utility systems	Crew	043	J	Description
<i>SECTION X - HEATING, VENTILATION, COOLING, AND ENVIRONMENTAL CONTROL SYSTEMS</i>		5.106.1.9.11	Heating, Ventilation, cooling, and environmental control systems	Crew	043	J	Description
<i>SECTION XII - AUXILIARY POWER UNIT</i>	R	5.106.1.9.12	Auxiliary power unit				
DC Power Supply System	R	5.106.1.9.12-.1		Crew	043	J	Description
AC Power Supply System	R	5.106.1.9.12-.2					
Breakers	R	5.106.1.9.12-.3					
<i>SECTION XII - AUXILIARY POWER UNIT</i>	R	5.106.1.9.13	Auxiliary power unit	Crew	043	J	Description
<i>SECTION XIII - LIGHTING</i>	R	5.106.1.9.14	Lighting	Crew	043	J	Description
<i>SECTION XIV - FLIGHT INSTRUMENTS</i>	R	5.106.1.9.15	Flight instruments	Crew	043	J	Description
<i>SECTION XV - SERVICING, PARKING, AND MOORING</i>	R	5.106.1.9.16	Servicing, parking, and mooring				
Servicing Diagram	R	5.106.1.9.16-.2		Crew	043	J	Description
Servicing Information	R	5.106.1.9.16-.3					
Approved Fuels	R	5.106.1.9.16-.4					

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Additional Servicing Instructions	R	5.106.1.9.16-.5					
Ground Handling	R	5.106.1.9.16-.6					
Parking and Mooring	R	5.106.1.9.16-.7					
CHAPTER 3. AVIONICS	R	5.106.1.10	Avionics				
<i>SECTION I - GENERAL</i>	R	5.106.1.10.1	General	Crew	018	A	Introduction
<i>SECTION II - COMMUNICATIONS</i>	R	5.106.1.10.2	Communications				
Description	R	5.106.1.10.2-.1		Crew	043	J	Description
Controls and Functions	R	5.106.1.10.2-.2					
Operation	R	5.106.1.10.2-.3					
Emergency Operation (If Applicable)	R	5.106.1.10.2-.4					
Power Source (If Applicable)	R	5.106.1.10.2-.5					
<i>SECTION III - NAVIGATION</i>	R	5.106.1.10.2	Navigation				
Description	R	5.106.1.10.2-.1		Crew	043	J	Description
Controls and Functions	R	5.106.1.10.2-.2					
Operation	R	5.106.1.10.2-.3					
Emergency Operation (If Applicable)	R	5.106.1.10.2-.4					
Power Source (If Applicable)	R	5.106.1.10.2-.5					
<i>SECTION IV - TRANSPONDER AND RADAR</i>	R	5.106.1.10.2	Transponder and radar				
Description	R	5.106.1.10.2-.1		Crew	043	J	Description

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Controls and Functions	R	5.106.1.10.2-.2					
Operation	R	5.106.1.10.2-.3					
Emergency Operation (If Applicable)	R	5.106.1.10.2-.4					
Power Source (If Applicable)	R	5.106.1.10.2-.5					
CHAPTER 4. MISSION EQUIPMENT	R	5.106.1.11	Mission equipment				
<i>SECTION I - MISSION AVIONICS</i>	R	5.106.1.11.2	Mission avionics	Crew	043	J	Description
<i>SECTION II - ARMAMENT</i>		5.106.1.11.3	Armament				
Armament Control System		5.106.1.11.3-.2		Crew	043	J	Description
Gunnery Equipment		5.106.1.11.3-.3					
Rocket Equipment		5.106.1.11.3-.4					
Missiles		5.106.1.11.3-.5					
<i>SECTION III - CARGO HANDLING</i>		5.106.1.11.4	Cargo handling	Crew	160	F	Cargo handling
<i>SECTION IV - PASSIVE DEFENSE</i>	R	5.106.1.11.5	Passive defense	Crew	043	A	Description
<i>SECTION V - ADDITIONAL SYSTEM COVERAGE</i>		5.106.1.11.5-.1	Additional system coverage	Crew	043	J	Description
CHAPTER 5. OPERATING LIMITS AND RESTRICTIONS	R	5.106.1.12	Operating limits and				

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
			restrictions				
<i>SECTION I - GENERAL</i>	R	5.106.1.12.2	General	Crew	043	B	Operating limits - General
<i>SECTION II - SYSTEM LIMITS</i>	R	5.106.1.12.3	System limits				
Instrument, Interactive Display, or Display Operating Ranges and Markings	R	5.106.1.12.3-.1		Crew	043	H	Operating limits - System
Propeller Limitations	R	5.106.1.12.3-.2					
Rotor Limitations	R	5.106.1.12.3-.3					
Additional Limitations	R	5.106.1.12.3-.4					
<i>SECTION III - POWER LIMITS</i>	R	5.106.1.12.4	Power limits	Crew	043	C	Operating limits - Power
<i>SECTION IV - LOADING LIMITS</i>	R	5.106.1.12.5	Loading limits				
Center-of-Gravity Limitations	R	5.106.1.12.5-.2		Crew	043	D	Operating limits - Loading
Weight Limitations	R	5.106.1.12.5-.3					
Turbulence	R	5.106.1.12.5-.4					
Other Limitations	R	5.106.1.12.5-.5					
<i>SECTION V - MAXIMUM AND MINIMUM AIRSPEED LIMITS</i>	R		Maximum and minimum airspeed limits				
Airspeed Operating Limits Chart	R	5.106.1.12.6		Crew	043	E	Operating limits - Airspeed
<i>SECTION VI - MANEUVERING LIMITS</i>	R		Maneuvering limits				
Flight Envelope Chart	R	5.106.1.12.7		Crew	043	F	Operating limits - Maneuvering

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>SECTION VII - ENVIRONMENTAL RESTRICTIONS</i>	R		Envi- ron- men- tal res- tric- tions				
Flight Under In- strument Meteorolo- gical Conditions (IMC)	R	5.106.1.12.8		Crew	043	G	Operating limits - Environment
Additional Sections	R	5.106.1.12.8- .3		Crew	043	B	Operating limits - General
CHAPTER 6. WEIGHT/BAL- ANCE AND LOADING	R	5.106.1.13	Weight/ Bal- ance and loading				
<i>SECTION I - GENERAL</i>	R	5.106.1.12.5	Gener- al				
Aircraft Compart- ment and Station Diagram	R	5.106.1.13.1- .2		Crew	169	A	Weight and balance
<i>SECTION II - WEIGHT AND BALANCE</i>	R	5.106.1.13.2	Weight and bal- ance	Crew	169	F	Weight and bal- ance Data
<i>SECTION III - FUEL/OIL</i>	R		Fuel/ Oil				
Oil Data	R	5.106.1.13.3		Crew	169	B	Weight and bal- ance - Fluids
<i>SECTION IV- PERSONNEL</i>		5.106.1.13.4	Person- nel				
Personnel Com- partment and Entrances		5.106.1.13.4- .2		Crew	169	C	Weight and bal- ance - Personnel
Personnel Loading and Unloading		5.106.1.13.4- .3					
Personnel Weight		5.106.1.13.4- .4					
Personnel Moments		5.106.1.13.4- .5					
<i>SECTION V - MIS- SION EQUIPMENT</i>	R	5.106.1.13.5	Mis- sion equip- ment	Crew	169	D	Weight and bal- ance - Mission equipment

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>SECTION VI - CARGO LOADING</i>		5.106.1.13.6	Cargo loading				
Description and Illustrations		5.106.1.13.6-.2		Crew	160	D	Cargo loading
Equipment Loading and Unloading		5.106.1.13.6-.3					
Preparation of General Cargo		5.106.1.13.6-.3					
Preparation of General Cargo		5.106.1.13.6-.4					
Loading, Securing, and Unloading Cargo		5.106.1.13.6-.5					
Cargo Center-of-Gravity		5.106.1.13.6-.6					
Loading Procedure		5.106.1.13.6-.7					
Securing Loads		5.106.1.13.6-.8					
Unloading Procedures		5.106.1.13.6-.9					
<i>SECTION VII - CENTER-OF-GRAVITY</i>	R	5.106.1.13.7	Center-of-gravity	Crew	169	E	Center-of-gravity
CHAPTER 7.PERFORMANCE DATA	R	5.106.1.14	Performance data				
<i>SECTION I - INTRODUCTION</i>	R	5.106.1.14.1-3	Introduction	Crew	018	A	Introduction
<i>SECTION II - CHARTS</i>	R	5.106.1.14.1-4	Charts	Crew	030	E	Performance data
CHAPTER 8.NORMAL PROCEDURES	R	5.106.1.15	Normal procedures				
<i>SECTION I - CREW/ OPERATOR DUTIES</i>	R	5.106.1.15.2	Crew/ Operator duties	Crew	130	E	Operational requirements
<i>SECTION II - OPERATING</i>	R	5.106.1.15.3	Operating				

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>PROCEDURES AND MANEUVERS</i>			procedures				
Procedures	R	5.106.1.15.3-.2		Crew	131	A	Normal operation procedures
Amplified Checklist	R	5.106.1.15.3-.3		Crew	130	B	Amplified checklist
Preflight Check	R	5.106.1.15.3-.4		Crew	131	M	Normal operation check - Preflight
Before Exterior Check		5.106.1.15.3-.5		Crew	131	M	Normal operation check - Preflight
Exterior Check	R	5.106.1.15.3-.6		Crew	131	M	Normal operation check - Preflight
Interior Check	R	5.106.1.15.3-.7		Crew	131	M	Normal operation check - Preflight
Crew/Operator/ Passenger Briefing Check	R	5.106.1.15.3-.8		Crew	131	M	Normal operation check - Preflight
Before Starting Engine(s)	R	5.106.1.15.3-.9		Crew	131	B	Normal operation - Preflight
Starting Engine(s)	R	5.106.1.15.3-.9					
Engine Ground Operations		5.106.1.15.3-.9					
Before Taxiing	R	5.106.1.15.3-.9					
Taxiing	R	5.106.1.15.3-.9					
Engine Run up	R	5.106.1.15.3-.9					
Before Takeoff	R	5.106.1.15.3-.9					
Lineup Check	R			Crew	130	C	Lineup check
Takeoff	R	5.106.1.15.3-.10		Crew	131	C	Normal operation - Flight
After Takeoff	R	5.106.1.15.3-.10					
Climb	R	5.106.1.15.3-.10					

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Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Cruise	R	5.106.1.15.3-.10					
Descent-Arrival	R	5.106.1.15.3-.10					
Before Landing	R	5.106.1.15.3-.10					
Landing	R	5.106.1.15.3-.10					
Touch and Go Landings/Go-Around	R	5.106.1.15.3-.10					
After Landing	R	5.106.1.15.3-.11		Crew	131	D	Normal operation - Post Flight
Engine Shutdown	R	5.106.1.15.3-.11					
Before Leaving the Aircraft		5.106.1.15.3-.11					
<i>SECTION III - INSTRUMENT FLIGHT</i>	R	5.106.1.15.4	Instrument flight	Crew	131	G	Normal operation - Instrument Flight
<i>SECTION IV - FLIGHT CHARACTERISTICS</i>	R	5.106.1.15.5	Flight characteristics				
Stalls	R	5.106.1.15.5-.1					
Stall Chart (Fixed Wing Only)		5.106.1.15.5-.2					
Spins (Fixed Wing Only)		5.106.1.15.5-.3					
Diving	R	5.106.1.15.5-.4					
Maneuvering Flight	R	5.106.1.15.5-.4					
Flight Controls	R	5.106.1.15.5-.6					
Level Flight	R	5.106.1.15.5-.7					
External Loads	R	5.106.1.15.5-.8					
				Crew	131	E	Normal operation - Flight characteristics

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Asymmetrical Loads	R	5.106.1.15.5-.9					
<i>SECTION V - ADVERSE ENVIRONMENTAL CONDITIONS</i>	R	5.106.1.15.6	Adverse environmental conditions				
Cold Weather Operations	R	5.106.1.15.6-.1		Crew	131	F	Normal operation - Weather
Desert and Hot Weather Operations	R	5.106.1.15.6-.2					
Turbulence and Thunderstorm Operations	R	5.106.1.15.6-.3					
Rain	R	5.106.1.15.6-.4					
CHAPTER 9 - EMERGENCY PROCEDURES	R	5.106.1.16	Emergency procedures				
<i>SECTION I - AIRCRAFT SYSTEMS</i>	R	5.106.1.16.2	Aircraft systems				
Emergency Equipment and Exits		5.106.1.16.2-.1		Crew	141	B	Aircraft systems
Engine	R	5.106.1.16.2-.2					
Propeller/Rotor Transmissions, and Drive Systems	R	5.106.1.16.2-.3					
Fire	R	5.106.1.16.2-.5					
Fuel System	R	5.106.1.16.2-.6					
Electrical System	R	5.106.1.16.2-.7					
Hydraulic System	R	5.106.1.16.2-.8					
Landing and Ditching	R	5.106.1.16.2-.9					
Flight Controls	R	5.106.1.16.2-.10					

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TABLE A-XXII. Aircraft Operator Manual (continued)

Content Requirement	OPI Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Bailout/Eject		5.106.1.16.2-.11					
<i>SECTION II - MISSION EQUIPMENT</i>		5.106.1.16.3	Mission equipment				
Emergency Jettisoning		5.106.1.16.3-.1		Crew	141	C	Mission equipment
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXIII. Aircraft Operator Checklist

Content Requirement	CC-L Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
<i>CHECKLIST</i>		5.106.1.18.2-.1	Check-list				
General Information and Scope	R	5.106.1.18.4-.3		Crew	018	A	Introduction
Normal Procedures	R	5.106.1.18.4-.4		Crew	130	D	Normal procedures
Through-flight		5.106.1.18.4-.5		Crew	131	T	Through-flight checklist
Emergency Procedures	R	5.106.1.18.4-.6		Crew	141	A	Emergency operations procedures
Performance Data	R	5.106.1.18.4-.7		Crew	131	N	Normal operation checklist - Performance data
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXIV. Maintenance Test Flight Manual

Content Requirement	FM-M Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
<i>SECTION I - INTRODUCTION</i>	R		Intro- duction				
General	R	5.109.1.4.1		Crew	018	A	Introduction
Purpose	R	5.106.1.19.4-.2					
Definitions	R	5.106.1.19.4-.3					
General Information	R	5.106.1.19.4-.4					
Special Instructions	R	5.106.1.19.4-.5					
<i>SECTION 2 - MTF CHECKLIST</i>	R		MTF check- list				
General	R	5.106.1.19.5		Crew	135	B	MTF checklist
<i>SECTION 3 - TROUBLESHOOTING GUIDES</i>	R		Trou- ble- shoot- ing guides				
General	R	5.106.1.19.6		Crew	018	C	Troubleshooting introduction
<i>SECTION 4 - SPECIAL/ DETAILED PROCEDURES</i>	R	5.106.1.19.7	Spe- cial/ De- tailed proce- dures	Crew	PD		
<i>SECTION 5 - CHARTS AND FORMS</i>	R		Charts and forms				
General	R	5.106.1.19.8		Crew	00Y	B	Charts and forms
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXV. Demilitarization of Surplus Military Items Manual

Content Requirement	Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
GENERAL INFORMATION	R	5.98.1.2.6	General information	Descriptive	010	B	General information
METHODS OF DEMILITARIZATION		5.98.1.2.7	Methods of demilitarization	Descriptive	997	F	Methods of demilitarization
DETAILED INSTRUCTIONS FOR DEMILITARIZATION	R	5.98.1.2.8	Detailed instructions for demilitarization	Procedural	997	G	Detailed instructions for demilitarization
SUPPORTING INFORMATION			Supporting information				
<i>REFERENCES</i>	R	5.98.1.2.9		Descriptive	017	B	References
<i>EXPENDABLE AND DURABLE ITEMS LIST</i>		5.98.1.2.9.0 5.93.1.20		Descriptive	070	D	Expendable and durable items list
<i>TOOL IDENTIFICATION LIST</i>		5.98.1.2.9.0 5.100.1.1		Descriptive	062	B	Tool identification list
REAR MATTER	R	5.111.1.3.1					

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TABLE A-XXVI. Warranty Technical Bulletin (WTB)

Content Requirement	WTB Req.	Ref.	DM Type	Info Co-de	IC-V	Info Name
FRONT MATTER	R	5.111				
<i>PARAGRAPH 1, GENERAL</i>	R	5.103.1.2.-6.1	Descriptive	028	E	Warranty information
<i>PARAGRAPH 2, EXPLANATION OF TERMS</i>	R	5.103.1.2.-6.2				
<i>PARAGRAPH 3, COVERAGE - SPECIFIC</i>	R	5.103.1.2.-6.3				
Contractor Responsibilities	R	5.103.1.2.-6.4				
Government Responsibilities/ Identification	R	5.103.1.2.-6.5				
Design/Performance Specifications	R	5.103.1.2.-6.6				
Nullification	R	5.103.1.2.-6.7				
Claim Procedures	R	5.103.1.2.-6.9				
Storage/Shipment/ Handling	R	5.103.1.2.-6.10				
APPENDIXES		5.103.1.2.-7	Descriptive	023	F	Warranty tables
REAR MATTER	R	5.111.1.3.1				

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TABLE A-XXVII. Modification Work Order

Content Requirement	MW-O Req.	Ref.	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111				
Text		5.98.1.1.2				
Paragraph 1 - Purpose	R	5.98.1.1.3	Descriptive	018	A	Introduction
Paragraph 2 - Priority	R					
Paragraph 3 - End Item(s) or System (s) to Be Modified	R	5.98.1.1.4	Descriptive	616	A	Modified items list
Paragraph 4 - Module(s) (Components, Assemblies, Subassemblies, Boards, and Cards) to be Modified	R					
Paragraph 5 - Part (s) to be Modified	R					
Paragraph 6 - Application	R	5.98.1.1.5	Descriptive	670	D	Modification application
Paragraph 7 - Technical Publications Affected/ Changed	R	5.98.1.1.6	Descriptive	017	N	Technical publications affected/changed
Paragraph 8 - MOW Kit(s)/Part (s) and their Disposition	R	5.98.1.1.7	Descriptive	607	C	Kits parts list
Paragraph 9 - Special Tools: Tool Kits; Jigs; TMDE: and Fixtures Required	R	5.98.1.1.8	Descriptive	304	B	Special support equipment and tools
Paragraph 10 - Modification Procedures	R	5.98.1.1.9	Procedural	670	B	Modification procedures
Paragraph 11 - Calibration Requirements	R	5.98.1.1.10	Descriptive	017	E	Calibration requirements
Paragraph 12 - Weight and Balance Data	R	5.98.1.1.11	Descriptive	169	F	Weight and balance data

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TABLE A-XXVII. Modification Work Order (continued)

Content Requirement	MW-O Req.	Ref.	DM Type	Info Code	ICV	Info Name
Paragraph 13 - Quality Assurance Requirements	R	5.98.1.1.12	Descriptive	315	A	Quality assurance requirements
Paragraph 14 - Recording and Reporting of the Modification	R	5.98.1.1.13	Descriptive	670	C	Recording and reporting of the modification
Paragraph 15 - Materiel Change (MC) Number	R					
Paragraph 16 - Modification Identification	R					
Appendix		5.98.1.1.13.4	Descriptive/ Procedural	PD		
REAR MATTER	R	5.111.1.3.1				

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
FRONT MATTER	R	5.111					
CHAPTER 1. INTRODUCTION	R	5.109.1.4	Intro- duction				
<i>SECTION I - PURPOSE AND SCOPE</i>	R	5.109.1.4.1	Purpose and scope	Descriptive	018	A	Introduction
<i>SECTION II - GENERAL</i>	R	5.109.1.4.2	General				
Description and Use of This Manual	R	5.109.1.4.2		Descriptive	018	B	How to use this manual
Classified Materials	R	5.109.1.4.2.3					
Warnings, Cautions, and Notes	R	5.109.1.4.2.4					
Deviations	R	5.109.1.4.2.5					
<i>SECTION III - AIRCRAFT DESCRIPTION</i>	R	5.109.1.4.3	Aircraft description	Descriptive	040	B	Description
<i>SECTION IV - SHIPPING CHARACTERISTICS</i>	R	5.109.1.4.4	Shipping characteristics	Descriptive	800	B	Shipping characteristics
<i>SECTION V - GROUND HANDLING</i>	R	5.109.1.4.5	Ground handling	Descriptive/ Procedural	170	F	Ground handling
<i>SECTION VI - SAFETY</i>	R	5.109.1.4.6	Safety	Descriptive	012	J	Safety summary
<i>SECTION VII - PRESERVATION/DEPRESERVATION CHECK SHEETS</i>	R	5.109.1.4.7	Preservation/ Depreservation check sheets	Descriptive	810	E	Preservation/Depreservation check sheets
CHAPTER 2. SHIPMENT BY		5.109.1.5	Shipment by				

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
CARGO AIRCRAFT			cargo aircraft				
<i>SECTION I - GENERAL</i>	R	5.109.1.5.1	General				
Types of Shipment	R	5.109.1.5.1.1		Descriptive	812	B	Shipment of aircraft - General
Functions of Cargo Aircraft Crew/Operator	R	5.109.1.5.1.2					
Functions of the Army Loading Team	R	5.109.1.5.1.3					
Facility Requirements	R	5.109.1.5.1.4					
Weight and Balance	R	5.109.1.5.1.5					
Safety	R	5.109.1.5.1.7					
Security	R	5.109.1.5.1.6					
<i>SECTION II - SHIPMENT BY C-5 AIRCRAFT</i>	R	5.109.1.5.2	Shipment by C-5 aircraft				
Characteristics	R	5.109.1.5.2.1		Descriptive	800	C	Shipping characteristics - C-5
Preparing the Aircraft	R	5.109.1.5.2.2					
Loading	R	5.109.1.5.2.3		Procedural	831	B	Loading - C-5
Tiedown	R	5.109.1.5.2.4		Procedural	811	G	Tiedown - C-5
Unloading	R	5.109.1.5.2.5		Procedural	841	B	Unloading - C-5
Depreservation and Reassembly	R	5.109.1.5.2.6		Procedural	870	F	Depreservation and reassembly - C-5
<i>SECTION III - SHIPMENT BY C-17 AIRCRAFT</i>	R	5.109.1.5.2	Shipment by C-17				
Characteristics	R	5.109.1.5.2.1		Descriptive	800	D	Shipping characteristics - C-17
Preparing the Aircraft	R	5.109.1.5.2.2					
Loading	R	5.109.1.5.2.3		Procedural	831	C	Loading - C-17
Tiedown	R	5.109.1.5.2.4		Procedural	811	H	Tiedown - C-17

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Unloading	R	5.109.1.5.2.5		Procedural	841	C	Unloading - C-17
Depreservation and Reassembly	R	5.109.1.5.2.6		Procedural	870	G	Depreservation and reassembly - C-17
<i>SECTION IV - SHIPMENT BY C-130 AIRCRAFT</i>	R	5.109.1.5.2	Ship-ment by C-130				
Characteristics	R	5.109.1.5.2.1		Descriptive	800	F	Shipping characteristics - C-130
Preparing the Aircraft	R	5.109.1.5.2.2		Procedural	800	R	Preparing the aircraft
Loading	R	5.109.1.5.2.3		Procedural	831	E	Loading - C-130
Tiedown	R	5.109.1.5.2.4		Procedural	811	K	Tiedown - C-130
Unloading	R	5.109.1.5.2.5		Procedural	841	E	Unloading - C-130
Depreservation and Reassembly	R	5.109.1.5.2.6		Procedural	870	J	Depreservation and reassembly - C-130
CHAPTER 3. SHIPMENT BY VESSEL		5.109.1.6	Ship-ment by vessel				
<i>Section I - GENERAL</i>	R	5.109.1.6.1.1	General				
Types of Shipment	R	5.109.1.6.1.2		Descriptive	812	B	Shipment of aircraft - General
Responsibilities of Military Traffic Management Command (MTMC)	R	5.109.1.6.1.3					
Functions of Marine Terminal Personnel	R	5.109.1.6.1.4					
Functions of the Army Loading Team	R	5.109.1.6.1.5					
Equipment Requirements	R	5.109.1.6.1.6					
Material Requirements	R	5.109.1.6.1.7					

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Manpower Requirements	R	5.109.1.6.1.8					
Facility Requirements	R	5.109.1.6.1.9					
Aircraft Security	R	5.109.1.6.1.-10					
Safety	R	5.109.1.6.1.-11					
Characteristics	R	5.109.1.6.1.-12					
<i>SECTION II - TACTICAL SHIPMENT</i>	R	5.109.1.6.2	Tactical shipment				
Preparing the Aircraft	R	5.109.1.6.2.1		Descriptive	800	S	Preparing the aircraft - Vessel, tactical
Loading	R	5.109.1.6.2.2		Procedural	831	F	Loading - Vessel, tactical
Tiedown	R	5.109.1.6.2.3		Procedural	811	L	Tiedown - Vessel, tactical
Unloading	R	5.109.1.6.2.4		Procedural	841	F	Unloading - Vessel, tactical
Depreservation and Reassembly	R	5.109.1.6.2.5		Procedural	870	K	Depreservation and reassembly - Vessel, tactical
<i>SECTION III - LOGISTICAL SHIPMENT</i>	R	5.109.1.6.3	Logistical shipment				
Preparing the Aircraft	R	5.109.1.6.3.1		Descriptive	800	T	Preparing the aircraft - Vessel, logistical
Loading	R	5.109.1.6.3.2		Procedural	831	G	Loading - Vessel, logistical
Tiedown	R	5.109.1.6.3.3		Procedural	811	M	Tiedown - Vessel, logistical
Unloading	R	5.109.1.6.3.4		Procedural	841	G	Unloading - Vessel, logistical
Depreservation and Reassembly	R	5.109.1.6.3.5		Procedural	870	L	Depreservation and reassembly - Vessel, logistical

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>SECTION IV - SHIPMENT BY US NAVY AIR CAPABLE SHIPS</i>	R	5.109.1.6.4	Shipment by US Navy air capable ships				
Preparing the Aircraft	R	5.109.1.6.4.1		Descriptive	800	U	Preparing the aircraft - Vessel, US Navy capable
Loading	R	5.109.1.6.4.2		Procedural	831	H	Loading - Vessel, US Navy capable
Tiedown	R	5.109.1.6.4.3		Procedural	811	N	Tiedown - Vessel, US Navy capable
Unloading	R	5.109.1.6.4.4		Procedural	841	H	Unloading - Vessel, US Navy capable
Depreservation and Reassembly	R	5.109.1.6.4.5		Procedural	870	M	Depreservation and reassembly - Vessel, US Navy capable
CHAPTER 4. SHIPMENT BY TRUCK	R	5.109.1.7	Shipment by truck				
<i>SECTION I - GENERAL</i>	R	5.109.1.7	General				
Type of Truck Shipments	R	5.109.1.7.1.2		Descriptive	812	B	Shipment of aircraft - General
Responsibilities of the Shipper	R	5.109.1.7.1.3					
Equipment Requirements	R	5.109.1.7.1.4					
Material Requirements	R	5.109.1.7.1.5					
Manpower Requirements	R	5.109.1.7.1.6					
Facility Requirements	R	5.109.1.7.1.7					
Safety Requirements	R	5.109.1.7.1.8					
<i>SECTION II - AIRCRAFT RECOVERY</i>	R	5.109.1.7.2	Aircraft				

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
<i>AND TACTICAL TRANSPORT</i>			recovery and tactical transport				
Drawings	R	5.109.1.7.2.1		Descriptive	800	G	Shipping characteristics - Aircraft recovery
Dimensions	R						
Capabilities	R						
Limitations	R						
Load Characteristics	R						
Highway Permits	R						
Preparing the Aircraft	R	5.109.1.7.2.2		Procedural	800	X	Preparing the aircraft - Aircraft recovery and tactical transport
<i>SECTION III - LOGISTICAL (LONG HAUL) TRANSPORT BY TRUCK</i>	R	5.109.1.7.3	Logistical (Long haul) transport by truck	Descriptive	812	E	Shipment of aircraft - Truck (Long haul)
CHAPTER 5. CRATED AND INTERMODAL CONTAINER SHIPMENT	R	5.109.1.8	Crated and intermodal container shipment				
<i>SECTION I - CRATED SHIPMENT</i>	R	5.109.1.8.1	Crated shipment				
Characteristics	R	5.109.1.8.1.2		Descriptive	800	H	Shipping characteristics - Crated
Handling Methods	R	5.109.1.8.1.3					
Security Requirements	R	5.109.1.8.1.4					
Facility Requirements	R	5.109.1.8.1.5					
Equipment	R	5.109.1.8.1.6					
Consumable Materials	R	5.109.1.8.1.7					

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Manpower Requirements	R	5.109.1.8.1.8					
Aircraft Preparation	R	5.109.1.5.2.1		Procedural	800	C	Preparing the aircraft - Crated
Crating				Procedural	830	B	Crating
Unpacking and Reassembly	R	5.109.1.8.1.-10		Procedural	870	D	Unpacking and reassembly
<i>SECTION II - INTERMODAL CONTAINER SHIPMENT</i>	R	5.109.1.8.2	Inter-modal container				
Characteristics	R	5.109.1.8.2.2		Descriptive	800	J	Shipping characteristics - Inter-modal container
Drawings	R	5.109.1.8.2.3					
Security Requirements	R	5.109.1.8.2.4					
Facility Requirements		5.109.1.8.2.5					
Safety Requirements	R	5.109.1.8.2.6					
Equipment Requirements	R	5.109.1.8.2.7					
Consumable	R	5.109.1.8.2.8					
Manpower Requirements	R	5.109.1.8.2.9					
Aircraft Preparation	R	5.109.1.8.2.-10		Procedural	800	W	Preparing the aircraft - Intermodal container
Loading	R	5.109.1.8.2.1		Procedural	831	J	Loading - Inter-modal container
Tiedown	R	5.109.1.8.2.-12		Procedural	811	P	Tiedown - Inter-modal container
Unloading	R	5.109.1.8.2.-13		Procedural	841	J	Unloading - Intermodal container
Depreservation and Reassembly	R	5.109.1.8.2.-14		Procedural	870	N	Depreservation and reassembly - Intermodal container
CHAPTER 6. PRESERVATION	R	5.109.1.9	Preservation				

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
AND PACKAGING			and pack-aging				
<i>SECTION I - GENERAL</i>	R	5.109.1.9.1	General	Descriptive	810	H	Preservation, packaging, and marking
<i>SECTION II - AIR-CRAFT CLEANING</i>	R	5.109.1.9.2	Air-craft clean-ing				
General	R	5.109.1.9.2		Procedural	811	E	Aircraft cleaning
Equipment Requirements	R	5.109.1.9.2					
Materials	R	5.109.1.9.2					
Manpower	R	5.109.1.9.2					
Procedures	R	5.109.1.9.2					
<i>SECTION III - PRESERVATION OF AIRCRAFT</i>	R	5.109.1.9.3	Preser-vation of air-craft				
General	R	5.109.1.9.3		Procedural	811	B	Preservation of aircraft
Equipment	R	5.109.1.9.3					
Materials	R	5.109.1.9.3					
Manpower	R	5.109.1.9.3					
Procedures	R	5.109.1.9.3					
<i>SECTION IV - PRESERVATION AND PACKAGING OF COMPONENTS</i>	R	5.109.1.9.4	Preser-vation and pack-aging of compo-nents	Descriptive	811	C	Preservation and packaging of components
Procedures	R	5.109.1.9.4					
Manpower	R	5.109.1.9.4					
Materials	R	5.109.1.9.4					
Packaging	R	5.109.1.9.4					
<i>SECTION V - MARKING OF AIR-CRAFT/ PREPARATION OF SHIPPING DOCUMENTS</i>	R	5.109.1.9.5	Mark-ing of air-craft/ prepa-ration of ship-ping				
Identification	R	5.109.1.9.5		Descriptive	811	D	Marking of air-craft/ preparation
Color Coding	R	5.109.1.9.5					

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Preservation Information	R	5.109.1.9.5	documents				of shipping documents
<i>SECTION VI - DE-PRESERVATION AND ASSEMBLY</i>	R	5.109.1.9.6	De-preservation and assembly	Procedural	870	E	Depreservation and reassembly - General
CHAPTER 7. TRANSPORTABILITY EQUIPMENT FABRICATED AT UNIT LEVEL	R	5.109.1.10	Transportability equipment fabricated at unit level		PD		
CHAPTER 8. OPERATOR AND MAINTENANCE INSTRUCTIONS FOR TRANSPORTABILITY EQUIPMENT INCLUDING REPAIR PARTS LIST	R	5.109.1.11	Operator and maintenance instructions for transportability equipment including repair parts list				
<i>SECTION I - OPERATOR INSTRUCTIONS</i>	R	5.109.1.11.1	Operator instructions	Crew	131	A	Normal operation procedures
<i>SECTION II - REPAIR/OVERHAUL PROCEDURES</i>	R	5.109.1.11.2	Repair/Overhaul procedures	Procedural	664	B	Repair/Overhaul procedures
<i>SECTION III - REPAIR PARTS LIST</i>	R	5.109.1.11.3	Repair parts list	IPD	941	A	Illustrated parts data

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
CHAPTER 9. EXTERNAL TRANSPORT BY HELICOPTER (AERIAL RECOVERY)	R	5.109.1.12	External transport by helicopter (Aerial recovery)				
<i>SECTION I - GENERAL</i>	R	5.109.1.12.1	General				
Types of Transport	R	5.109.1.12.1-.1		Descriptive	812	F	Aerial recovery - General
Functions of Aircraft Recovery Team	R	5.109.1.12.1-.2					
Safety	R	5.109.1.12.1-.3					
Structurally Damaged Aircraft	R	5.109.1.12.1-.4					
Drag	R	5.109.1.12.1-.5					
<i>SECTION II - SINGLE CARGO HOOK ROTOR HEAD LIFT</i>	R	5.109.1.12.2	Single cargo hook rotor head lift				
Lift Factors	R	5.109.1.12.2-.1		Descriptive	812	G	Aerial recovery - Lift factors
Preparing the Aircraft	R	5.109.1.12.2-.2		Procedural	800	Y	Preparing the aircraft - Aircraft recovery, single cargo hook rotor head lift
Reassembly	R	5.109.1.12.2-.3		Procedural	710	D	Reassembly
<i>SECTION III - SINGLE CARGO HOOK HARD POINT LIFT</i>	R	5.109.1.12.3	Single cargo hook hard point lift	Procedural	812	H	Aerial recovery - Single cargo hook hard point lift
<i>SECTION IV - DUAL CARGO HOOK ROTOR HEAD LIFT</i>	R	5.109.1.12.4	Dual cargo hook	Procedural	812	K	Aerial recovery - Dual cargo hook hard point lift

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
			rotor head lift				
<i>SECTION V - DUAL CARGO HOOK HARD POINT LIFT</i>	R	5.109.1.12.5	Dual cargo hook hard point lift	Procedural	812	J	Aerial recovery - Dual cargo hook hard point lift
<i>SECTION VI - SINGLE CARGO HOOK BELLY BAND LIFT</i>	R	5.109.1.12.6	Single cargo hook belly band lift	Procedural	812	M	Aerial recovery - Single cargo hook belly band lift
<i>APPENDIX A.</i>			Appendix A				
REFERENCES	R	5.109.1.13		Descriptive	017	B	References
<i>APPENDIX B.</i>			Appendix B				
<i>PRESERVATION/DEPRESERVATION CHECK SHEETS</i>	R	5.109.1.14		Descriptive	810	E	Preservation/ Depreservation check sheets
<i>APPENDIX C.</i>			Appendix C				
<i>WEIGHT AND BALANCE INFORMATION FOR TRANSPORTABILITY</i>	R	5.109.1.15		Descriptive	169	A	Weight and balance
<i>APPENDIX D.</i>			Appendix D				
<i>CONSUMABLE MATERIALS LIST</i>	R	5.109.1.16		Descriptive	070	B	Consumable materials list
<i>APPENDIX E.</i>			Appendix E				
<i>SPECIAL TOOLS AND EQUIPMENT LIST</i>	R	5.109.1.17		Descriptive	061	B	Support equipment and tools
<i>APPENDIX F.</i>			Appendix F				
<i>QUARANTINE INSPECTION/CUSTOMS CLEARANCE</i>	R	5.109.1.18		Procedural	812	L	Quarantine inspection/ customs clearance
<i>APPENDIX G.</i>			Appendix G				
<i>AIRCRAFT PROTECTIVE COVERING</i>	R	5.109.1.19					

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TABLE A-XXVIII. Preparation for Shipment of Army Aircraft Manual (continued)

Content Requirement	CL-G Req.	Ref.	PM Entry Title	DM Type	Info Code	ICV	Info Name
Safety	R	5.109.1.19.1		Procedural	812	Q	Preparation of aircraft - Protective covering
Aircraft Preparation	R						
Application of Film	R	5.109.1.19.1-.2					
Fuel and Battery Vents	R	5.109.1.19.1-.3					
Installation of Ventilators	R	5.109.1.19.1-.4					
Hoisting	R	5.109.1.19.2		Procedural	812	R	Hoisting
Tiedown	R	5.109.1.19.3		Procedural	811	F	Tiedown - General
Enroute Maintenance	R	5.109.1.19.4		Procedural	664	A	Special repair procedure
Removal of Shrink Film	R	5.109.1.19.5		Procedural	812	S	Shipment of aircraft - Protective covering, removal
<i>TOOLS AND EQUIPMENT</i>	R	5.109.1.19.6		Descriptive	802	A	List of materials associated with storage
Consumable Materials	R	5.109.1.19.6-.2					
Manpower		5.109.1.19.6-.3					
SAFETY CHECK SHEET	R	5.109.1.19.7		Descriptive	012	C	Safety check sheet
REAR MATTER	R	5.111.1.3.1					

APPENDIX B

ARMY INFORMATION CODES.

B.1 SCOPE.

This appendix provides the information codes available for use for Army programs when developing data modules for technical content. Details about the use of these information codes is provided in [B.4.1](#) through [B.4.4](#). This appendix is a mandatory part of this standard. The information contained herein is intended for compliance. These requirements are applicable for all maintenance levels through overhaul (depot), including DMWRs/NMWRs.

B.2 APPLICABLE DOCUMENTS.

This section is not applicable to this appendix.

B.3 DEFINITIONS.

This section is not applicable to this appendix.

B.4 GENERAL REQUIREMENTS.

B.4.1 Information codes.

Information codes are used to describe the functional activity related to the product in each respective data module.

B.4.2 Information names.

Each information code has a long definition and a short definition (provided in S1000D Chapter 8.4). The short definitions are used to populate the element **<infoName>**. Column four ("Army information name (if different)") provides an alternate information name that shall be used for the respective information code for Army data modules. Use of information names, other than those listed shall be coordinated with LDAC.

B.4.3 Additional information codes.

S1000D provides a mechanism for identifying and establishing new standard information codes from among those codes not already pre-assigned. These codes are identified as "Available for projects" in S1000D Chapter 8.4. Prior to defining or requesting the reassignment of a "Available for projects" information code or assigning an information code variant, projects shall coordinate with LDAC.

B.4.4 Additional information variants.

Projects shall coordinate all new information code variants with LDAC. Efforts will be made to consistently use information code variants across Army projects. For truly project-unique variants, the digits 1 through 9 are reserved for project use.

B.5 DETAILED REQUIREMENTS.

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TABLE B-I. Function, data for plans and description information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
000	A	Function, data for plans and description		
000	B	Function, data for plans and description	Equipment description and data	
001	A	Title page	Title page (Paged-based) Identification information (IETP)	
001	B	Title page	Front cover	
001	C	Title page	Back cover	
001	D	Title page	Title block page with warning data	
001	E	Title page	Abbreviated title page	
001	F	Title page	Abbreviated title page/table of contents	
001	G	Title page	Back cover with metric conversion charts	
001	H	Title page	Card deck title block	
001	J	Title page	Checklist title block	
002	A	List of pages or data modules	(prohibited for Army use)	
002	E	List of pages or data modules	List of functional description data modules	
002	F	List of pages or data modules	List of cable/wiring diagrams data modules	
002	M	List of pages or data modules	List of operating procedures data modules	
002	R	List of pages or data modules	List of troubleshooting data modules	
002	S	List of pages or data modules	List of remove/replace data modules	
003	A	Change record or highlights	Change record and highlights	
003	B	Change record or highlights	Deleted items	
003	C	Change record or highlights	Revision summary	
004	A	Access illustration		
005	A	List of abbreviations		
005	B	List of abbreviations	List of acronyms	
005	C	List of abbreviations	List of acronyms and abbreviations	
006	A	List of terms		

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
007	A	List of symbols		
008	A	Technical standard record		
008	B	Technical standard record	Technical directives	
009	A	Table of contents		
010	A	General data		
010	B	General data	General information	
010	C	General data	General information (Maintenance requirement)	
010	D	General data	General information (Phased maintenance)	
010	E	General data	General information (Phased maintenance inspection)	
011	A	Function		
011	B	Function	Foreign ammunition	
011	C	Function	Technical description	
012	A	General warnings and cautions and related safety data		
012	B	General warnings and cautions and related safety data	Hazard analysis	
012	C	General warnings and cautions and related safety data	Safety check sheet	
012	D	General warnings and cautions and related safety data	Maintenance safety summary	
012	E	General warnings and cautions and related safety data	System hazards and precautions	
012	F	General warnings and cautions and related safety data	Operational safety summary	
012	G	General warnings and cautions and related safety data	Battery safety	
012	H	General warnings and cautions and related safety data	Explanations of warnings, cautions, and notes	
012	J	General warnings and cautions and related safety data	Safety summary	
012	K	General warnings and cautions and related safety data	Operational checkout safety summary	
012	L	General warnings and cautions and related safety data	Troubleshooting safety summary	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
012	M	General warnings and cautions and related safety data	Danger areas and precautionary measures	
012	N	General warnings and cautions and related safety data	Safety information	
012	P	General warnings and cautions and related safety data	Testing safety summary	
012	Q	General warnings and cautions and related safety data	Hazardous materials warnings	
012	R	General warnings and cautions and related safety data	ESD hazards and precautions	
012	S	General warnings and cautions and related safety data	Electromagnetic Radiation	
012	T	General warnings and cautions and related safety data	Hazards to divers	
013	A	Numeric index		
014	A	Alphabetic and alphanumeric index		
014	B	Alphabetic and alphanumeric index	Alphabetical index	
015	A	List of special materials		
016	A	List of dangerous materials		
017	A	List of related data		
017	B	List of related data	References	
017	C	List of related data	References - Preparation for storage or shipment	
017	D	List of related data	References - Nomenclature cross-reference list	
017	E	List of related data	Calibration requirements	
017	F	List of related data	Publication index	
017	G	List of related data	Deleted publication index	
017	H	List of related data	Required reading	
017	J	List of related data	Manufacturer's manuals	
017	K	List of related data	Table of armament switches	
017	L	List of related data	Equipment and publications required but not supplied	
017	M	List of related data	Equipment and publications required and supplied	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
017	N	List of related data	Technical publications affected/ changed	
017	P	List of related data	Derivative classification status	
018	A	Introduction		
018	B	Introduction	How to use this manual	
018	C	Introduction	Troubleshooting introduction	
018	D	Introduction	MAC introduction	
018	E	Introduction	Parts introduction	
018	F	Introduction	PMCS introduction	
018	G	Introduction	BDAR introduction	
018	H	Introduction	TMDE introduction	
018	J	Introduction	IETP installation data	
018	K	Introduction	Maintenance introduction	
018	L	Introduction	Conventions	
018	M	Introduction	Notes	
018	N	Introduction	Foreword	
018	P	Introduction	Safety introduction	
018	Q	Introduction	Operation introduction	
018	R	Introduction	Description introduction	
018	S	Introduction	Installation introduction	
018	T	Introduction	Systems administration introduction	
018	U	Introduction	Test procedures introduction	
018	V	Introduction	Operational checkout introduction	
018	W	Introduction	Functional introduction	
018	X	Introduction	Loading introduction	
018	Y	Introduction	Repair introduction	
018	Z	Introduction	Scope	
019	A	Supplier list		
019	B	Suppliers list	List of manufacturers	
020	A	Configuration		
020	B	Configuration	Modes of operation	
021	A	Copyright		

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
022	A	Business rules	Business rules (BREX)	
023	A	Administrative forms and data		
023	B	Administrative forms and data	Reporting errors and recommending improvements	
023	C	Administrative forms and data	Army: Authentication page Navy: Certification sheet	This is a forma signed acceptance form/receipt of goods delivered and received.
023	D	Administrative forms and data	Product quality deficiency report	
023	E	Administrative forms and data	Warranty information	
023	F	Administrative forms and data	Warranty tables	
023	G	Administrative forms and data	Personal qualification standards	
023	H	Administrative forms and data	Help desk data and procedure	
023	J	Administrative forms and data	List of contact information	
023	K	Administrative forms and data	Asset inventory data and processes	
023	L	Administrative forms and data	Maintenance data	
023	M	Administrative forms and data	Promulgation letter	
024	A	Business rules document		
028	A	General		
029	A	Data structure		
030	A	Technical data		
030	B	Technical data	Environmental requirements	
030	C	Technical data	Conventions	
030	D	Technical data	Munition equipment and ammunition data sheets	
030	E	Technical data	Performance data	
030	F	Technical data	Dimensions	
031	A	Electrical standard parts data		
033	A	Technical data (functional breakdown)		
033	B	Technical data (functional breakdown)	Input requirements	
033	C	Technical data (functional breakdown)	Software description	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
034	A	Technical data (physical breakdown)		
034	B	Technical data (physical breakdown)	System architecture description	
034	C	Technical data (physical breakdown)	System security description	
034	D	Technical data (physical breakdown)	Utilities list	
034	E	Technical data (physical breakdown)	System description	
040	A	Description		
041	A	Description of how it is made		
042	A	Description of function		
042	B	Description of function	Functional analysis	
042	C	Description of function	System function	
042	D	Description of function	Capabilities	
042	E	Description of function	System specifications	
042	F	Description of function	Theory of operation	
042	G	Description of function	General aircraft structural information	
042	H	Description of function	Description of function - mode flow	
042	J	Description of function	Simplified functional description	
042	K	Description of function	Detailed functional description	
042	L	Description of function	Equipment function	
042	M	Description of function	System interfaces	
042	N	Description of function	Circuit analysis	
043	A	Description of function attributed to crew (functional breakdown)		
043	B	Description of function attributed to crew (functional breakdown)	Operating limits - General	
043	C	Description of function attributed to crew (functional breakdown)	Operating limits - Power	
043	D	Description of function attributed to crew (functional breakdown)	Operating limits - Loading	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
043	E	Description of function attributed to crew (functional breakdown)	Operating limits - Airspeed	
043	F	Description of function attributed to crew (functional breakdown)	Operating limits - Maneuvering	
043	G	Description of function attributed to crew (functional breakdown)	Operating limits - Environment	
043	H	Description of function attributed to crew (functional breakdown)	Operating limits - System	
043	J	Description of function attributed to crew (functional breakdown)	Description	
044	A	Description of function (physical breakdown)		
044	B	Description of function (physical breakdown)	Physical arrangement	
044	C	Description of function (physical breakdown)	System equipment	
044	D	Description of function (physical breakdown)	Monitored devices	
044	E	Description of function (physical breakdown)	List of major components	
044	F	Description of function (physical breakdown)	Symbology	
044	G	Description of function (physical breakdown)	System description	
045	A	Designated use		
046	A	Dependence on peripheral/sys-tems equipment		
050	A	Diagram/lists		
050	B	Diagram/lists	Referenced drawings	
051	A	Wiring diagrams		
051	B	Wiring diagrams	Cable running sheets	
052	A	Routing diagrams		
053	A	Connection lists		
054	A	Schematic diagram		
054	B	Schematic diagram	Architecture drawings	
054	C	Schematic diagram	Signal flow diagram	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
054	D	Schematic diagram	Logic diagrams	
054	E	Schematic diagram	Functional block diagram	
055	A	Location diagram		
055	B	Location diagram	Aircraft stations	
055	C	Location diagram	Access and inspection panels	
055	D	Location diagram	External power source connections	
055	E	Location diagram	Work area	
055	F	Location diagram	Zone description	
055	G	Location diagram	Aircraft structure visual index	
055	H	Location diagram	Inspection zone description	
055	J	Location diagram	Structural group repair visual index illustration	
056	A	Equipment list		
056	B	Equipment list	System equipment	
057	A	Wire list		
057	B	Wire list	Wire run lists	
057	C	Wire list	Wiring system diagram identification and information	
057	D	Wire list	Wiring reference designation list	
057	E	Wire list	Wire and connector component identification and location list	
057	F	Wire list	Wire type list	
057	G	Wire list	Wiring systems repair identification and information	
058	A	Harness list		
058	B	Harness list	Wiring system bundle assembly identification and information	
058	C	Harness list	Wire bundle assembly routings	
059	A	Maintenance envelope diagram		
060	A	Product support equipment, tools and software		
060	B	Product support equipment, tools and software	Software environment	
061	A	Special support equipment and tools		

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
061	B	Special support equipment and tools	Support equipment and tools	
062	A	Standard support equipment and tools		
062	B	Standard support equipment and tools	Tool identification list	
063	A	Government supplied support equipment and tools		
064	A	Locally made support equipment and tools		
065	A	Software		
066	A	Support equipment and tools data		
066	B	Support equipment and tools data	System administration utilities	
067	A	Decals and instruction plates		
067	B	Decals and instruction plates	Decal/data plate guide	
067	C	Decals and instruction plates	Ammunition marking	
067	D	Decals and instruction plates	Mark	
070	A	Consumables, material and expendables		
070	B	Consumables, material and expendables	Consumable materials list	
070	C	Consumables, material and expendables	Expendable supplies and materials list	
070	D	Consumables, material and expendables	Expendable and durable items list	
071	A	Consumables		
072	A	Materials		
073	A	Expendables		
074	A	Data sheet for dangerous consumables and materials		
074	B	Data sheet for dangerous consumables and materials	Electromagnetic hazards	
074	C	Data sheet for dangerous consumables and materials	Hazardous components	
075	A	Parts list		

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
075	B	Parts list	Parts illustrations	
075	C	Parts list	Allowance parts list	
075	D	Parts list	Mandatory replacement parts	
075	E	Parts list	Critical Safety Items (CSI)	
076	A	Fluid		
077	A	Data sheet for consumables and materials		
078	A	Fasteners		
080	A	Mixture and solution		
081	A	Chemical solution		
082	A	Chemical mixture		
090	A	Software documentation		
090	B	Software documentation	User interface guide	
096	A	Safety critical items and parts		
00A	A	List of illustrations		
00A	B	List of illustrations	List of figures	
00B	A	List of support equipment		
00B	B	List of support equipment	Hardware interfaces	
00B	C	List of support equipment	Software interfaces	
00B	D	List of support equipment	Associated systems	
00C	A	List of supplies		
00D	A	List of spares		
00E	A	Functional item numbers common information repository	Functional items numbers common information repository	
00F	A	Circuit breakers common information repository		
00G	A	Parts common information repository		
00H	A	Zones common information repository		
00J	A	Access panels and door common information repository		
00K	A	Organizations common information repository		

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
00L	A	Supplies - List of products common information repository		
00M	A	Supplies - List of requirements common information repository		
00N	A	Support equipment common information repository		
00P	A	Product Cross-reference Table (PCT)		
00Q	A	Conditions Cross-reference Table (CCT)		
00R	A	List of effective pages	(Prohibited for Army use)	
00R	B	List of effective pages	List of applicable checks	
00R	C	List of effective pages	List of effective cards	
00S	A	List of effective data modules		
00T	A	Change record		
00T	B	Change record	List of TPDRs incorporated	TDPR = Technical Publications Deficiency Reports Refer to code 003
00U	A	Highlights		
00V	A	List of applicable specifications and documentation		
00V	B	List of applicable specifications and documentation	Tabulated data, military specification, and drawings	
00W	A	Applicability Cross-reference Table (ACT)		
00X	A	Controls and indicators technical information repository		
00Y	A	List of charts and forms		
00Y	B	List of charts and forms	Charts and forms	
00Y	C	List of charts and forms	List of charts	
00Y	D	List of charts and forms	Charts and conversion tables	
00Y	E	List of charts and forms	Charts	
00Y	F	List of charts and forms	Forms	
00Z	A	List of tables		
0A1	A	Functional and/or physical areas repository	(Prohibited for Army use)	

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TABLE B-I. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
0A2	A	Applicability repository		
0A3	A	Applicability cross-reference table catalog		
0A4	A	Warnings - List of warnings in the common information repository		
0A5	A	>Cautions - List of cautions in the common information repository		
0B0	A	Maintenance planning information		
0B1	A	Time limits		
0B1	B	Wear limits		
0B2	A	System maintenance/inspection tasks list		
0B3	A	Structure maintenance/inspection tasks list		
0B4	A	Zonal maintenance/inspection tasks list		
0B5	A	Unscheduled check		

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TABLE B-II. Operation information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
100	A	Operation		
101	A	List of consumables associated with operation		
101	B	List of consumables associated with operation	Consumable materials	
102	A	List of materials associated with operation		
102	B	List of materials associated with operation	Aircraft inventory master guide	
103	A	List of expendables associated with operation		
104	A	List of special support equipment and tools associated with operation		
104	B	List of special support equipment and tools associated with operation	Approved intraplant transplant equipment	
104	C	List of special support equipment and tools associated with operation	Additional Authorization List (AAL)	
105	A	List of support equipment and tools associated with operation		
105	B	List of support equipment and tools associated with operation	Equipment and special facilities	
105	C	List of support equipment and tools associated with operation	Basic Issue Items (BII) list	
105	D	List of support equipment and tools associated with operation	Components of End Item (COEI) list	
106	A	List of software associated with operation		
107	A	Parts list associated with operation		
110	A	Controls and indicators		
111	A	Controls and indicators		This code is used for crew
112	A	Modes of operation		This code is used for crew
115	A	Displays and alerts		

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TABLE B-II. Operation information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
120	A	Pre-operation		
120	B	Pre-operation	Access software/system	
120	C	Pre-operation	Power on procedure	
120	D	Pre-operation	Initiating a session	
120	E	Pre-operation	Connect to system or computer	
120	F	Pre-operation	Reboot	
120	G	Pre-operation	Procedures to activate ammunition	
120	H	Pre-operation	Arming prior to launch	
121	A	Pre-operation procedures		This code is used for crew
121	B	Pre-operation procedures	Initial adjustments, before use and self-test	
121	C	Pre-operation procedures	Pre-operation conditions	
121	D	Pre-operation procedures	Pre-operation personnel	
121	E	Pre-operation procedures	Pre-operation checkout conditions	
122	A	Siting		
123	A	Shelter		
123	C	Shelter	Van and shelter procedure	
125	A	Pre-operation procedures checklist		This code is used for crew
125	B	Pre-operation procedures checklist	Setup procedures	This code is used for crew
126	A	Conditions of readiness	Conditions of readiness	
126	B	Conditions of readiness	Environmental conditioning	
126	C	Conditions of readiness	Watch condition	
126	D	Conditions of readiness	General quarters condition	
126	E	Conditions of readiness	Emergency condition	
127	A	Establish operating position		
130	A	Normal operation		
130	B	Normal operation	Amplified checklist	
130	C	Normal operation	Lineup check	
130	D	Normal operation	Normal procedure	

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TABLE B-II. Operation information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
130	E	Normal operation	Operational requirements	
131	A	Normal operation procedure	Normal operation procedures	
131	B	Normal operation procedure	Normal operation - Preflight	
131	C	Normal operation procedure	Normal operation - Flight	
131	D	Normal operation procedure	Normal operation - Post flight	
131	E	Normal operation procedure	Normal operation - Flight characteristics	
131	F	Normal operation procedure	Normal operation - Weather	
131	G	Normal operation procedure	Normal operation - Instrument flight	
131	H	Normal operation procedure	Turn-on and turn-off procedure	
131	M	Normal operation procedure	Normal operation check - Preflight	
131	N	Normal operation procedure	Normal operation checklist - Performance data	
131	P	Normal operation procedure	Normal operation procedure checklist (crew)	
131	R	Normal operation procedure	Fording and swimming	
131	S	Normal operation procedure	Preparation for movement	
131	T	Normal operation procedure	Through-flight checklist	
131	U	Normal operation procedure	Start-up procedure	
131	V	Normal operation procedure	Shutdown procedure	
132	A	Start-up procedure for maintenance		
133	A	Shutdown procedure for maintenance		
134	A	Aviation checklist		
134	B	Aviation checklist	Error recovery	
135	A	Normal operation procedures checklist		This code is used for crew
135	B	Normal operation procedures checklist	MTF checklist	MTF = Maintenance Test Flight
135	C	Normal operation procedure checklist	FCF checklist	FCF = Functional Check Flight
136	A	Ground running check		

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TABLE B-II. Operation information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
138	A	Ground running performance adjustment		
139	A	Nuclear, biological, and chemical procedures	Nuclear, biological, and chemical procedure	
139	B	Nuclear, biological, and chemical procedures	Interim Chemical, Biological, Radiological and Nuclear (CBRN) decontamination procedure	
140	A	Emergency procedure		
140	B	Emergency procedure	Operation under emergency conditions	
140	C	Emergency procedure	Battle-short operation	
141	A	Emergency operations procedure		This code is for crew
142	A	Operation under unusual conditions		
142	B	Operation under unusual conditions	Unusual environment/weather	
142	C	Operation under unusual conditions	Degraded operation procedures	
142	D	Operation under unusual conditions	Over-temperature operation	
142	E	Operation under unusual conditions	Abnormal operation	
142	F	Operation under unusual conditions	Abnormal operation checklist	
142	G	Operation under unusual conditions	Electromagnetic interference operation	
143	A	Radio interference suppression		
144	A	Jamming and electronic counter-measures (ECM)		
145	A	Emergency operation procedure checklist		This code is used for crew
146	A	Emergency shutdown operation procedure		
150	A	Post-operation		
151	A	Post-operation procedure		This code is used for crew
151	B	Post-operation procedure	Power off procedure	

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TABLE B-II. Operation information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
151	C	Post-operation procedure	Stopping and suspending work	
151	D	Post-operation procedure	Post-operation shut down procedure	
151	E	Post-operation procedure	Emergency shutdown procedure	
151	F	Post-operation procedure	Disarming after landing	
155	A	Post-operation procedures checklist		This code is for crew
157	A	Establish maintenance position		
160	A	Loading/Unloading procedure	Loading/unloading procedure	
160	B	Loading/Unloading procedure	Weighting and loading	
160	C	Loading/Unloading procedure	On-vehicle equipment loading plan	
160	D	Loading/Unloading procedure	Cargo loading	
160	E	Loading/Unloading procedure	Preparation for loading	
160	F	Loading/Unloading procedure	Cargo handling	
160	G	Loading/Unloading procedure	Cargo unloading	
160	H	Loading/Unloading procedure	Release and control system checks	
160	J	Loading/Unloading procedure	Equipment used for loading	
160	K	Loading/Unloading procedure	Loading configuration	
160	L	Loading/Unloading procedure	Weapon loading	
160	M	Loading/Unloading procedure	Weapon unloading	
160	N	Loading/Unloading procedure	After launch checks	
160	P	Loading/Unloading procedures	Turnaround procedure	
161	A	Special operation		
161	B	Special operation	Special operation procedure checklist	
162	A	Non-tactical operation		
169	A	Mass & Balance	Weight and balance	
169	B	Mass & Balance	Weight and balance - Fluids	
169	C	Mass & Balance	Weight and balance - Personnel	
169	D	Mass & Balance	Weight and balance - Mission equipment	

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TABLE B-II. Operation information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
169	E	Mass & Balance	Center-of-gravity	
169	F	Mass & Balance	Weight and balance data	
169	G	Mass & Balance	Control surface balancing	
170	A	Handling		
170	B	Handling	Covering	
170	C	Handling	External power	
170	D	Handling	Special handling procedure	
170	E	Handling	Handling ammunition	
170	F	Handling	Ground handling	
170	G	Handling	Folding and unfolding wings	
170	H	Handling	Cockpit entry and safety check	
170	J	Handling	Parking	
170	K	Handling	Leveling	
170	L	Handling	Ground safety locks and pins	
170	M	Handling	Carrier deck handling	
170	N	Handling	Preparation for catapulting	
170	P	Handling	Arrested landing operation	
170	Q	Handling	Armament handling	
170	R	Handling	Classified component handling	
170	S	Handling	Hazardous material handling procedures	
171	A	Lifting		
171	B	Lifting	Hoisting	
172	A	Jacking		
173	A	Shoring		
174	A	Towing		
175	A	Taxiing		
176	A	Lowering		
177	A	Stabilizing		
178	A	Tethering		
178	B	Tethering	Sling loading	

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TABLE B-II. Operation information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
178	C	Tethering	Mooring	
179	A	Debogging		
17A	A	Mooring		
180	A	Dispatch deviation		
181	A	Deactivate for dispatch deviation		

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TABLE B-III. Servicing information codes.

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
200	A	Servicing		
200	B	Servicing	PMCS	
200	C	Servicing	Removal/replacement schedule	
200	D	Servicing	Preventive maintenance inspection	
200	E	Servicing	Preventive maintenance	
200	F	Servicing	Preliminary servicing	
200	G	Servicing	Service upon receipt	
200	H	Servicing	Operator's maintenance instructions	
200	J	Servicing	Preventing maintenance checklist	
200	K	Servicing	Ammunition maintenance	
200	L	Servicing	Corrosion control general information	
200	M	Servicing	Reset	
201	A	List of consumables associated with servicing		
202	A	List of materials associated with servicing		
202	B	List of materials associated with servicing	Facilities, equipment, and material standards	
203	A	List of expendables associated with servicing		
204	A	List of special support equipment and tools associated with servicing		
205	A	List of support equipment and tools associated with servicing		
206	A	List of software associated with servicing		
207	A	Parts list associated with servicing		
210	A	Fill		
211	A	Refuel		
212	A	Fill with oil		

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TABLE B-III. Servicing information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
213	A	Fill with oxygen		
214	A	Fill with nitrogen		
215	A	Fill with air		
216	A	Fill with water		
217	A	Fill with hydrogen		
218	A	Fill with other liquid		
219	A	Fill with other gas		
220	A	Drain liquid and release pressure		
221	A	Defuel and drain fuel		
222	A	Drain oil		
223	A	Release oxygen pressure		
224	A	Release nitrogen pressure		
225	A	Release air pressure		
226	A	Drain water		
227	A	Release hydrogen pressure		
228	A	Drain other liquid		
229	A	Release other gas pressure		
230	A	Bleed and prime		
231	A	Bleed		
232	A	Prime		
233	A	Dry		
234	A	Facility requirements associated with servicing		
236	A	Fill with inert gas/inert liquid		
237	A	Evacuate		
240	A	Lubrication		
240	B	Lubrication	Lubrication instructions	
241	A	Oil		
242	A	Grease		
243	A	Dry film		
250	A	Clean and apply surface protection		
251	A	Clean with chemical agent		

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TABLE B-III. Servicing information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
252	A	Clean by abrasive blast		
253	A	Clean by ultrasonics		
254	A	Clean mechanically		
255	A	Purge		
256	A	Polish and apply wax		
257	A	Paint and apply marking		
257	B	Paint and apply marking	Painting	
258	A	Other procedure to clean		
259	A	Other procedure to protect surfaces		
260	A	Remove and prevent ice and remove contamination		
261	A	Remove ice		
262	A	Prevent ice		
263	A	Use disinfectant/Sanitize	Use disinfectant/sanitize	
264	A	Remove contamination		
270	A	Adjust, align and calibrate		
271	A	Adjust		
271	B	Adjust	Preliminary checks and adjustment of equipment	
271	C	Adjust	Configure software	
271	D	Adjust	Adjust system settings	
271	E	Adjust	Configure communications	
271	F	Adjust	Configure system	
271	G	Adjust	Software setup	
271	H	Adjust	Configure	
271	J	Adjust	Misconfiguration	
272	A	Align		
272	B	Align	Circuit alignment	
272	C	Align	Alignment synopsis	
273	A	Calibrate		
273	D	Calibrate	Preliminary calibration of equipment	

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TABLE B-III. Servicing information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
274	A	Harmonize		
275	A	Grooming		
276	A	Rigging		
277	A	Compensate		
278	A	Easily and quickly adjust after a battle damage repair		
279	A	Easily and quickly align after a battle damage repair		
280	A	Inspection		
280	B	Inspection	List of inspections	
280	C	Inspection	Post-loading inspection	
280	D	Inspection	Inspection preparation	
280	E	Inspection	Post-check procedure	
280	F	Inspection	Preinduction and mandatory inspection	
281	A	Scheduled inspection		
281	B	Scheduled inspection	Torque check	
282	A	Unscheduled inspection		
283	A	Special regular inspection		
284	A	Special irregular inspection		
285	A	Structure inspections for allowable damage limits		
286	A	Structure inspections for repair		
288	A	Overhaul and retirement schedule		
289	A	Check filling quantity		
290	A	Change of liquid/gases		
292	A	Change of oil		
293	A	Change of oxygen		
294	A	Change of nitrogen		
295	A	Change of air		
296	A	Change of water		
297	A	Change hydrogen		

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TABLE B-III. Servicing information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
298	A	Change of other liquid		Code 228 + code 218
299	A	Change of other gas		Code 229 + code 219

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TABLE B-IV. Examinations, tests, and checks information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
300	A	Examinations, tests and checks		
300	B	Examinations, tests and checks	Test and inspection	
301	A	List of consumables associated with examinations, tests and checks		
302	A	List of materials associated with examinations, tests, and checks		
303	A	List of expendables associated with examinations, tests and checks		
304	A	List of special support equipment and tools associated with examinations, tests and checks		
304	B	List of special support equipment and tools associated with examinations, tests and checks	Special support equipment and tools	
305	A	List of support equipment and tools associated with examinations, tests and checks		
305	B	List of support equipment and tools associated with examinations, tests and checks	Equipment requirements	
306	A	List of software associated with examinations, tests and checks		
307	A	Parts list associated with examinations, tests and checks		
310	A	Visual examination		
310	B	Visual examination	Inspecting and servicing the equipment	
310	C	Visual examination	Overhaul inspection procedure	
310	D	Visual examination	Inspection - Acceptance and rejection criteria	
310	E	Visual examination	PMS inspection	PMS = Preventive Maintenance Services
310	F	Visual examination	PM inspection	PM = Phased Maintenance
310	G	Visual examination	System cable checks	
310	H	Visual examination	Installation checkout	
310	J	Visual examination	Inspection of installed items	

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TABLE B-IV. Examinations, tests, and checks information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
310	K	Visual examination	Phase sequence control	
310	L	Visual examination	Inspection for corrosion	
310	M	Visual examination	Inspect during assembly	
310	N	Visual examination	Pre-embarkation inspection	
310	P	Visual examination	PMD inspection	PMD = Preventive Maintenance Daily
310	Q	Visual examination	Detailed visual examination	
311	A	Visual examination without special equipment		
312	A	Examination with a borescope		
315	A	QA		
320	A	Operation test		
320	B	Operation test	UUT procedure	UUT = Unit Under Test
320	C	Operation test	Operational checkout test procedure	
321	A	Unit break-in		
322	A	Test and inspection		
322	B	Test and inspection	Active system test	
322	C	Test and inspection	Preoperational checklist	
322	D	Test and inspection	Test requirements	
322	E	Test and inspection	Reprogramming checks	
330	A	Test preparation		
330	B	Test and preparation	Preliminary operations - Test	
330	C	Test preparation	Per-operational specifications and self-test procedure	
331	A	Connection of test equipment		
331	B	Connection of test equipment	Pretest setup procedure	
332	A	Removal of test equipment		
333	A	Installation of the unit before the test		
334	A	Removal of the unit after the test		
334	B	Removal of the unit after the test	Post-troubleshooting shutdown procedure	

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TABLE B-IV. Examinations, tests, and checks information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
334	C	Removal of the unit after the test	Post-operational checkout shut-down procedure	
335	A	Final measures		
340	A	Function test		
340	B	Function test	Test procedure	
340	C	Function test	Testing	
340	D	Function test	Test after repairs	
340	E	Function test	Installation test	
341	A	Manual test		
341	B	Manual test	Component checklist	
341	C	Manual test	Preshop analysis	
342	A	Automatic test		
343	A	BIT		
343	B	BIT	Built-in test procedure	
344	A	Compatibility test		
345	A	System test		
346	A	Other check		
347	A	Start-up procedure for test		
348	A	Final acceptance test (FAT)		
350	A	Structure test		
350	B	Structure test	Non-destructive testing inspection	
350	C	Structure test	Classification of defects	
350	D	Structure test	Non-destructive testing index	
350	E	Structure test	Non-destructive testing inspection general information	
351	A	Tests for surface cracks with dye penetrant		
352	A	Test for surface cracks with magnetic particles		
353	A	Test for cracks and other defects with eddy current		
354	A	Tests for cracks and other defects with x-rays		

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TABLE B-IV. Examinations, tests, and checks information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
355	A	Test for cracks and other defects with ultrasonics		
356	A	Hardness test		
357	A	Gamma ray test		
358	A	Resonance frequency test		
359	A	Thermographic test		
360	A	Design data/tolerances checks		
361	A	Dimensions check		
362	A	Pressure check		
363	A	Flow check		
364	A	Leak check		
364	B	Leak check	Leakage limits	
365	A	Continuity check		
366	A	Resistance check		
366	B	Resistance check	Electrical bond	
367	A	Electrical power check		
367	B	Electrical power check	Stray voltage check	
368	A	Signal strength check		
369	A	Other checks		
370	A	Monitor the condition		
370	B	Monitor the condition	Performance monitoring	
370	C	Monitor the condition	Tracking	
371	A	Oil analysis		
372	A	Vibration analysis		
373	A	Tracking check		
374	A	Fuel analysis		
375	A	Shooting accidental discharge analysis		
376	A	Check post application of adhesive		
377	A	Contamination analysis		
390	A	Sample test		
396	A	Flight control surface movement		

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TABLE B-IV. Examinations, tests, and checks information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
397	A	Landing gear movement		
398	A	Product configuration		

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TABLE B-V. Fault reports and isolation procedures information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
400	A	Fault reports and isolation procedures	Fault reports and isolation procedure	
400	B	Fault reports and isolation procedures	Pre-troubleshooting conditions	
401	A	List of consumables associated with fault diagnosis		
402	A	List of materials associated with fault diagnosis		
403	A	List of expendables associated with fault diagnosis		
404	A	List of special support equipment and tools associated with fault diagnosis		
405	A	List of support equipment and tools associated with fault diagnosis		
406	A	List of software associated with fault diagnosis		
407	A	Parts list associated with fault diagnosis		
410	A	General fault description		
410	B	General fault description	Symptom index	
410	C	General fault description	System/subsystem index	
410	D	General fault description	Master index	
410	E	General fault description	General fault assessment tables	
410	F	General fault description	Malfunction index	
410	G	General fault description	Message index	
410	H	General fault description	Fault code reference index	
410	J	General fault description	Fault reports	
410	K	General fault description	Observed faults	
411	A	Isolated fault		
412	A	Detected fault		
413	A	Observed fault		
414	A	Correlated fault		
415	A	Impact fault		

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TABLE B-V. Fault reports and isolation procedures information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
420	A	General fault isolation procedure		
421	A	Fault isolation procedure		
421	B	Fault isolation procedure	Troubleshooting procedure	
422	A	Fault isolation procedure		
422	B	Fault isolation procedure	Troubleshooting procedure	
423	A	Fault isolation procedure		
423	B	Fault isolation procedure	Troubleshooting procedure	
424	A	Fault isolation procedure		
424	B	Fault isolation procedure	Troubleshooting procedure	
425	A	Fault isolation procedure		
425	B	Fault isolation procedure	Troubleshooting procedure	
426	A	Fault isolation procedure		
426	B	Fault isolation procedure	Troubleshooting procedure	
427	A	Fault isolation procedure		
427	B	Fault isolation procedure	Troubleshooting procedure	
428	A	Fault isolation procedure		
428	B	Fault isolation procedure	Troubleshooting procedure	
429	A	Diagnostics		
430	A	Fault isolation task supporting data		
440	A	Index		
441	A	Fault code index		
441	B	Fault isolation task supporting data	Relay, coil, switch and lamp indices	
441	C	Fault code index	Protective device index	
441	D	Fault code index	Redundant pluggable electronic components	
441	E	Fault code index	Maintenance assistance modules	
442	A	Maintenance message index		
443	A	Post-troubleshooting shutdown procedure		

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TABLE B-VI. Disconnect, remove, and disassemble procedures information codes.

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
500	A	Disconnect, remove and disassemble procedure		
501	A	List of consumables associated with removal		
502	A	List of materials associated with removal		
503	A	List of expendables associated with removal		
504	A	List of special support equipment and tools associated with removal		
505	A	List of support equipment and tools associated with removal		
506	A	List of software associated with removal		
507	A	Parts list associated with removal		
510	A	Disconnect procedure		
520	A	Remove procedure		
521	A	Return to basic configuration		Undressing
522	A	Remove support equipment/Remove from support equipment	Remove support equipment/remove from support equipment	
523	A	Preparation before removal		
524	A	Follow-on maintenance		
525	A	Ammunition unloading		
526	A	Deactivate launching device		
530	A	Disassemble procedure		
531	A	Disassemble on operation site		
540	A	Open for access procedure		
550	A	Unload software procedure		
551	A	Fault monitoring storage readout (Downloading)		
552	A	Data erasing		
553	A	Display, copy and print of data		
560	A	Deactivation procedure		
561	A	De-energize electrical network		

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TABLE B-VI. Disconnect, remove, and disassemble procedures information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
562	A	Depressurize hydraulics		
563	A	Deactivation maintenance practice		

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TABLE B-VII. Repairs and locally make procedures and data information codes.

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
600	A	Repairs and locally make procedures and data	Repair and locally make procedure and data	
601	A	List of consumables associated with repairs		
602	A	List of materials associated with repairs		
603	A	List of expendables associated with repairs		
603	B	List of expendables associated with repairs	Bulk items	
604	A	List of special support equipment and tools associated with repairs		
604	B	List of special support equipment and tools associated with repairs	Special tools list	
604	C	List of support equipment and tools associated with repairs	Wiring system component repair tool list	
605	A	List of support equipment and tools associated with repairs		
605	B	List of support equipment and tools associated with repairs	Support equipment and tools	
606	A	List of software associated with repairs		
607	A	Parts list associated with repairs		
607	B	Parts list associated with repairs	Repair parts for special tools	
607	C	Parts list associated with repairs	Kit parts list	
607	D	Parts list associated with repairs	Substitute materials/parts	
607	E	Parts list associated with repairs	Repair parts information	
610	A	Add materials		
611	A	Insulation		
612	A	Metalize		
613	A	Pot		
614	A	Remetal		
615	A	Retread		
620	A	Attach materials		
621	A	Bond		
622	A	Crimp		

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TABLE B-VII. Repairs and locally make procedures and data information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
623	A	Braze		
624	A	Rivet		
625	A	Solder		
626	A	Splice		
627	A	Weld		
630	A	Change the mechanical strength/ structure of material		
631	A	Anneal		
632	A	Case harden		
633	A	Cure		
634	A	Normalize		
635	A	Shot-peen		
636	A	Temper		
638	A	Other treatment		
638	B	Other treatment	Sealing	
638	D	Other treatment	Corrosion control sealants	
639	A	Other processes to change the mechanical strength/structure of material		
640	A	Change the surface finish of material		
641	A	Anodize		
642	A	Buff		
643	A	Burnish		
644	A	Chromate		
645	A	Hone		
646	A	Lap		
647	A	Plate		
648	A	Polish		
649	A	Clean-up of dents, cracks and scratches		
650	A	Remove material		
650	B	Remove material	Remove paint	
651	A	Abrasive blast		
652	A	Bore/drill/ream		

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TABLE B-VII. Repairs and locally make procedures and data information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
653	A	Electrical/electro-chemical/ chemical etch		
654	A	Broach		
655	A	Grind		
656	A	Mill		
657	A	Thread/tap		
658	A	Turn		
659	A	Other processes to remove material		
660	A	Structure repair procedure and data		
660	B	Structure repair procedure and data	Transparent panel repair	
660	C	Structure repair procedure and data	Honeycomb structure repair	
660	D	Structure repair procedure and data	Extrusion repair	
660	E	Structure repair procedure and data	Sealed area repair	
660	F	Structure repair procedure and data	Formed structure repair	
660	G	Structure repair procedure and data	Plastic repair	
660	H	Structure repair procedure and data	New/peculiar structure repair	
660	J	Structure repair procedure and data	Skin patch repair	
661	A	Allowable damage		
662	A	Temporary repair procedure		
663	A	Standard repair procedure		
663	B	Standard repair procedure	Refurbishment	
663	C	Standard repair procedure	Leak repair	
664	A	Special repair procedure		
664	B	Special repair procedure	Overhaul procedure	
664	C	Special repair procedure	Rebuild	
665	A	Fly-in repair procedure		
666	A	Material classification		

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TABLE B-VII. Repairs and locally make procedures and data information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
667	A	Structure classification		
668	A	Allowable damage of composite structures		
669	A	Allowable damage of mixed structures		
670	A	Locally make procedure and data		
670	B	Locally make procedure and data	Modification procedure	
670	C	Locally make procedure and data	Recording and reporting of the modification	
670	D	Locally make procedure and data	Modification application	
670	E	Locally make procedure and data	Illustrated list of manufactured items	
670	F	Locally make procedures and data	Fabrication	
671	A	Making of parts		
680	A	Battle-damage repair procedure and data		
681	A	Battle repair symbol marking		
682	A	Identification of damaged hardware		
683	A	Damage assessment		
684	A	Utilization degradation		
685	A	Repair procedure		
685	B	Repair procedures	Repair and replace	
685	C	Repair procedure	Replace	
686	A	Isolation procedure		
687	A	Function test after battle damage repair		
688	A	Battle damage repair kit		
689	A	Damage repair		
690	A	Miscellaneous		
691	A	Marking		
692	A	Connector repair		
693	A	Varnish		

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TABLE B-VIII. Function, data for plans and description information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
700	A	Assemble, install and connect procedures	Assemble, install and connect procedure	
700	B	Assemble, install and connect procedures	Bracket installation	
700	C	Assemble, install and connect procedures	External components	
700	D	Assemble, install and connect procedures	External tubing, cabling and clamping installation	
700	E	Assemble, install and connect procedures	Critical clearances	
701	A	List of consumables associated with installation		
702	A	List of materials associated with installation		
702	B	List of materials associated with installation	Installation control drawings	
702	C	List of materials associated with installation	Installation data	
703	A	List of expendables associated with installation		
704	A	List of special support equipment and tools associated with installation		
705	A	List of support equipment and tools associated with installation		
706	A	List of software associated with installation		
707	A	Parts list associated with installation		
707	B	Parts list associated with installation	External tube & cable parts list	
707	C	Parts list associated with installation	Assembly parts list	
710	A	Assemble procedure		
710	B	Assemble procedure	Assembly and prepare for use	
710	C	Assemble procedure	Assembly of equipment	
710	D	Assemble procedure	Reassembly	
711	A	Tighten procedure		

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TABLE B-VIII. Function, data for plans and description information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
711	B	Tighten procedure	Torque limits	
712	A	Lock procedure		
713	A	Pack procedure		
714	A	Assemble on operation site		
720	A	Install procedure		
720	B	Install procedure	Special application installation instructions	
720	C	Install procedure	Installation specifications	
720	D	Install procedure	Add device	
720	E	Install procedure	Install and configure	
720	F	Install procedure	Software upgrade	
720	G	Install procedure	Install, adjust and calibrate	
721	A	Build up to usable configuration		Dressing
722	A	Install support equipment/install on support equipment		
723	A	Preparation before installation		
724	A	Follow-on maintenance		
725	A	Ammunition loading		
726	A	Activate launching devices		
727	A	Site location plans		
728	A	Foundation preparation		
730	A	Connect procedure		
740	A	Close after access procedure		
750	A	Load software procedure		
752	A	Data loading		
760	A	Reactivation procedure		
760	B	Reactivation procedure	Activation	
761	A	Energize electrical network		
761	B	Energize electrical network	Supply power	
761	C	Energize electrical network	Charge	
762	A	Pressurize Hydraulics		

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TABLE B-IX. Storage procedures and data information codes.

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
800	A	Package, handling, storage and transportation		
800	B	Package, handling, storage and transportation	Shipping characteristics	
800	C	Package, handling, storage and transportation	Shipping characteristics - C-5	
800	D	Package, handling, storage and transportation	Shipping characteristics - C-17	
800	F	Package, handling, storage and transportation	Shipping characteristics - C-130	
800	G	Package, handling, storage and transportation	Shipping characteristics - Aircraft recovery	
800	H	Package, handling, storage and transportation	Shipping characteristics - Crated	
800	J	Package, handling, storage and transportation	Shipping characteristics - Inter-modal container	
800	K	Package, handling, storage and transportation	Depot mobilization requirements	
800	L	Package, handling, storage and transportation	Instructions for the use, transportation, handling, storage, or disposal	
800	R	Package, handling, storage and transportation	Preparing the aircraft	
800	S	Package, handling, storage and transportation	Preparing the aircraft - Vessel, tactical	
800	T	Package, handling, storage and transportation	Preparing the aircraft - Vessel, logistical	
800	U	Package, handling, storage and transportation	Preparing the aircraft - Vessel, US Navy capable	
800	W	Package, handling, storage and transportation	Preparing the aircraft - Inter-modal container	
800	X	Package, handling, storage and transportation	Preparing the aircraft - Aircraft recovery and tactical transport	
800	Y	Package, handling, storage and transportation	Preparing the aircraft - Aircraft recovery, single cargo hook rotor head lift	
801	A	List of consumables associated with storage		

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TABLE B-IX. Storage procedures and data information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
802	A	List of materials associated with storage		
803	A	List of expendables associated with storage		
804	A	List of special support equipment and tools associated with storage		
805	A	List of support equipment and tools associated with storage		
806	A	List of software associated with storage		
807	A	Parts list associated with storage		
810	A	Preservation procedure		
810	B	Preservation procedure	Flyable storage of aircraft	
810	C	Preservation procedure	Preparation for storage or shipment	
810	D	Preservation procedure	Preparation and handling of ammunition peculiar equipment for shipment and storage	
810	E	Preservation procedure	Preservation/depreservation check sheets	
810	F	Preservation procedure	Short storage aircraft	
810	G	Preservation procedure	Intermediate storage of aircraft	
810	H	Preservation procedure	Preservation, packaging, and marking	
810	J	Preservation procedure	Stowage	
810	K	Preservation procedure	Special preservation, storage, and transportation	
811	A	Preparation for vehicle transportation		
811	C	Preparation for vehicle transportation	Preservation and packaging of components	
811	D	Preparation for vehicle transportation	Marking of aircraft/preparation of shipping documents	
811	E	Preparation for vehicle transportation	Aircraft cleaning	
811	F	Preparation for vehicle transportation	Tiedown - General	

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TABLE B-IX. Storage procedures and data information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
811	G	Preparation for vehicle transportation	Tiedown - C-5	
811	H	Preparation for vehicle transportation	Tiedown - C-17	
811	K	Preparation for vehicle transportation	Tiedown - C-130	
811	L	Preparation for vehicle transportation	Tiedown - Vessel, tactical	
811	M	Preparation for vehicle transportation	Tiedown - Vessel, logistical	
811	N	Preparation for vehicle transportation	Tiedown - Vessel, US Navy capable	
811	P	Preparation for vehicle transportation	Tiedown - Truck, tactical	
812	A	Shipping and storage - General		
812	B	Shipping and storage - General	Shipment of aircraft - General	
812	E	Shipping and storage - General	Shipment of aircraft - Truck (long haul)	
812	F	Shipping and storage - General	Aerial recovery - General	
812	G	Shipping and storage - General	Aerial recovery - Lift factors	
812	H	Shipping and storage - General	Aerial recovery - Single cargo hook hard point lift	
812	J	Shipping and storage - General	Aerial recovery - Dual cargo hook hard point lift	
812	K	Shipping and storage - General	Aerial recovery - Dual cargo hook rotor head lift	
812	L	Shipping and storage - General	Quarantine inspection/customs clearance	
812	M	Shipping and storage - General	Aerial recovery - Single cargo hook belly band lift	
812	Q	Shipping and storage - General	Preparation of aircraft - Protective covering	
820	A	Procedure to remove preservation material		
820	B	Procedure to remove preservation material	Pentachlorophenol (PENTA)-treated packing materials	
830	A	Procedures to put items in containers		

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TABLE B-IX. Storage procedures and data information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
830	B	Procedures to put items in containers	Crating	
831	A	Vehicle loading		
831	B	Vehicle loading	Loading - C-5	
831	C	Vehicle loading	Loading - C-17	
831	E	Vehicle loading	Loading - C-130	
831	F	Vehicle loading	Loading - Vessel, tactical	
831	G	Vehicle loading	Loading - Vessel, logistical	
831	H	Vehicle loading	Loading - Vessel, US Navy capable	
831	J	Vehicle loading	Loading - Intermodal container	
831	K	Vehicle loading	Loading - General	
832	A	Procedure to pack items		
840	A	Procedures to remove item from containers		
840	B	Procedures to remove item from containers	Unpacking	
841	A	Vehicle unloading		
841	B	Vehicle unloading	Unloading - C-5	
841	C	Vehicle unloading	Unloading - C-17	
841	E	Vehicle unloading	Unloading - C-130	
841	F	Vehicle unloading	Unloading - Vessel, tactical	
841	G	Vehicle unloading	Unloading - Vessel, logistical	
841	H	Vehicle unloading	Unloading - Vessel, US Navy capable	
841	J	Vehicle unloading	Unloading - Intermodal container	
841	K	Vehicle unloading	Unloading - General	
842	A	Procedure to unpack items		
850	A	Procedure to keep items service-able when in storage		
860	A	Procedures to move items when in storage		
870	A	Procedure to prepare item for use after storage		

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TABLE B-IX. Storage procedures and data information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
870	B	Procedure to prepare item for use after storage	Checking unpacked equipment	
870	C	Procedure to prepare item for use after storage	Processing unpacked equipment	
870	D	Procedure to prepare item for use after storage	Unpacking and reassembly	
870	E	Procedure to prepare item for use after storage	Depreservation and reassembly - General	
870	F	Procedure to prepare item for use after storage	Depreservation and reassembly - C-5	
870	G	Procedure to prepare item for use after storage	Depreservation and reassembly - C-17	
870	J	Procedure to prepare item for use after storage	Depreservation and reassembly - C-130	
870	K	Procedure to prepare item for use after storage	Depreservation and reassembly - Vessel, tactical	
870	L	Procedure to prepare item for use after storage	Depreservation and reassembly - Vessel, logistical	
870	M	Procedure to prepare item for use after storage	Depreservation and reassembly - Vessel, US Navy capable	
870	N	Procedure to prepare item for use after storage	Depreservation and reassembly - Intermodal container	
870	P	Procedure to prepare item for use after storage	Placing in service	
871	A	Set on condition		
880	A	Procedure when items are got out of storage		
890	A	Life data of items when in storage		

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TABLE B-X. Miscellaneous information code.

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
900	A	Miscellaneous		
901	A	Miscellaneous list of consumables		
902	A	Miscellaneous list of materials		
903	A	Miscellaneous list of expendables		
904	A	Miscellaneous list of special support equipment and tools		
905	A	Miscellaneous list of support equipment and tools		
906	A	Miscellaneous list of software		
907	A	Miscellaneous parts list		
907	B	Miscellaneous parts list	Parts list	
910	A	Miscellaneous		
911	A	Illustration		
911	B	Illustration	Lubrication illustrations	
911	C	Illustration	Arming illustrations	
913	A	General maintenance procedure		
913	B	General maintenance procedure	Equipment/user fitting instructions	
913	C	General maintenance procedure	Safety grounds	
914	A	Container data module		
915	A	Facilities		
916	A	Maintenance allocation	MAC	
916	B	Maintenance allocation	Aviation MAC	
917	A	Non-S1000D publication		
920	A	Change = Remove and install		
920	B	Change = Remove and install	Quick change	
920	C	Change = Remove and install	Quick change sequence information	
921	A	Change = Remove and install a new item		
922	A	Change = Remove and install the removed item		
923	A	Change = Disconnect and connect an item		

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TABLE B-X. Miscellaneous information code. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
930	A	Service bulletin		
931	A	Service bulletin data		
932	A	Planning information		
933	A	Accomplishment - procedure - Task set		
934	A	Material information		
940	A	Provisioning data		
941	A	Illustrated parts data		
941	B	Components Of End Item (COEI) list		
941	C	Basic Issue Items (BII) list		
941	D	Additional Authorization List (AAL)		
942	A	Numerical index		IPD
942	B	Numerical index	Part number index	
942	C	Numerical index	Reference designator index	
942	D	Numerical index	Cross-reference index	
942	E	Numerical index	Operational index	
942	F	Numerical index	National stock number index	
950	A	Composite information		
951	A	Generic process		
952	A	Generic learning content		
961	A	Calculation worksheets		
970	A	Approved Vendor Process		
980	A	Environmental protection, fire-fighting and rescue		
981	A	Air Cleaning		
982	A	Sewage treatment		
989	A	Fire-fighting and rescue		
990	A	Neutralization and disposal		
990	B	Neutralization and disposal	Declassification	
990	C	Neutralization and disposal	Security measures for electronic data (Unusual conditions)	

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TABLE B-X. Miscellaneous information code. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
990	D	Neutralization and disposal	Security measures for electronic data	
991	A	Neutralization of ordnance		
992	A	Neutralization of substances		
996	A	Disposal of ordnance		
997	A	Disposal of Product		
997	B	Disposal of Product	Destruction procedure	
997	C	Disposal of Product	Destruction procedure - Classified equipment	
997	D	Disposal of Product	Destruction general information	
997	F	Disposal of Product	Methods of demilitarization	
997	G	Disposal of Product	Detailed instructions for demilitarization	
998	A	Disposal of substances		

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TABLE B-XI. Computer systems information codes.

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
C00	A	Computer systems, software and data		
C01	A	Miscellaneous list of consumables associated with computer systems, software and data		
C02	A	Miscellaneous list of materials associated with computer systems, software and data		
C03	A	Miscellaneous list of expendables associated with computer systems, software and data		
C04	A	Miscellaneous list of special support equipment and tools associated with computer systems, software and data		
C05	A	Miscellaneous list of special support equipment and tools associated with computer systems, software and data		
C06	A	Miscellaneous list of software associated with computer systems, software and data		
C07	A	Miscellaneous parts list associated with computer systems, software and data		
C13	A	Notes		
C14	A	Problem handling		
C15	A	Summary of content		
C20	A	System administration		
C20	B	System administration	Account administration	
C20	C	System administration	Data base administration	
C20	D	System administration	Manage hardware	
C20	E	System administration	Monitor	
C20	F	System administration	Network administration	
C20	G	System administration	Organization administration	
C20	H	System administration	System administration	
C20	J	System administration	Workstation administration	
C21	A	System monitoring		

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TABLE B-XI. Computer systems information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
C21	B	System monitoring	Counter logs	
C21	C	System monitoring	Trace logs	
C21	D	System monitoring	Event logs	
C21	E	System monitoring	Alert management	
C22	A	Description of command		
C23	A	Connect hardware		
C23	B	Connect hardware	Connect to maintenance tool (Laptop)	
C25	A	System recovery		
C26	A	Backup and restore	Backup and restore	
C27	A	Reboot		
C30	A	Coordinate		
C31	A	Defragmentation		
C32	A	Input/Output media	Input/output media	
C33	A	Disk mirroring		
C34	A	Clear interference		
C35	A	Time check		
C36	A	Compatibility check		
C50	A	Manage data		
C50	B	Manage data	Analyze alerts	
C50	C	Manage data	Analyze data	
C50	D	Manage data	Analyze history	
C50	E	Manage data	Associate to track	
C50	F	Manage data	Calculate	
C50	G	Manage data	Develop plans/Data	
C50	H	Manage data	Plan	
C50	J	Manage data	Query	
C50	K	Manage data	Range/Bearing	
C50	L	Manage data	Search data	
C50	M	Manage data	Track management	
C50	N	Manage data	Edit	
C50	P	Manage data	Administer error log	

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TABLE B-XI. Computer systems information codes. (continued)

Info Code	Var- iant	Original information name	Alternate information name	Remarks/Notes
C51	A	Move data		
C51	B	Move data	Delete data	
C51	C	Move data	Import data	
C51	D	Move data	Print/publish	
C51	E	Move data	Save data	
C51	F	Move data	Send/submit data	
C51	G	Move data	Load	
C51	H	Move data	Release	
C51	J	Move data	Transmit	
C51	K	Move data	Download	
C51	L	Move data	Transfer/copy	
C52	A	Manipulate/Use data		
C52	B	Manipulate/Use data	Manipulate/Use multimedia	
C53	A	Description of data storage		
C60	A	Programming information		
C60	B	Programming information	Programming techniques	
C60	C	Programming information	Description of instructions	
C60	D	Programming information	Description of input/output	
C60	E	Programming information	Source code	
C60	F	Programming information	Examples	
C61	A	Program flow chart		
C62	A	Processing reference guide		
C70	A	Security and privacy		
C72	A	Security information		
C73	A	Security procedures		
C74	A	List of security/Classification codes		
C75	A	Access control		
C75	B	Access control	Login/Logout Procedure	
C90	A	Miscellaneous		
C91	A	Quality assurance		
C92	A	Vendor information		
C95	A	Naming conventions		

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TABLE B-XI. Computer systems information codes. (continued)

Info Code	Variant	Original information name	Alternate information name	Remarks/Notes
C96	A	Technical requirements		
C96	B	Technical requirements	Software requirements	
C96	C	Technical requirements	Operating system requirements	
C96	D	Technical requirements	Hardware requirements	

APPENDIX C

PROJECT DECISIONS TABLE.

C.1 SCOPE.

This appendix contains a complete list of all project decision points available for tailoring. Refer to [4.3](#) for information on tailoring of business rules. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance. These requirements are applicable for all maintenance levels through overhaul (depot), including DMWRs/NMWRs.

C.2 APPLICABLE DOCUMENTS.

This section is not applicable to this appendix.

C.3 DEFINITIONS.

This section is not applicable to this appendix.

C.4 GENERAL REQUIREMENTS.

C.4.1 General.

Projects shall document business rules that answer each decision point in this appendix. Depending on the contracting environment, projects may complete their project business rules matrices with the coordination of their technical data vendor.

C.4.2 Use of the project decision tables.

Completed versions of the tables in this appendix shall be the official record of project business rules. Some business rules will require more of an explanation than is practical in a spreadsheet cell. In these cases, additional explanation shall be provided separately. Documented business rules are mandatory; they shall be combined with and be an extension to the Army business rules identified in this specification. The combined tables in this appendix are available in Excel at <https://www.ldac.army.mil/s1000d-publications/>.

C.4.3 Intended use.

The tables in this appendix contain the following columns:

- a. Column 1 (BRDP Ref.) - This column contains the linked reference for the business rule decision point (BRDP) identifier in this document.
- b. Column 2 (BRDP Title) - This column provides the title of the BRDP.
- c. Column 3 (BRDP Text) - This column contains the text of the project decision point.

The Excel versions of these tables (refer to <https://www.ldac.army.mil/s1000d-publications/>) contain the following columns:

- a. Column 1 (BRDP ID) - This column contains the business rule decision point (BRDP) identifier in this document for the decision point.
- b. Column 2 (Title) - This column provides the title of the BRDP and/or the BR.
- c. Column 3 (BRDP definition) - This column contains the text of the BRDP.

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- d.** Column 4 (BR ID) - This column contains the business rule (BR) identifier for the business rule.
- e.** Column 5 (BR) - This column contains the text of the business rule.

C.4.4 Business Rules EXchange (BREX).

The project business rules identified in the completed tables shall be reflected in the project BREX to the greatest extent possible.

C.5 DETAILED REQUIREMENTS.

C.5.1 General.

The tables in this appendix contain a list of all project decision points available for tailoring. Each decision point identified in S1000D is represented either by an Army rule in this document or a project decision point in this appendix. Be aware that all projects are unique and there will likely be the need for additional project business rules to tailor for specific needs.

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TABLE C-I. General information

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-S1-00001</u>	Use of "I" and "O."	Decide whether and when to use the alpha characters "I" and "O".
<u>BRDP-S1-00004</u>	Information sets to be used.	Decide which information sets, given in S1000D and/or project specific, to be used.
<u>BRDP-S1-00005</u>	Publications to be produced.	Decide which publications to be produced.
<u>BRDP-S1-00006</u>	Schemas to be used.	Decide which Schemas to be used and in which information set they are to be used.
<u>BRDP-S1-00007</u>	Use of optional elements and attributes.	Decide whether and how to use each optional element and attribute in its structural context.
<u>BRDP-S1-00008</u>	Possible deliverables.	Decide on the possible deliverables, such as: a. S1000D objects (eg, data modules, publication modules, illustration sheets and multimedia objects, data management lists) using file based transfer. Refer to Chap 7.5.1. b. Page-oriented publications and/or interactive electronic technical publications.
<u>BRDP-S1-00009</u>	Frequency of data exchanges.	Decide on the frequency of data exchanges.

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TABLE C-II. Information generation

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-S1-00010</u>	Zone and access point identification system.	Decide whether to use a zoning and access identification system.
<u>BRDP-S1-00014</u>	Application of caveats.	Determine if the policies that apply to security marking, instructions, etc, and how those markings are required to be applied within the given project.
<u>BRDP-S1-00553</u>	Retention of derivative classifications changes.	Decide on the retention of derivative classifications changes.
<u>BRDP-S1-00017</u>	Rules for quality assurance.	Identify the project quality assurance rules and how those rules affect the methods used to perform quality assurance of the data modules/technical publications.
<u>BRDP-S1-00018</u>	Rules for first and second verification.	Decide on the rules for first and second verification. For example, such a rule might be that all data modules that have a safety related procedure must have first verification carried out "On object".
<u>BRDP-S1-00019</u>	Review cycle process.	Decide on the review cycle processes and procedures.

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TABLE C-III. Authoring

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00021	Use of ASD-STE100®.	When producing data modules in English, decide whether to use ASD-STE100®.
BRDP-S1-00025	Units of measure.	Identify the standard to use for both primary and secondary units of measure.
BRDP-S1-00023	Use of a terminology database or glossary.	Decide whether to use a terminology database or a glossary. If used, agree on its content and management.
BRDP-S1-00024	Use of a standard list of abbreviations.	Decide whether to use a standard list of abbreviations. If used, agree on its content and management.
BRDP-S1-00026	Highlighting text.	Decide which method to use to highlight text.
BRDP-S1-00027	Need of printable data.	Decide which parts of the documentation (data modules and publications including IETP) need to be printable.
BRDP-ARMY-00115	Graphic orientation.	For ease of reading and cross-reference, the preferred layout is portrait (IPD illustrations shall always be in portrait layout). Fold-outs or landscape shall only be allowed as exceptions, as defined in the project business rules.
BRDP-S1-00554	Illustration annotations written in upper or sentence case.	Decide whether to write illustration annotations in upper or lower case.
BRDP-S1-00028	Engineering numbers and revision status within the illustration reproduction area.	Decide if schematics derived from engineering drawings include the original drawing number and revision status within the illustration reproduction area.
BRDP-S1-00029	Use of color in the final deliverable.	Decide whether to use color in the final deliverable.
BRDP-S1-00555	Inclusion of the ICN in the illustration.	Decide whether to allow the ICN to be included in the illustration.
BRDP-S1-00556	Use of color line art.	Decide whether to allow the use of color line art.
BRDP-ARMY-00002	General.	Audio, video clips and animations are not played automatically. The multimedia player is activated through a hotspot, inline with the narrative, or resident in a separate pane. Audio, video clips and animations are manually started by pressing "PLAY" on a multimedia player or plug-in control panel. Developers need to ensure that the technician can use the multimedia format being delivered.
BRDP-ARMY-00003	Use of three-dimensional (3D) illustrations.	The project shall decide if 3D illustrations may be used, and if so for what purposes.

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TABLE C-III. Authoring (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00163	3D visualization file types.	The project shall decide which 3D file extension types shall be used for the 3D visualization. The preferred formats for 3D visualizations are: a. STEP AP203 3D Models (STEP). b. ISO/IEC 12113:2022 glTF Specification.
BRDP-ARMY-00164	Project use of 3D visualization.	Decide whether to use 3D visualizations.
BRDP-ARMY-00120	Use of icnmetadata schema.	Decide on the use of the icnmetadata schema.
BRDP-S1-00557	Reuse of the generic ICN title in data modules.	Decide if, and under which circumstances, the generic ICN title given in the ICN metadata file should be used to populate figure and multimedia titles in data modules.
BRDP-S1-00046	Use of linear or hierarchically subdivided table of contents.	Decide whether to use a linear or a hierarchically subdivided table of contents.
BRDP-S1-00305	Use of the element <pmRef> in the element <tocEntry>.	Decide whether publications have to be listed by the publication only or also by its individual data modules.
BRDP-S1-00307	Inclusion of the number of pages in the Table of contents.	Decide whether to include the number of pages in the Table of contents entries.

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TABLE C-IV. Identification and status section

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00054	Use and definitions of the attributes commercialClassification and caveat .	Decide on the use and definitions of the attributes commercialClassification and caveat .
BRDP-S1-00058	Use of the element <derivative-Classification> within data modules.	Decide whether and how to use the element <derivativeClassification> .
BRDP-S1-00049	Definition of the issue date.	Decide on the definition of the issue date.
BRDP-ARMY-00137	Data module code extension.	The project shall decide if the extended data module identification scheme has to be applied to achieve unique data module instance identities.
BRDP-ARMY-00138	Define a list of Commercial and Government Entity (CAGE) codes.	If the data module code extension is used, the project shall define a list of allowed CAGECs that can be used to populate the attribute extensionProducer .
BRDP-ARMY-00139	Deleted data module retention.	The project shall decide on the length of time that they retain changed and deleted data modules.
BRDP-ARMY-00140	Responsible Partner Company (RPC) Commercial and Government Entity (CAGE) values.	Projects shall define a list of acceptable RPC CAGE values. Values shall also be included in the RPC list. RPC CAGE and RPC name shall be typed exactly as in the RPC list given in the business rules.
BRDP-ARMY-00141	Originator Commercial and Government Entity (CAGE) values.	The project shall define a list of acceptable originator CAGE values. If the attribute enterpriseCode is used, values shall also be included in the list.
BRDP-S1-00071	Use of the element <enterprise-Name> and/or the attribute enterpriseCode for the originator.	Decide whether to use the element <enterpriseName> and/or the attribute enterpriseCode to capture the name and CAGE code respectively, of the originator. If the name is used it must be done consistently and be mandatory for the project.
BRDP-ARMY-00142	Applicability.	The project shall decide on how applicability is to be used. The project shall decide on the population of the elements and attributes of applicability and shall then enforce its consistency.
BRDP-ARMY-00143	Technical standard.	Project shall decide the use of the element <techStandard> . If used, it shall be used consistently throughout the entire project.
BRDP-ARMY-00144	Standard reasons for update.	The project shall define standard reason for update sentences to be used.
BRDP-ARMY-00145	Reason for update and the production process.	The project shall decide on whether the element <reasonForUpdate> is to be used during the production process.

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TABLE C-V. Common constructs

BRDP Ref	BRDP Title	BRDP Text
		Row Deleted
BRDP-ARMY-00005	Definition of project-specific change types.	The project shall decide if any of the project-configurable attributes (values " urt56 " to " urt99 ") are to be used on the element <reasonForUpdate> . The project shall apply meanings for them to ensure they are consistently used in the project.
BRDP-ARMY-00006	Format of reason for update identifiers.	The project shall define and document a format for reason for update identifiers (for example: " rfu-001 ").
BRDP-S1-00089	Standard sentences for reasons for update.	Decide whether standard sentences for reasons for update are to be used.
BRDP-ARMY-00007	Use of reason for update.	The project shall decide on the use of reason for update which can be used to automatically generate the highlights data module.
BRDP-S1-00090	Use of reason for update in conjunction with the production process.	Decide whether the element <reasonForUpdate> is used during the production process.
BRDP-S1-00091	Use of applicability information.	Decide whether it is permissible to differentiate reasons for update based on product configuration.
BRDP-ARMY-00009	Modify and add change markers.	The project shall decide the use of " modify " and " add " change markers.
BRDP-ARMY-00010	Use of the value "modify".	Use of the value " modify " and the value " add " in change markers shall be consistent across the project. The rules for use shall be specified in the Project or the Organization's business rules documentation.
BRDP-S1-00092	Use of change marks for tables.	Decide whether and how to use change marks for tables.
BRDP-S1-00093	Use of change marks for figures.	Decide whether and how to use change marks for figures.
BRDP-ARMY-00011	Relationship between the element <reasonForAmendment> and the element <reasonForUpdate> .	The project shall decide if the reason for amendment details for a figure (or the individual illustration sheets of a multi-sheet figure) are also reflected in the data module status element <reasonForUpdate> and subsequently used in the generation of the highlights data module.
BRDP-ARMY-00012	Recording reason for amendment.	The project shall decide if the reason for amendment is to be recorded in addition to the reason for update. The use of "standard reason for amendment" statements should be considered.
BRDP-ARMY-00013	Change attributes on individual sheets of a multi-sheet figure.	The project shall decide if change attributes are allowed on individual sheets of a multi-sheet figure.

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TABLE C-V. Common constructs (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00101	Define the format of the cross-reference attributes <code>id</code> and <code>internalRefId</code> .	Decide whether the values of the cross-reference attributes <code>id</code> and <code>internalRefId</code> must be prefixed by alpha characters that identify the type of the target element.
BRDP-S1-00106	Population of the element <code><refs></code> .	Decide if and how the element <code><refs></code> is populated. If populated, the order of items in the list must be specified.
BRDP-S1-00099	Use of the "identifiers" given in the elements <code><reqSupportEquips></code> , <code><reqSupplies></code> , <code><reqSpares></code> or <code><workLocation></code> .	Decide whether to use any of the "identifiers" given in the elements <code><reqSupportEquips></code> , <code><reqSupplies></code> , <code><reqSpares></code> or <code><workLocation></code> as the presented link (textual content of the element <code><internalRef></code>), or as a tooltip in a viewer application (value of the attribute <code>targetTitle</code>).
BRDP-S1-00559	Caption style guide.	Decide on a project style guide to be used for captions.
BRDP-S1-00117	Inline use of captions.	Decide whether inline captions affect the text line spacing and how this is defined.
BRDP-ARMY-00014	Use of titles.	All other elements (not listed in JS-105) and procedural steps which allow a title shall be decided by project or organization decision.
BRDP-S1-00121	Use of standard table types.	Decide if a list of standard table types applies to the project (eg, inspection, examination) and define what the business rules are for these types in terms of their presentation requirements and certain textual values (eg, titles and heading row values). Each of these standard types must have a defined value that can be applied to the table's attribute tabstyle .
BRDP-S1-00123	Use of applicability information of various table child elements - attribute applicRefId of the element <code><table></code> .	Decide whether and how to use the attribute applicRefId of various <code><table></code> child elements. The child elements can be differentiated based on Product configuration.
BRDP-S1-00131	Use of foldouts.	Decide whether to use the element <code><foldout></code> and, if used, where its use is allowed (eg, within specific information sets).
BRDP-ARMY-00114	Multimedia technologies and environment.	The project shall agree to the multimedia technologies used and the expected environment in which they will operate.
BRDP-S1-00129	Suitability of multimedia use.	Decide whether using multimedia is suitable for the environment in which the project will operate.
BRDP-S1-00130	Permitted types of multimedia.	Decide what types of multimedia objects are permitted.

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TABLE C-V. Common constructs (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00132	Use of hotspots.	Decide whether and how to use hotspots as follows: a. If hotspots are to be used, decide whether hotspots can be used to link to graphical objects from local text. b. If hotspots are to be used, decide whether hotspots can be used to link from graphical objects to other graphical objects or local text. c. If hotspots are to be used, decide whether hotspots can be used to link from graphical objects to other data modules.
BRDP-S1-00133	Use of the element <code><parameter></code> .	Decide whether to use the element <parameter> and how to use it. If used, specify the attributes to be used within the project or organization.
BRDP-S1-00142	Use of the element <code><taskDuration></code> in the element <code><preliminaryRqmts></code> .	Decide whether and how to use the element <taskDuration> . The possibility of duplication and mismatch of data given in the maintenance planning information must be taken into account.
BRDP-ARMY-00015	Production management data.	The project shall decide whether or not to use the element <productionMaintData> .
BRDP-ARMY-00016	Use of the element <thresholdInterval> .	The project shall decide whether or not to use element <thresholdInterval> .
BRDP-ARMY-00017	Use of the attribute lsarData .	The project shall decide whether or not to use the attribute lsarData .
BRDP-S1-00137	Use of the element <code><workArea></code> in the element <code><preliminaryRqmts></code> .	Decide whether and how to use the element <workArea> . If used, decide which data module types to use it.
BRDP-ARMY-00018	Use of the attribute reqCondCategory .	The project shall decide the use of the attribute reqCondCategory (refer to 5.52.1.48).
BRDP-S1-00143	Inclusion of a circuit breaker list as part of the preliminary conditions - (element <reqCondCircuitBreaker>).	Decide if circuit breaker lists are allowed in required conditions and thus the use of the element, or if all the circuit breaker settings must be part of the steps. In this latter case the element <circuitBreakerDescrGroup> in steps content can be used.
BRDP-S1-00145	Values for the attribute personCategoryCode in the element <preliminaryRqmts> .	Define a list of skill categories/types (eg, Airframe, Electrical, Avionic, Engine).
BRDP-S1-00146	Values for the attribute trade in the context of the element <preliminaryRqmts> .	If trades are required, define a list of trades/trade codes.

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TABLE C-V. Common constructs (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00149	Listing of standard tools in Preliminary requirements.	Decide what types of standard tools or toolkits to be identified and listed in the table "Support equipment".
BRDP-S1-00152	Use of identification elements in the element <supportEquipDescr> , the element <supplyDescr> and the element <spareDescr> context.	Decide which of the elements <catalogSeqNumberRef> , <natoStockNumber> , <identNumber> , <toolRef> , <supplyRef> , <supplyRqmtRef> , <partRef> , <functionalItemRef> and <materialSetRef> to use for identification and how to populate these elements.
BRDP-S1-00134	Use of the element <preliminaryRqmts> .	Decide whether to use the element <preliminaryRqmts> in maintenance planning, fault isolation, maintenance checklist and/or process data modules.
BRDP-S1-00135	Use of the element <workAreaLocationGroup> in the element <preliminaryRqmts> .	Decide whether and how to use the element <workAreaLocationGroup> . The possibility of duplication and mismatch of data given in the maintenance planning information must be taken into account.
BRDP-S1-00136	Use of the element <workLocation> in the element <preliminaryRqmts> .	Decide whether and how to use the element <workLocation> . If used, decide the data module types with which it will be used.
BRDP-S1-00138	Use of the element <installationLocation> in the element <preliminaryRqmts> .	Decide whether and how to use the element <installationLocation> . If used, decide which data module types to use it.
BRDP-S1-00139	Use of the element <productItem> in the element <preliminaryRqmts> .	Decide whether and how to use the element <productItem> . If used, decide which data module types to use it.
BRDP-S1-00140	Use of the attribute productItemName in the element <preliminaryRqmts> .	Decide whether and how to use the attribute productItemName .
BRDP-S1-00141	Use of the attribute productItemType in the element <preliminaryRqmts> .	Decide whether and how to use the attribute productItemType .
BRDP-S1-00151	Use of the attribute materialUsage in the element <supportEquipDescr> , the element <supplyDescr> and the element <spareDescr> context.	Decide whether to use the attribute materialUsage in the elements <supportEquipDescr> , <supplyDescr> and <spareDescr> context and what values to be used.
BRDP-S1-00157	Use of the element <closeRqmts> in the process data modules.	Decide whether to use the element <closeRqmts> in the process data modules.

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TABLE C-V. Common constructs (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00169	Use of the text element <indexFlag> .	The project shall decide whether an index is required and to what level indexing should be made.
BRDP-ARMY-00019	Use of the element <acronym> .	The project shall decide the use of the optional element <acronym> .
BRDP-ARMY-00020	Use of attribute verbatimStyle .	The project shall decide the use of the available values for the attribute verbatimStyle (refer to 5.52.1.68) and allocate suitable definitions to them in the project or organization business rules.
BRDP-ARMY-00022	Use of the element <quantity> .	The project shall decide whether to use quantity data markup and to what extent it is used.
BRDP-ARMY-00023	Types of quantity data to markup.	If using quantity data markup, the project shall decide which types of data to mark up and in what contexts.
BRDP-S1-00163	Use of the value (element <quantityValue>) and tolerance (element <quantityTolerance>) decomposition in the text element <quantity> .	Decide whether and how to use to use the element <quantityValue> and the element <quantityTolerance> decomposition.
BRDP-S1-00164	Unit of measure to be used.	If using the value and tolerance decomposition, decide at which level of the markup the attribute quantityUnitOfMeasure must be included. Allowable locations are on the parent element <quantityGroup> which applies to all child elements or on the individual child elements <quantityValue> and <quantityTolerance> . A consistent usage of the attribute quantityUnitOfMeasure is required to produce a consistent display or printout to the user.
BRDP-ARMY-00024	Circuit breaker.	The project shall decide if a circuit breaker list is to be considered as part of preliminary conditions and thus the use of the element <reqCondCircuitBreaker> or if the circuit breaker settings are part of the steps. In the latter, the element <circuitBreakerDescrGroup> in steps content can be used.
BRDP-S1-00158	Use of the attribute circuitBreakerAction in text element <circuitBreakerRef> .	Decide whether to use the attribute circuitBreakerAction . If used, establish writing rules to ensure that authors will be consistent in the paragraph text and the value of the attribute itself.
BRDP-S1-00159	Use of the attribute checksum in text element <circuitBreakerRef> .	Decide whether to use and how to populate the attribute checksum .

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TABLE C-V. Common constructs (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00166	Use of the element <zoneRef> .	Decide whether and how to use the element <zoneRef> . Consideration for duplication and mismatch of data given in the maintenance planning information has to be taken.
BRDP-S1-00167	Use of the element <accessPointRef> .	Decide whether to use the element <accessPointRef> and how to use it. Consideration for duplication and mismatch of data given in the maintenance planning information has to be taken.
BRDP-S1-00173	Types of footnote markers.	Decide on the types of footnote markers (attribute footnoteMark) to use. It is recommended to use: a. only one type of footnote marker for each of the table footnotes and the inline footnotes throughout a project. b. superscripted numbers for both.
BRDP-S1-00560	Identification of parts.	Decide whether the project can use OEM renamed part numbers instead of part numbers allocated by the part design authority in the attribute partNumberValue .

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TABLE C-VI. Schema specific

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00181	Minimum levelled paragraph occurrences.	Decide whether to impose a minimum of two occurrences of child elements <levelledPara> and/or <levelledParaAlts> .
BRDP-ARMY-00025	Use of the optional attribute independentCheck .	The project shall decide whether or not to use the attribute independentCheck and how to use it.
BRDP-S1-00186	Maximum number of step levels in a procedure.	Decide on the maximum number of step levels allowed in a procedure. Exceeding five levels of depth is strongly discouraged in development of new data. It is recommended that additional levels are only used in a conversion effort where the existing data is authored to this depth (maximum eight levels) and restructuring of data is not feasible.
BRDP-S1-00187	Minimum number of substeps in a step.	Decide whether to allow for a single substep, or to insist on a minimum of two substeps in a step.
BRDP-S1-00185	Use of the alternates concept within the element <mainProcedure> .	Decide whether to use the alternates concept for steps, figures and multimedia within the element <mainProcedure> . This concerns the child elements <proceduralStepAlts> (refer to Para 2.4.2), <figureAlts> (refer to Chap 3.9.5.2.1.7) and <multimediaAlts> (refer to Chap 3.9.5.2.1.7).
BRDP-S1-00192	Use of correlation fault concept.	Decide whether to use the correlated fault concept.
BRDP-S1-00193	Use of correlated fault messages and warnings.	Decide how to populate the elements <warningMalfunction> , <assocWarningMalfunction> and <bitMessage> when using the correlated fault concept.
BRDP-S1-00194	Use of detection and description information elements.	Decide whether the repetition of the detection and description information for the basic fault which has been correlated (elements <faultDescr> and <detectionInfo>) is used. Projects can consider that the detection and description information can for example be populated during IETP generation by picking up the information in the detected fault list data module describing the basic faults.
BRDP-S1-00195	Use of the attribute independentCheck on the elements <isolationProcedure> , <isolationStep> and <isolationProcedureEnd> .	Decide whether to use the attribute independentCheck , which values to use and allocate suitable definitions.
BRDP-ARMY-00026	Use of the element <typeDesignation> .	The project shall decide whether or not the element <typeDesignation> shall be used. If used, it shall be used consistently throughout the MAC.

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TABLE C-VI. Schema specific (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00027	Use the attribute crewStepCondition .	The project shall decide whether or not to use the attribute crewStepCondition . Only the crewStepCondition attribute values and open range defined below are available for use.
BRDP-ARMY-00028	Use of the optional attribute independentCheck .	The project shall decide whether or not to use the attribute independentCheck .
BRDP-ARMY-00165	Population of the attribute item .	Decide how to populate the attribute item for parts that are not illustrated along with the population of the attribute itemSeqNumberValue to form a unique reference in a single data module.
BRDP-S1-00222	Use of the attribute unitOfMeasure in the element <unitOfIssueQualificationSegment> within the element <itemSeqNumber> .	Decide on the range and definitions of the values for the attribute unitOfMeasure .
BRDP-S1-00234	Use of the element <modelVersion> in the element <locationRcmdSegment> within the element <itemSeqNumber> .	Decide whether and how to use the element <modelVersion> . If used, decide on the values and their definitions.
BRDP-S1-00235	Use of the element <effectivity> in the element <locationRcmdSegment> within the element <itemSeqNumber> .	Decide whether and how to use the element <effectivity> . If used, decide on its range and the definition of the values to be used.
BRDP-S1-00219	Use of the element <partSegment> in the element <itemSeqNumber> .	Decide whether to use the element <partSegment> to store the part data in the IPD data module each time the part is listed, or store the part data once externally in the part CIR data module.
BRDP-S1-00223	Use of the element <optionalPart> in the element <partRefGroup> within the element <itemSeqNumber> .	Decide on the method of identification of the optional part.
BRDP-S1-00224	Use of the element <preferredSparePart> in the element <partRefGroup> within the element <itemSeqNumber> .	Decide on the method of identification of the preferred spare part.
BRDP-S1-00225	Use of the element <alteredFromPart> in the element <partRefGroup> within the element <itemSeqNumber> .	Decide on the method of identification of the altered from part.
BRDP-S1-00226	Use of the element <localFabricationMaterial> .	Decide on the method of identification of the local fabrication material.

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TABLE C-VI. Schema specific (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00031	Use of the wiring data module.	The project may elect to use the wiring data module. If so, the project is required to coordinate efforts, including related business rules, with LDAC.
BRDP-S1-00239	Use of the element <wireType> .	Decide on the definition of wire type content/codes.
BRDP-S1-00240	Use of the element <wireSeqNumber> .	Decide whether and how to use the wire sequential number.
BRDP-S1-00241	Use of the element <electricalEquipConnection> .	Decide whether and how to use electrical equipment connection information, in particular define the values of attribute connectionType consistently.
BRDP-ARMY-00032	Use of the process data module.	The project shall decide when to use the process data module.
BRDP-S1-00244	Use of applicability for variables in process data modules.	Decide on the level of applicability filtering. This is established based on viewer capability and portability of the data.
BRDP-S1-00246	Use of use of dialogs to declare unassigned variables in process data modules.	Decide whether to use a dialog to assign values to an unassigned variable.
BRDP-S1-00247	Use of default values in a dialog in process data modules.	Decide whether a variable default value will be displayed in a dialog.
BRDP-S1-00248	Use of the attribute variableName in the element <variable> in process data modules.	The project shall determine authoring guidance about variable naming and typing.
BRDP-S1-00249	Use of the attribute variableType in the element <variable> in process data modules.	Decide whether to use the attribute variableType and decide on the rules for selection of the defined values.
BRDP-ARMY-00033	Use of common information repository.	The project shall decide whether or not to require the delivery of common information repository data modules (as additional data).
BRDP-S1-00251	Use of the attribute altNumber in the functional items CIR.	Decide whether to use the attribute altNumber , which values to use and allocate suitable definitions to the values.
BRDP-S1-00252	Use of the attribute altNumber in the circuit breakers CIR.	Decide whether to use the attribute altNumber , which values to use and allocate suitable definitions to the values.
BRDP-S1-00253	Use of the attribute zoneRefType .	Decide which values (eg, subzones) to use for the attribute zoneRefType and allocate suitable definitions to the values.
BRDP-S1-00254	Use of the attribute altNumber in the zones CIR.	Decide whether to use the attribute altNumber , which values to use and allocate suitable definitions to the values.

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TABLE C-VI. Schema specific (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00255	Use of the attribute accessPointRefType .	Decide which values (eg, subaccess points) to use for the attribute accessPointRefType and allocate suitable definitions to the values.
BRDP-S1-00256	Use of the attribute altNumber in the access points CIR.	Decide whether to use the attribute altNumber , which values to use and allocate suitable definitions to the values.
BRDP-S1-00260	Use of the attribute toolRefType in the tools CIR.	Decide which values to use for the attribute toolRefType and allocate suitable definitions to the values.
BRDP-S1-00261	Use of the attribute altNumber in the tools CIR.	Decide whether to use the attribute altNumber , which values to use and allocate suitable definitions to the values.
BRDP-S1-00262	Use of the attribute taskCategoryCode in the tools CIR.	Decide which values (eg, servicing, maintenance, overhaul, repair) to use for the attribute taskCategoryCode and allocate suitable definitions to the values.
BRDP-S1-00263	Use of the attribute systemDifferenceCode in the element <functionalPhysicalAreaIdent> .	Decide whether to apply the system difference code in the functional and/or physical areas CIR data module.
BRDP-S1-00264	Use of the attributes disassyCode and disassyCodeVariant in the element <functionalPhysicalAreaIdent> .	Decide whether to apply the disassembly code and disassembly variant code in the functional and/or physical areas CIR data module.
BRDP-ARMY-00034	Use of learning data modules.	The project shall decide whether or not to use learning data modules.
BRDP-ARMY-00035	Use of the available branches.	If learning data modules are used, the project shall decide which of the five available branches is most appropriate for the intended content.
BRDP-S1-00561	Use of titles in the Learning data module.	In the substructures of the Learning data module, decide to what extent optional occurrences of the element <title> can be used and how given titles and generated titles must be presented to achieve a readable presentation of the information.
BRDP-S1-00267	Conducting a performance analysis.	Decide whether to conduct a performance analysis to determine factors that can affect performance and gaps in job performance or a training needs analysis to determine training requirements.
BRDP-S1-00268	Developing learning objectives.	Decide whether to develop learning objectives in accordance with task analysis items. Learning objectives ought to be developed in accordance with task analysis items that support system maintenance and operational procedures. Aligning learning objectives with task analysis items in the early content preplanning stages will foster

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TABLE C-VI. Schema specific (continued)

BRDP Ref	BRDP Title	BRDP Text
		reusable data and content alignment. Refer to Chap 3.9.7 for content preplanning discussions.
BRDP-S1-00269	Packing lesson plans in SCORM content package modules.	Decide whether to package lesson plans in SCORM content package modules.
BRDP-S1-00270	Define life cycle need for performance analysis data.	Define life cycle need for analysis information and requirements resulting from a performance analysis for the client organization and human performance system affected by the product.
BRDP-S1-00271	Define life cycle need for training needs analysis data.	Define life cycle need for analysis information and requirements resulting from a training needs Analysis for a training intervention.
BRDP-S1-00273	Use of the attribute weightingFactor .	Decide whether to assign weighted values to individual interactions.
BRDP-S1-00274	Use of the attribute attempts .	Decide whether to allow multiple response attempts for interaction items.
BRDP-S1-00279	Define maximum number of steps levels in <checkListProcedure> .	Projects must decide the maximum number of step levels allowed.
BRDP-S1-00297	Use of the element <enterpriseSpec> in the element <frontMatterTitlePage> .	Decide whether and how to use the element <enterpriseSpec> .
BRDP-S1-00298	Use of the element <enterpriseLogo> .	Decide whether to use the element <enterpriseLogo> and if it is populated from the element <logo> given in the Identification and status section.
BRDP-S1-00299	Method of populating the element <publisherLogo> .	Decide whether and how to use the element <logo> in the Identification and status section to populate the element <publisherLogo> .
BRDP-S1-00300	Use of the attribute barCodeSymbology .	Decide whether to use the attribute barCodeSymbology and which barcode symbology to be used.
BRDP-S1-00302	Use of the element <title> in the element <frontMatterInfo> .	Decide whether to use the content of the element <title> or the interpretation of the value of the attribute frontMatterInfoType as the title of the Front matter information.
BRDP-S1-00303	Use the element <reducedPara> in the element <frontMatterTableOfContent> .	Decide whether to use the introductory paragraph and on the wording of any standard phrase.
BRDP-S1-00309	Use the element <reducedPara> in the element <frontMatterList> .	Decide whether to use the introductory paragraph and on the wording of any standard phrase for each of the front matter list.

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TABLE C-VI. Schema specific (continued)

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-S1-00310</u>	How to store total number of pages for S1000D publications.	Decide on the use of <footnoteRemarks> to store the total number of pages for a complete S1000D publication.
<u>BRDP-S1-00311</u>	How to store total number of pages for non-S1000D publications.	Decide on the use of <footnoteRemarks> to store the total number of pages for a complete non-S1000D publication.

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TABLE C-VII. Applicability

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00313	Use of the element <contentDescription> in the element <scoContent> .	Decide whether and how to use the element <contentDescription> (eg, to add information about the training resource).
BRDP-S1-00314	Use of the element <contentDescription> in the element <trainingStep> .	Decide whether and how to use the element <contentDescription> (eg, to add information about the content defined in the training step).
BRDP-S1-00315	Use of the element <contentDescription> .	Decide whether the optional element <contentDescription> must be used to add information about the content defined in the training step.
BRDP-ARMY-00036	Applicability strategy.	The project shall determine the use of applicability and describe that approach in the business rules.
BRDP-S1-00317	Use of the element <displayText> in the element <applic> .	Decide whether the element <displayText> is populated by the technical author or generated from the computable branch or some other source when using the human-readable branch of applicability.
BRDP-S1-00318	Use of the attribute applicDisplayClass within the element <applic> .	Decide whether to use the attribute applicDisplayClass when using the computable applicability annotation branch.
BRDP-S1-00319	Use of textual applicability annotations in the element <assert> in the element <evaluate> .	Decide if textual applicability annotations are allowed in the element <assert> when using the computable applicability annotation branch or if every element <assert> must reference a declared product attribute or condition.
BRDP-S1-00316	Use of the element <applic> in the data module status and content.	Decide how to use the element <applic> and to populate its child elements and attributes across the project or the organization.
BRDP-S1-00320	Use of the attribute valuePattern and the element <enumeration> or to use open text when using ACT.	Decide whether to specify the allowable values for a product attribute achieved by using both the attribute valuePattern and the element <enumeration> or to allow open text without using the attribute valuePattern and the element <enumeration> .
BRDP-S1-00322	Method of defining multiple values or ranges for the element <enumeration> in the ACT.	Decide whether to use a single element <enumeration> containing the entire set or to use multiple elements <enumeration> where each contains only one value or range.
BRDP-S1-00321	Use of the element <displayName> in the element <productAttribute> when using ACT.	Decide whether to use the element <displayName> .
BRDP-ARMY-00037	Use of conditions cross-reference table.	The project shall decide whether to develop and deliver conditions cross reference table(s).

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TABLE C-VII. Applicability (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00038	Use of multiple tables.	If used, the project shall decide whether to create one single technical conditions cross-reference table data module or several cross-reference table data modules divided by some logical criteria.
BRDP-S1-00323	Use of the attribute valuePattern and the element <enumeration> or to use open text when using CCT.	Decide whether to specify the allowable values for a product attribute achieved by using both the attribute valuePattern and the element <enumeration> or to allow open text without using the attribute valuePattern and the element <enumeration> .
BRDP-S1-00324	Method of defining multiple values or ranges for the element <enumeration> in the CCT.	Decide whether to use a single element <enumeration> containing the entire set or to use multiple elements <enumeration> which each contain only one value or range.
BRDP-S1-00325	Use of the element <displayName> in the element <productAttribute> when using CCT.	Decide whether to use the element <displayName> .
BRDP-S1-00326	Constraining conditions by use of the element <dependency> in the element <cond> in the CCT.	Decide whether to constrain allowable conditions based on other condition values by use of the element <dependency> .
BRDP-ARMY-00039	Use of the Product Cross-reference Table (PCT).	The project shall decide whether to develop and deliver PCT data modules. If used, the project shall decide which product sets are referenced in the PCT.
BRDP-S1-00327	Product attributes and conditions to include in the PCT.	Decide which product attributes and conditions to include in the PCT. Conditions that represent operational or environmental properties will usually not be included in the PCT as they are not associated with a product instance.

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TABLE C-VIII. Configurable attributes

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00328	Translation of the "S1000D interpretation" of configurable attribute values.	Decide whether to translate and use the "S1000D interpretation" of configurable attribute values in the languages adopted by the project.
BRDP-S1-00329	Application of project specific values for configurable attributes.	Decide whether to use any project specific attribute values, which values to use and allocate suitable definitions and interpretations.
BRDP-S1-00330	Application of project specific values for the attribute quantityUnitOfMeasure .	Decide whether any project specific attribute values are needed for the attribute quantityUnitOfMeasure . If needed, decide which project specific values to use for the attribute quantityUnitOfMeasure and allocate suitable project interpretations.

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TABLE C-IX. Training

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00041	Scope of training information.	The project shall decide on the scope of training information provided.
BRDP-ARMY-00042	Presentation of training information.	The project shall make decisions concerning issues related to presentation of training information.
BRDP-ARMY-00043	Scope of pre-planning.	The project shall determine the scope of the pre-planning guidance.

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TABLE C-X. DMC, ICN, & DML

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00331	Data module coding strategy.	Decide on the data module coding strategy to use for the Product and/or the project.
BRDP-S1-00332	Allocation of Product model identification code.	Decide which model identification codes to use for the Product and/or project.
BRDP-S1-00333	Allow the use of one or several model identification codes.	Decide whether to allow the use of one or several model identification codes.
BRDP-S1-00334	Allocation of system difference code.	Decide which system difference code values to be used for the Product.
BRDP-S1-00335	UOC as system difference code.	Decide whether to use UOC as the system difference code.
BRDP-S1-00339	Responsible partner company codes for non-chapterized illustrated parts data modules.	Decide which responsible partner company codes to use for non-chapterized illustrated parts data modules.
BRDP-S1-00340	Responsible partner company codes for non-chapterized, non-S2000M illustrated parts data modules.	Decide which responsible partner company codes to use for non-chapterized, non-S2000M illustrated parts data modules
BRDP-S1-00341	Unique identifier for non-chapterized, non-S2000M illustrated parts data modules.	Decide which unique identifiers to use for non-chapterized, non-S2000M illustrated parts data modules.
BRDP-S1-00336	Product SNS structure.	Decide which SNS structure to use for the Product.
BRDP-S1-00337	Use of the material item category code.	Decide whether to use the material item category code.
BRDP-S1-00338	Number of characters in assembly code.	Decide whether to use two or four characters for unit or assembly.
BRDP-S1-00342	Use of the disassembly code variant.	Decide whether to use one, two or three characters for the disassembly code variant and how to populate.
BRDP-ARMY-00045	Allocation of the item location code "T."	The project shall decide to use the item location code "T" and the use of learn type information.
BRDP-S1-00344	Use of CAGE code and/or model identification code based ICN.	Decide which method to be used for the ICN.
BRDP-S1-00348	Allocation of responsible partner company codes for model identification code based ICN.	Decide which values on responsible partner company codes to be used.
BRDP-ARMY-00046	Commercial and Government Entity Codes (CAGECs) for originator.	The project shall define a list of valid CAGECs for originator in ICN.
BRDP-S1-00351	Object types to be listed in the data management requirement list.	Decide whether to list publication modules and/or IPD illustrations in the data management requirement list.
BRDP-S1-00353	Objects types to be tracked by the CSDB status list.	Decide what CSDB objects types are to be tracked in the CSDB status list, and at a minimum these

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TABLE C-X. DMC, ICN, & DML (continued)

BRDP Ref	BRDP Title	BRDP Text
		must be data modules, illustrations/multimedia objects and publication modules.
<u>BRDP-ARMY-00047</u>	Data Management Requirements List (DMRL) format.	The project shall decide if the DMRL will be prepared and delivered using the S1000D DMRL schema or if some alternative, such as a spreadsheet, will be used.
<u>BRDP-S1-00355</u>	Data management requirement list issue date.	Decide whether the issue date of a data management requirement list must be the input date (the release to CSDB date), the cut-off date for the information, the planning date or some other more appropriate date.
<u>BRDP-ARMY-00048</u>	Deleted data modules.	The project shall specify whether deleted data modules should appear in the data management list (value "d" of attribute dmEntryType in element <dmEntry>) or if the entries should be deleted from the data management list entirely.
<u>BRDP-S1-00354</u>	CSDB object issues to be included in the CSDB (Common Source Data-Base) Status List (CSL).	Decide whether to include only the latest issues of CSDB objects or all issues in the CSDB status list.
<u>BRDP-ARMY-00049</u>	CSL delivery.	The project shall decide if CSL deliveries are required at intervals in addition to when data is delivered (e.g., weekly, monthly, etc.).

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TABLE C-XI. Comment, version control, and interchange

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00359	Allowed file types for attachments to comment forms.	Decide which file types are allowed for attachments to comment forms.
BRDP-S1-00545	File formats for information objects.	Decide which file formats to use.
BRDP-ARMY-00050	Inclusion of graphics.	The project shall specify whether all graphics referenced have to be included in the exchange package.
BRDP-S1-00361	Use of photographs.	Decide whether photographs will be used. If used, for what purposes.
BRDP-ARMY-00051	Use of multimedia formats.	The project shall decide which multimedia formats will be used, if any at all.
BRDP-S1-00360	Raster graphic resolution.	Decide which resolution to use for raster graphics.

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TABLE C-XII. PM, BREX, & information management

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00052	Short publication module title.	The project shall determine the use and population of the element <shortPmTitle> .
BRDP-ARMY-00053	Use of element <issueDate> for unclassified publications.	Decide the process for determining the dates of issue for publications and data modules.
BRDP-ARMY-00054	Publication number.	The project shall document the method used for populating the two character sequence number in the attribute pmNumber .
BRDP-ARMY-00122	Nested publication module volume.	The project shall determine the use of the attribute pmVolume for nested publication modules.
BRDP-ARMY-00123	Chapter and sections identification.	Projects shall decide whether to use nested publication modules, <pmEntry> , or combination to identify chapter and section content in publication modules.
BRDP-ARMY-00136	Use of the element <pmEntryTitle> .	Decide on the population for the element <pmEntryTitle> for each publication type in use.
BRDP-S1-00564	Single or multiple business rules document.	Decide whether to use a single or multiple business rules document data module to capture business rules. If multiple data modules are needed, identify which rules will go into which data module. Refer to Para 3.1.
BRDP-S1-00565	Level of depth of business rules document data modules.	Decide whether to exceed five levels of depth for new data.
BRDP-S1-00566	Identification numbering.	Decide on the numbering scheme for the attribute brDecisionIdentNumber and the attribute id as applicable.
BRDP-S1-00567	Standardized responses to describe business rules decision values.	Decide whether to use standardized sentences to describe business rules decision values or not. If the decision is to use standardized responses, decide which responses must be taken from text describing BRDP values defined in the specification or by the project/organization. It is also necessary to identify which responses must be defined beyond what is already defined within the specification. If standardized responses for business rules decision values are defined, decide whether all possible business rules decision values are covered or whether there will be cases when a business rules author will need to define text for business rules decision values during business rules production.
BRDP-S1-00369	Use of the BREX data module to exchange SNS.	Decide whether to use the BREX data module for exchange of information on the applied SNS.
BRDP-ARMY-00055	Notations.	The project may decide to exclude one or several of the notations (element <notationRule>)

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TABLE C-XII. PM, BREX, & information management (continued)

BRDP Ref	BRDP Title	BRDP Text
		allowable by S1000D. These restrictions are to be included in the BREX data module.
BRDP-S1-00370	Include restrictions in using various illustration, multimedia object or other data information formats.	Decide whether to use the BREX data module to impose any restrictions in the use of various formats for illustrations, multimedia objects or other data.
BRDP-S1-00368	Applicable sets of business rules.	Decide which set or sets of business rules are allowed within the given project or the organization. Accordingly, decide which BREX data modules will be used to reflect those business rules.
BRDP-ARMY-00124	Use of the process data module.	The project shall decide whether to use the process data module or not.
BRDP-ARMY-00125	Variable naming conventions.	The project shall decide on a variable naming convention which will eliminate or lessen confusion surrounding process data module variables as different authors at possibly different sites create process data modules which will work together.
BRDP-S1-00373	Use of multiple instances of CSDB object.	Decide whether to generate multiple instances of CSDB objects to generate several customized instances of any one object issue. If so, decide how the attributes extensionProducer and extensionCode must be used.
BRDP-S1-00374	Use of the CIR concept (internal data-bases for common information).	Decide whether to use the CIR concept.
BRDP-S1-00376	Internal/External use of CIR data modules.	Decide whether the CIR data modules are to be used only internally to the manufacturer or integrator, as part of the production/integration environment ("internal repositories") or if the CIR data modules are also a deliverable to the customer.
BRDP-S1-00377	Types of CIR data modules to be used.	Decide which CIR data module types to be used. In order to avoid any redundancy and inconsistency, care must be paid on some types, depending on other project specific decisions, for example tailoring of the S2000M (IPD data modules vs Part CIR data module).
BRDP-S1-00379	Publishing of CIR data modules.	Decide whether and which CIR data module types to be published.
BRDP-S1-00380	Use of one or several data modules for a CIR type.	Decide whether there is one single or several data modules for a dedicated type of CIR data module within a project or an organization, or for a specific model identification code.

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TABLE C-XII. PM, BREX, & information management (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00381	Use of implicit or explicit reference method to CIR data module.	Decide whether to use implicit or explicit references, or both, between content specific data elements and the CIR data modules.
BRDP-S1-00382	Use of alternates groups in data module content.	Decide whether to use alternates group elements. If used, specify which groups and in which data modules types.
BRDP-S1-00383	Mix of alternates groups and elements.	Decide whether alternates groups and elements can be mixed in a given structure.
BRDP-ARMY-00056	Use of container data module.	The project shall decide if container data modules are used.
BRDP-S1-00385	Identification of container data module.	Decide which identification method to use for container data modules. The chosen method must be used systematically.
BRDP-S1-00386	Use of applicability within container data module content.	Decide whether applicability annotations are duplicated from the referenced data modules to the container data module.
BRDP-S1-00392	Providing the human-readable part of applicability.	Decide whether to also provide the human-readable part of applicability or rely on the viewer to build the human-readable part, when providing the computer processing part of applicability.
BRDP-S1-00387	Use of applicability.	Decide if the project or the organization will use applicability.
BRDP-S1-00390	Product attribute and conditions naming and identification scheme.	Define a consistent naming and identification scheme for product attributes and conditions, when ACT and CCT data modules are implemented.
BRDP-S1-00391	Presentation of content that is not applicable.	Specify the method that content is presented which is not valid for the current maintenance context. The content can be removed, hidden or de-emphasized in some manner.
BRDP-S1-00393	Number of ACT, CCT and PCT data module instances.	Decide whether to provide one instance of each data module types (ACT, CCT and PCT) or to segregate the project or the organization into multiple instances of each data module type, and the method for segregation.
BRDP-S1-00388	Applicability functionality.	Define the required functionality for applicability.
BRDP-S1-00389	Use of applicability data module types (ACT, CCT, and PCT).	If functionality is limited to print and static display, decide if applicability data module types (ACT, CCT, and PCT) will be used.
BRDP-S1-00394	Classifying product attributes and conditions in an ACT data module.	Decide how to divide the properties of the Product into product attributes or condition types.
BRDP-S1-00395	Configuration management of product attributes in an ACT data module.	Decide on the extent of configuration management and editing access to be applied to product attributes within an ACT data module.

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TABLE C-XII. PM, BREX, & information management (continued)

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-ARMY-00057</u>	Use of product attributes versus conditions.	The project shall decide what types of properties about the Product become product attributes (in the ACT data module) versus conditions (in the CCT data module).
<u>BRDP-ARMY-00058</u>	Use of the pattern.	The project shall decide if enumeration provides enough information specifying the allowable values for a condition or whether the pattern is also needed.
<u>BRDP-ARMY-00059</u>	Configuration management of the conditions.	The project shall decide to what extent they configuration manage and limit editing access to the conditions. The modification of an existing condition may have a very extensive affect to existing data.
<u>BRDP-S1-00396</u>	Use of the incorporation status list in a CCT data module.	Decide whether to use the incorporation status list in the CCT data module.
<u>BRDP-S1-00398</u>	Use of a published or a temporary PCT data module.	Decide whether to publish a static issue of the PCT data module or use the data module as a temporary input between an external system and a viewer.
<u>BRDP-S1-00397</u>	Scope of the product instances in a PCT data module.	Decide which product instances are contained in a PCT data module. Options include listing all product instances in-service or listing only the product instances within an organization.
<u>BRDP-S1-00399</u>	Management of the product instance configurations in PCT data modules.	Decide how to maintain the list of product instance configuration specifications and the associated values for product attributes and conditions.
<u>BRDP-S1-00400</u>	Use of the ACT catalog data module.	Decide whether to use the ACT catalog data module.
<u>BRDP-S1-00401</u>	Internal or external definition of supplier applicability attributes.	Decide whether the supplier applicability attributes are defined in the ACT data module or if the supplier definition is used.

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TABLE C-XIII. Content specific data

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00403	Technical information object properties to be included in the data module at delivery.	Decide which properties associated to the technical information objects (eg, names, short names) to store within the data module when delivered.
BRDP-ARMY-00060	Operator instruction types.	The project shall determine which optional operator instruction information sets apply.
BRDP-ARMY-00061	Use of the tabular format.	If the descriptive data module method is selected, the project shall determine whether controls and indicators are prepared in a tabular format or in a narrative format (paragraphs and figures).
BRDP-ARMY-00062	Optional siting features.	The project shall determine optional siting features.
BRDP-ARMY-00063	Optional operating procedures.	The project shall decide if operating procedures containing the identification, loading, initializing, and downloading of applicable operational and diagnostic software shall be included.
BRDP-ARMY-00064	Preparation instructions and information.	The project shall determine preparation instructions and information for stowage and decal/data plate guide(s).
BRDP-ARMY-00065	References to Quality Assurance (QA).	The project shall determine if a reference shall be made to the pertinent QA or included directly (refer to 5.89.1.5.9).
BRDP-ARMY-00067	DMWR/NMWR.	The project shall decide if DMWR/NMWR will include theory of operation data modules.
BRDP-ARMY-00068	Introductory general information.	The project shall decide if introductory general information will precede the theory of operation narrative.
BRDP-ARMY-00069	Other service upon receipt task.	The project shall determine if additional service upon receipt task data modules shall be developed.
BRDP-ARMY-00070	Cleaning information codes.	The project shall determine the information codes used for cleaning procedure data modules.
BRDP-ARMY-00071	General maintenance instructions.	The project shall decide what general maintenance instructions will be prepared.
BRDP-ARMY-00072	Overhaul Inspection Procedures (OIP) data modules.	The project shall determine if and when OIP data modules shall be prepared.
BRDP-ARMY-00073	Mobilization requirements.	The project shall determine if the modifications, deletions, or additions to the preshop analysis or overhaul procedures required during mobilization shall be included in the depot mobilization requirements information set.
BRDP-S1-00404	Applicable systems for land and sea products.	Decide the applicable systems for land and sea products.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-ARMY-00146	Troubleshooting index.	The project shall decide which type of index to prepare.
BRDP-ARMY-00147	Preshop analysis format.	The project shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist.
BRDP-ARMY-00148	Component checklist introduction.	The project shall determine when a component checklist introduction is required.
BRDP-ARMY-00149	Operational checkout introduction.	The project shall determine if and when an introduction to operational checkout is required.
BRDP-ARMY-00150	Operational checkout method.	The project shall determine the method of operational checkout procedures.
BRDP-ARMY-00151	Troubleshooting introduction.	The project shall determine if and when troubleshooting procedures require an introduction.
BRDP-ARMY-00152	Troubleshooting type.	The project shall determine which troubleshooting type to use for each troubleshooting procedure required.
BRDP-ARMY-00153	Use of integrated system troubleshooting procedures.	The project shall determine if and when integrated system operational checkout and troubleshooting procedures shall be developed.
BRDP-S1-00405	How to use the element field descriptions in the wiring data description Schema.	Decide how to use the element field descriptions of the wiring data description Schema in an interactive wiring publication.
BRDP-S1-00406	Use of introduction data modules for wiring publications.	Decide whether to produce introduction data modules for wiring publications. If required, the scope of these introduction data modules must be defined.
BRDP-S1-00407	Optional descriptive information for connection units.	Decide whether to produce descriptive information for connection units including illustrations and tables.
BRDP-S1-00408	Optional descriptive information for wires and harnesses.	Decide whether to produce descriptive information for wires and harnesses including illustrations and tables.
BRDP-S1-00409	Wiring standard practices data modules.	Define source and scope of wiring standard practices data modules. Decide whether to prepare standard wiring practice information as procedural or descriptive data modules.
BRDP-S1-00410	Wiring diagrams in an interactive wiring publication.	Decide whether to produce wiring diagrams for an interactive wiring publication.
BRDP-S1-00411	Harness routing drawings.	Decide whether harness routing drawings are to be simplified and how their layout must look like.
BRDP-S1-00412	Coding of harness installation drawing data modules.	Decide whether to code harness installation drawing data modules by using zone information.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
		If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).
BRDP-S1-00413	Harness installation information.	Decide whether to prepare harness installation information for each major area in list form in addition to or instead of harness installation and routing drawings.
BRDP-S1-00414	Coding of harness routing drawing data modules.	Decide whether to code harness routing drawing data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).
BRDP-S1-00415	Equipment and panel location drawings.	Decide whether to produce separate data modules containing equipment and panel location illustrations.
BRDP-S1-00416	Production of electrical standard parts data.	Decide whether to produce data modules containing electrical standard parts data.
BRDP-S1-00417	Definition of required electrical equipment information.	Define the required information for each electrical or electronic item of equipment that has electrical connections.
BRDP-S1-00418	Coding of electrical equipment information data modules.	Decide whether to code electrical equipment information data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).
BRDP-S1-00419	Coding of harness data modules.	Decide whether to code harness data modules by using zone information. If decided to use zone information for the coding, the structure of the data module code is possibly not appropriate. In this case, it must be decided on changes of the proposed structure for the Product (eg, population of the zone information in the unit or assembly group of the SNS instead of in the subsystem/sub-subsystem group).

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00420	Generation of harness wire list data modules.	Decide whether and how to generate harness wire list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-S1-00421	Generation of connection list data modules.	Decide whether and how to generate connection list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-S1-00422	Generation of plug and receptacle list data modules.	Decide whether and how to generate harness plug and receptacle list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-S1-00423	Generation of terminal list data modules.	Decide whether and how to generate terminal list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-S1-00424	Generation of splice list data modules.	Decide whether and how to generate splice list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-S1-00425	Generation of earth point list data modules.	Decide whether and how to generate earth point list data modules for a page-oriented or an interactive wiring publication from the wiring data modules that are based on the wiring Schema.
BRDP-ARMY-00074	Separate parts manual.	The project shall decide if they will produce a separate parts manual or include parts data within other publications.
BRDP-ARMY-00077	Components of End Item (COEI) method.	The project shall determine use of Method A or Method B for presenting COEI data.
BRDP-ARMY-00078	COEI authoring.	Decide on the data module type for authoring COEI (Method A only).
BRDP-ARMY-00079	Basic Issue Items (BII) method.	The project shall determine use of Method A or Method B for presenting BII data.
BRDP-ARMY-00080	BII authoring.	Decide on the data module type for authoring BII (Method A only).
BRDP-ARMY-00081	AAL authoring.	Decide on the data module type for authoring AAL (Method A only).
BRDP-ARMY-00082	Mandatory replacement parts format.	The project shall determine if mandatory replacement parts shall be prepared as tables or if procedural step writing style will indicate the needed information.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-ARMY-00083</u>	Hand receipt data as part of a larger manual.	The project may decide to produce hand receipt data as a stand-alone manual or as part of a larger manual or IETP.
<u>BRDP-S1-00427</u>	Level of detail to be provided in the technical descriptions in Equipment information sets.	Decide what level of detail to provide in the functional and technical descriptions.
<u>BRDP-S1-00428</u>	Use of wiring Schema in Equipment information sets.	Decide whether the Wiring data Schema and the Wiring data description Schema are to be used or not. Interactive wiring publication functionalities are only to be made available if the Wiring Schema is used. Refer to Chap 3.9.5.2.9.
<u>BRDP-S1-00429</u>	Level of detail to be provided in the maintenance and servicing data modules in Equipment information sets.	Decide what level of detail to provide in the maintenance and servicing data modules.
<u>BRDP-S1-00430</u>	Use of consolidated lists for Support equipment, Consumables, materials, expendables, etc, in Equipment information sets.	Decide whether to use consolidated lists for Support equipment, Consumables, materials, expendables, etc.
<u>BRDP-S1-00431</u>	Use of equivalent substitutes in Equipment information sets.	Decide whether to allow the use equivalent substitutes for support equipment, consumables, materials and expendables.
<u>BRDP-S1-00432</u>	Level of detail to be provided in the IPD data modules in Equipment information sets.	Decide what level of detail to provide in the IPD modules.
<u>BRDP-ARMY-00154</u>	Data module types and information codes.	The project shall decide the data module types (typically procedural) and information codes to use when preparing auxiliary equipment maintenance.
<u>BRDP-ARMY-00155</u>	Determination of supplemental data.	The project shall determine if and what COTS supplemental data is required for COTS manuals.
<u>BRDP-ARMY-00156</u>	Identifying Technical Publication Sheet.	The project shall determine if the contractor shall prepare an Identifying Technical Publication Sheet.
<u>BRDP-ARMY-00157</u>	Cover contents.	The project shall determine if the federal item name, NSN, P/N, model number, and applicable contractor number shall be overprinted on the cover or the title page of the manual.
<u>BRDP-ARMY-00158</u>	List of Effective Data Modules (LOEDM).	The project shall determine if a LOEDM that will include the basic manual and the supplemental data shall be prepared.
<u>BRDP-ARMY-00159</u>	LO page size.	The project shall decide between logbook and standard page size for the LO.
<u>BRDP-ARMY-00084</u>	Abbreviated Modification Work Order (MWO) format.	For Command-Authenticated MWOs only, the project shall determine if the MWO shall be prepared in an abbreviated format.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
		Row Deleted
		Row Deleted
<u>BRDP-ARMY-00160</u>	Destruction of equipment to prevent enemy use information sets.	Destruction of equipment to prevent enemy use information sets may be produced as either a stand-alone publication/IETP or as part of a more comprehensive publication.
		Row Deleted
<u>BRDP-ARMY-00087</u>	Format of assessment data.	The project shall decide if the format of assessment tables will be prepared as either a troubleshooting procedure (with the fault isolation data module type) or a table (with the descriptive data module type).
<u>BRDP-S1-00433</u>	Separation of product frame and engine BDAR information in the BDARP.	Decide whether to separate the BDARP into product frame and engine BDAR information.
<u>BRDP-S1-00434</u>	Separate data modules for utilization degradation in BDAR information sets.	Decide whether to prepare separate data modules for degradation information, or to include this information in the damage assessment data modules.
<u>BRDP-S1-00435</u>	Interactive BDARP.	Decide whether to produce an interactive BDARP and define the required functionalities.
<u>BRDP-S1-00436</u>	Use of external material information in service bulletins.	Decide whether material information must be a part of the "core" SB data module or if it can (depending on the volume) be presented in one or more referenced separate SB data modules. Refer to Fig 2.
<u>BRDP-S1-00437</u>	Treatment of alert and standard Service bulletins.	Decide whether or not to allow classifying Service bulletins as Alert.
<u>BRDP-S1-00438</u>	Service bulletin compliance categories.	Decide whether to use the four compliance categories or to define others.
<u>BRDP-S1-00439</u>	Minimum impact on weight in Service bulletins.	Decide the threshold for minimum impact on weight that must be reported in a Service bulletin.
<u>BRDP-S1-00440</u>	Minimum impact on balance in Service bulletins.	Decide the threshold for minimum impact on balance that must be reported in a Service bulletin.
<u>BRDP-S1-00441</u>	Minimum impact on electrical load to be reported in Service bulletins.	Decide the threshold for minimum impact on electrical load that must be reported in a Service bulletin.
<u>BRDP-S1-00442</u>	Definitions and use of maintenance and operational publications in Service bulletins.	Decide on the precise definitions of "maintenance publications" and "operational publications" and whether to separate them into different listings in the Impact on publications.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00447	One consolidated or several separate publication list data modules for the LOAP.	Decide whether to deliver the publications and documents listed in one data module/publication module (with one or more lists presented as tables) or as separate data modules/publication modules (eg, by operational publications or maintenance publications).
BRDP-S1-00448	Inclusion of unpublished publications and documents in the LOAP.	Decide whether to include publications and documents those are not published.
BRDP-S1-00450	Include the manufacturer's part number or reference number in the LOAP.	Decide whether to include and present the manufacturer's part number or reference number.
BRDP-S1-00449	Markup of the publication entry as a link in the LOAP.	Decide whether to markup the publication entry as a link when using the descriptive Schema.
BRDP-S1-00451	Use of language in the LOAP.	Decide whether to include and present the language of the publication or document in the entries.
BRDP-S1-00445	Use of a set of publication list data modules or a publication module for the LOAP.	Decide whether to use a set of publication list data modules or a publication module to list the applicable publications and other documents including individual data modules.
BRDP-S1-00446	Schema to use for the publication list data modules of the LOAP.	Decide whether to use the front matter Schema or the descriptive Schema for the publication list data modules.
BRDP-S1-00452	Additional information in parts lists for engine maintenance information sets.	Decide whether to indicate additional information under the heading of the parts list "Remarks" (eg, modification number applicable to the item).
BRDP-ARMY-00088	Emergency systems.	Emergency systems may be located in Chapter 9 (refer to 5.106.1.16) at the discretion of the acquiring activity. When this is done, include the following statement in the section "Emergency equipment information is located in [<i>insert <dmRef></i>]."
BRDP-ARMY-00162	Standard or alternate checklist.	The acquiring activity shall have the option to specify that a one or two page alternate operator's checklist be prepared instead of the standard operator's checklist.
BRDP-ARMY-00089	Aerodynamic report.	In addition to the draft manual, the acquiring activity may require submission of an aerodynamic report illustrating the derivation of the data entered on the charts included in the manual. The report should include an analysis leading to the establishment of lift and drag values used in the calculations, aircraft efficiency and compressibility correction factors, methods of computing power or thrust required and available, a discussion of duct loss and propeller efficiencies, and adequate

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
		references to appropriate wind tunnel or flight test data. Calculation methods need to be fully explained and a sample calculation given. The calculations should be presented in sufficient detail to permit ready review and check of conclusions and to enable additional calculations to be made.
BRDP-S1-00453	Standards of performance data in aircrew information.	Decide on the standards of performance to be used in the calculation.
BRDP-S1-00455	Select model for checklist for structures in aircrew information.	Decide which of the two models are used to structure checklists.
BRDP-S1-00456	Order of drills in aircrew information.	Decide whether the order of drills will be project specific. Limitations and operating data required by the project must be included.
BRDP-S1-00457	Supplementing the order of drills in aircrew information.	Decide whether to supplement the order of drills checklist listing.
BRDP-S1-00458	Numbering of checks within drills in aircrew information.	Decide on the numbering of checks within each drill.
		Row Deleted
BRDP-S1-00459	Description types for land/sea Products for the crew/operators.	Decide on the description types to be used: functional, physical breakdown, or external equipment.
BRDP-S1-00426	Schema to be used for front matter data modules.	Decide which Schemas to be used to capture the different front matter data module types.
BRDP-S1-00461	Front matter information codes.	Decide which front matter information codes to use, the basic (eg, 00R) or the alternative (eg, 002).
BRDP-S1-00460	Front matter to be included in page-oriented publications and IETP, respectively.	Decide which front matter is to be included (mandatory or optional) in each of the page-oriented publications and in the IETP. The decisions must be based on the rules given in Chap 3.9.4.
BRDP-ARMY-00091	"How To Use This IETP" information.	Project shall decide whether to prepare "How To Use This IETP" information.
BRDP-S1-00462	IPD as a standalone publication.	Decide if the IPD is produced as a standalone publication or the IPD data modules included in another publication (eg, an equipment maintenance publication including IPD).
BRDP-S1-00464	Use of task sets in the CMP.	Decide whether to use task sets in the CMP.
BRDP-S1-00465	Use of placeholder data modules in the CMP.	Decide whether "placeholder" data modules are required for those topics where data is not required or necessary.
BRDP-S1-00466	Front matter to be used in the CMP.	Decide what front matter data modules to be used and their content.

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TABLE C-XIII. Content specific data (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00468	Incorporating Service bulletins into the CMP.	Decide on the updating frequency for incorporating Service bulletins into the CMP.
BRDP-S1-00470	Inclusion of maintenance planning information in the CMP.	Decide whether to include maintenance planning information in the CMP.
BRDP-S1-00471	Inclusion of removal and installation information in the CMP.	Decide whether to include removal and installation information in the CMP.
BRDP-S1-00472	Inclusion of test support data in the CMP.	Decide whether to include manufacturer's test support data and, if so, decide the format of the data.
BRDP-S1-00473	Use of the S1000D standard page-oriented presentation chapters..	Decide whether to use the S1000D standard page-oriented presentation given in Chap 6.2.2 and Chap 6.2.3 or to use any other rules for presentation to meet specific project or organization requirements. The business rules must specify the information needed to contract the desired presentation.

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TABLE C-XIV. Page-based presentation

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00475	Page size.	Decide which page size to be used (including sizes when foldouts are allowed) per publication.
BRDP-S1-00476	Presentation of foldouts in page-oriented publications.	Decide where (eg, interspersed or at the end of the publication) the foldouts must be located in page-oriented publications.
BRDP-ARMY-00092	Applicability.	When applicability is used, the project shall determine the use of either applicability codes, or a human readable expression.
BRDP-S1-00568	Presentation of derivative classification markings.	Decide whether to use and when to use the derivative classification (value of the <classificationAction> elements within the <classificationActionGroup> defined by the IDREF in the attribute derivativeClassificationRefId).
BRDP-S1-00487	Exclude presentation of security markings for unclassified publications.	Decide whether to exclude the presentation of security markings for unclassified publications.
BRDP-S1-00488	Presentation of safety classification.	Decide whether to use the S1000D standard page-oriented presentation rules for the safety classification (attribute safetyLabel of the element <productSafety>) or to create project or organization specific rules for the presentation.
BRDP-S1-00097	Presentation of the target titles in cross-references.	Decide whether to present the target titles given in the element <title> .
BRDP-S1-00497	Number of sidehead levels to be presented in the Table of contents.	Decide whether to present more than three sidehead levels in the table of contents. The allowed number of sidehead levels must be stated in the business rules.
BRDP-S1-00520	Presentation of data module titles in the reference table.	Decide whether to present the data module title in the reference table ("Table 1 References").
BRDP-S1-00522	Order of presentation of references in the reference table.	Decide in which order the referenced document is presented in the reference table ("Table 1 References"): In order of appearance, alphabetical order, data modules before publications, etc.
BRDP-S1-00502	Presentation (layout) of titles.	Decide whether to use the S1000D standard presentation rules for titles (Sidehead 1 thru Sidehead 5 or if used thru Sidehead 8) or to create project or organization specific rules such as type size, leading and justification.
BRDP-S1-00503	Presentation of the leveled para titles from the element <levelled-Para> on level six thru eight.	Decide whether to present the titles for the element <levelledPara> on level six thru eight.

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TABLE C-XIV. Page-based presentation (continued)

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00494	Presentation of the procedural step titles from the element <proceduralStep> .	Decide whether to present the titles for the element <proceduralStep> and to which level.
BRDP-S1-00495	Presentation of the crew drill step titles from the element <crewDrillStep> .	Decide whether to present the titles for the element <crewDrillStep> and to which level.
BRDP-S1-00504	Use of the alternative method for labeling procedural steps at presentation.	Decide whether to use the preferred or the alternative method for labeling procedural steps.
BRDP-S1-00506	Presentation of hierarchical indented steps, when used without titles in procedural steps.	Decide whether to use hierarchical indented steps, when used without titles.
BRDP-S1-00507	Prefixes to be used for random lists at presentation.	Decide whether to use a consistent set of prefixes for random list throughout the project.
BRDP-S1-00498	Presentation of List of tables.	Decide whether to present the List of tables.
BRDP-S1-00500	Presentation of List of figures.	Decide whether to present the List of figures.
BRDP-S1-00509	Presentation of inline footnotes.	Decide whether to present the inline footnotes at the bottom of the page (default) or at the end of the data module.
BRDP-S1-00511	Presentation of vertical lines in formal tables.	Decide whether to, in exceptional cases, allow presentation of vertical lines in formal table.
BRDP-S1-00569	Presentation of ICN.	Decide whether to present the ICN (content of attribute infoEntityIdent) for each illustration.
BRDP-ARMY-00094	Color use.	Decide whether to use black and shades of black (gray scale) for figures in page oriented publications or an alternative coloring method.
BRDP-S1-00515	Use of symbolic presentation of warnings and cautions.	Decide whether to use symbolic presentations of warnings and cautions.
BRDP-S1-00518	Presentation of change marks.	Decide whether to use an alternative visual presentation as change marker
BRDP-S1-00524	Presentation of the name of spares, supplies and support equipment.	Decide whether to present the name (element <name>) or the abbreviated alternate name (element <shortName>), as the cross-reference in the text.
BRDP-S1-00521	Presentation of publication module/non S1000D publication titles in the reference table.	Decide whether to present the title (element <pmTitle>/<externalPubTitle>) or the short title (element <shortPmTitle>/<shortExternalPubTitle>), or both, in the reference table ("Table 1 References").
BRDP-S1-00523	Inline presentation of non-S1000D publication titles.	Decide whether to present the external publication code (element <externalPubCode>), the title

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TABLE C-XIV. Page-based presentation (continued)

BRDP Ref	BRDP Title	BRDP Text
		(element <externalPubTitle>) or the short title (element <shortExternalPubTitle>) as the inline reference.
BRDP-S1-00525	Use of the alternative method for presentation of applicability statements.	Decide whether to use the preferred or the alternative method for presentation of applicability statements.
BRDP-S1-00526	Decide on highlighting the applicability default heading and statement at presentation.	Decide whether to highlight (blue and bold) the default heading and applicability statement at presentation.
BRDP-S1-00527	Elements and attributes to be presented on the Title page.	Decide which elements and attributes to be presented on the Title page.
BRDP-S1-00528	Size of the product illustration on the Title page.	Decide on the height of the product illustration on the Title page, if used.
BRDP-S1-00529	Elements and attributes to be presented on the Table of contents page.	Decide which elements and attributes to be presented on the Table of contents page.
BRDP-S1-00571	Number of levels in Table of contents.	Decide on the number of levels to be presented in Table of contents.
BRDP-S1-00531	Elements and attributes to be presented on the List of effective data modules.	Decide which elements and attributes to be presented on the List of effective data modules.
BRDP-S1-00532	Elements and attributes to be presented on the Highlights data modules.	Decide which elements and attributes to be presented on the Highlights data modules.
BRDP-S1-00572	Presentation of data module code extension in references and tables.	Decide whether and when to present the DME in references and tables.
BRDP-S1-00573	Presentation of issue number of the data module or the technical publication in references and tables.	Decide whether and when to present the issue number of the data module or the technical publication in references and tables.
BRDP-S1-00574	Presentation of Production management data.	Decide whether to present Production management data.
BRDP-S1-00575	Presentation of Name and Alternate name.	Decide whether to present only Name or both Name and Alternate name in the list of support equipment. When an Alternate name is used, this is the name that is presented in the data module when referred to by its attribute internalRefId .

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TABLE C-XV. IETP presentation

BRDP Ref	BRDP Title	BRDP Text
BRDP-S1-00534	Main menu bar functions in the IETP viewer.	Decide which, if any, of the basic set of main menu bar functions to mandate.
BRDP-S1-00536	Additional information bar in the IETP viewer.	Decide on the use of an additional information bar. If used, it must be decided which information to be available in the additional information bar.
BRDP-ARMY-00126	Additional Table Of Contents (TOC) items.	The project shall decide the use of additional items in the TOC.
BRDP-ARMY-00095	Navigation icons.	The project shall decide if the main menus bar functions are presented as text, graphics, or text and graphics. Graphical presentation of the functions is the preferred method. If graphic icons are implemented, the icons provided at the LDAC Web site (https://www.ldac.army.mil/mil40051/tmsspecs.cfm) are mandatory and the function text shall be presented on mouseover.
BRDP-S1-00535	Printing of classified data.	Decide whether to allow the printing of classified data. If not allowed, the print function must be disabled when classified data is presented in the IETP viewer.
BRDP-ARMY-00097	Font size.	The minimum recommended font size is 12 pt. Based on intended viewing environment, projects may decide upon an alternate minimum font size.
BRDP-ARMY-00098	Tool tips.	Decide on the use of tool tips. Tool tips display further information about what the purpose of the control. They appear when the user hovers over the control with the mouse pointer.
BRDP-ARMY-00099	Viewer help function.	The optional help function will provide further information about the dialog box. The project shall determine if help will be provided as a dialog function and the decision shall be documented in the functionality matrix (Context Sensitive Help).
BRDP-ARMY-00100	Dialog display.	The project shall specify in their project-specific business rules how the viewer will handle dialogs (pop-up vs. in-line).
BRDP-ARMY-00101	Viewer background.	It is preferred that the background be white. Where the table is long, it can be acceptable to change the background colors of alternate rows to aid readability.
BRDP-ARMY-00102	Viewer table display.	Tables may appear in-line or within the inner shell main content area in a pane separate from the text content. Tables may, by exception and project decision, appear in a separate window if necessary for clear and proper display.
BRDP-ARMY-00103	Presentation of referenced data module code.	The project shall decide if the data module codes for referenced data modules will be presented

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TABLE C-XV. IETP presentation (continued)

BRDP Ref	BRDP Title	BRDP Text
		inline as part of the references (e.g., "See Radio XYZ - Safety summary [DMC-RADIOXYZ-001-001-23-4750-01000-012J-A]."), as mouse over tool tips, or not at all.
<u>BRDP-ARMY-00104</u>	Acknowledgement of alerts.	The project shall determine if acknowledgement of alerts will be required.
<u>BRDP-ARMY-00105</u>	Pop up windows.	The project shall decide on one of two methods for displaying pop ups and use that method consistently throughout the IETP: replacing the current window (i. e., inline), or in a separate window on top of the current window (i. e., pop up).
<u>BRDP-ARMY-00106</u>	Use of tool tips.	The project shall decide on the use of tool tips. If required, hovering over an area of a graphic tool tips can provide some means of descriptive data. Tool tip pop ups shall not interfere with the ability of a user to access any area of the graphic (including access to another tool tip).
<u>BRDP-ARMY-00107</u>	Viewer illustration display.	Illustrations may appear in-line or within the inner shell main content area in a pane separate from the text content. Illustrations may, by exception and project decision, appear in a separate window if necessary for clear and proper display.
<u>BRDP-S1-00538</u>	Modification of the functionality matrix due to selection of information sets.	Decide on which modifications are needed in the functionality matrix due to the selection of information sets. Refer to <u>BRDP-S1-00004</u> .
<u>BRDP-S1-00539</u>	Selection of functionality using the functionality matrix.	Decide on which functionality is required in the technical publications.
<u>BRDP-ARMY-00108</u>	Audit trail.	The project shall determine which IETP audit trail data is collected for maintenance data collection or other purposes.

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TABLE C-XVI. Information processing

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-ARMY-00109</u>	Multimedia types.	The project shall determine the multimedia types used.
<u>BRDP-S1-00540</u>	Population of the element <externalPubCode> .	Decide the preferred syntax to identify legacy data by a publication code.
<u>BRDP-S1-00541</u>	Use of the attribute pubCodingScheme .	Decide whether to use the attribute pubCodingScheme . If used, decide on the set of allowed coding schemes and the syntax of those schemes.
<u>BRDP-S1-00542</u>	Method to include legacy information in an Interactive Electronic Technical Publication (IETP).	Decide whether to include legacy information by encapsulating it in data modules or by referencing it as external publications using the publication module.
<u>BRDP-S1-00543</u>	IETP reference format.	Decide the syntax and semantics of the links established to reference legacy data.
<u>BRDP-S1-00544</u>	Use of file compression techniques.	Decide whether to use compression techniques on files being transferred and which techniques to be used.
<u>BRDP-ARMY-00110</u>	Defined file formats.	The project shall decide on the allowable file formats, if any, beyond those given in S1000D Chapter 7.5.1.
<u>BRDP-ARMY-00111</u>	Training data module code extensions.	The project shall decide whether to use the learn code and learn event code or not.
<u>BRDP-S1-00547</u>	Format of generated display text.	Decide on the format for generating the displayed applicability annotation from the computable applicability annotation that will best fulfill industry and/or customer display requirements.
<u>BRDP-S1-00548</u>	Modifying an assigned product attribute value in the PCT.	Decide if modifications to PCT assigned values are allowed.

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TABLE C-XVII. SNS & information codes

BRDP Ref	BRDP Title	BRDP Text
<u>BRDP-S1-00549</u>	Translation of SNS titles and definitions.	Decide whether to translate and use the SNS titles and the definitions in the languages adopted by the project.
<u>BRDP-ARMY-00127</u>	Project use of the generic standard numbering system.	Decide whether to use the generic SNS defined in S1000D Chapter 8.2.1.
<u>BRDP-ARMY-00128</u>	Use of the support and training equipment standard numbering system.	The project shall decided if and how to use the support and training equipment SNS provided in S1000D Chapter 8.2.2.
<u>BRDP-ARMY-00129</u>	Use of the ordnance standard numbering system.	The project shall decided if and how to use the ordnance SNS provided in S1000D Chapter 8.2.3.
<u>BRDP-ARMY-00130</u>	Use of the general communications standard numbering system.	The project shall decided if and how to use the general communications SNS provided in S1000D Chapter 8.2.4.
<u>BRDP-ARMY-00131</u>	Use of the air vehicle standard numbering system.	The project shall decided if and how to use the air vehicle SNS provided in S1000D Chapter 8.2.5.
<u>BRDP-ARMY-00132</u>	Use of the tactical missiles standard numbering system.	The project shall decided if and how to use the tactical missiles SNS provided in S1000D Chapter 8.2.6.
<u>BRDP-ARMY-00133</u>	Use of the surface vehicles standard numbering system.	The project shall decided if and how to use the surface vehicles SNS provided in S1000D Chapter 8.2.7.
<u>BRDP-ARMY-00134</u>	Use of the sea vehicle standard numbering system.	The project shall decided if and how to use the sea vehicle SNS provided in S1000D Chapter 8.2.8.
<u>BRDP-S1-00551</u>	Translation of information code definitions.	Decide whether to translate and use the information code definitions in the languages adopted by the project.
<u>BRDP-S1-00552</u>	Translation of learn code definitions.	Decide whether to translate and use the learn code definitions in the languages adopted by the project.

APPENDIX D

IETP FUNCTIONALITY MATRIX

D.1 SCOPE.

Information sets and content selection matrices are tools to define a project's content depth and breadth requirements, the functionality matrix is a tool to define the intended use and capabilities of a project's data. The IETP functionality matrix provides a standard format for documenting the functional needs of a project. S1000D Chapter 6.4 provides standard definitions for each functionality so vendors and customers can clearly communicate their requirements and deliverables. This appendix is a mandatory part of this standard. The information contained herein is intended for compliance. These requirements are applicable for all maintenance levels through overhaul (depot), including DMWRs/NMWRs.

D.2 APPLICABLE DOCUMENTS.

This section is not applicable to this appendix.

D.3 DEFINITIONS.

This section is not applicable to this appendix.

D.4 GENERAL REQUIREMENTS.

D.4.1 General.

Projects shall complete the entire matrix as described in paragraph 2 of S1000D Chapter 6.4.1. The definitions found in paragraph 2.4 of Chapter 6.4.1 will aid the decision making process. The completed matrix should reflect final decisions made after coordination with stakeholders. The completed matrix shall be part of the solicitation documentation. Prospective vendors will use the matrix to prepare their response. The selected functionalities and clear definitions in Chapter 6.4.1 will help to ensure that vendor responses closely match the project needs with minimal misunderstanding.

D.4.2 Use of the matrix.

The vertical axis of the matrix lists all the possible functionalities of IETP technical publications. The rows containing functionalities required by the Army are pre-populated with an "R" (indicating Required) in the Requirement column. The horizontal axis includes the information sets that can contain the desired functionalities. The matrix provided in this appendix has been tailored so the listed information sets match typical Army information sets. The Functionality Matrix is available in Excel TM at <https://www.ldac.army.mil/mil40051/S1000D.cfm>. The matrix can be tailored by individual projects to match additional required information sets.

D.4.3 Collaboration.

D.4.3 Collaboration. The matrix should be completed in a collaborative effort with input from representatives of all project stakeholder organizations. Projects should provide guidance for completing the matrix to all individuals providing input.

D.4.4 Matrix input.

There are a number of possible ways to document input to the matrix:

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- a. Binary. A project may desire input to be in the form of a simple yes or no (or checkmark) relative to the requirement for each functionality.
- b. Degree of need. A project may require that input be in a manner similar to: R=Required functionality, N=Nice to have functionality, or P=Prohibited for each functionality.
- c. Color coding. A project may develop a color coding scheme (or other code) for input to express additional functionality requirements (e.g., whether or not a specific functionality is need, but only in certain unique uses or implementations).
- d. Other. Projects may be creative and provide other guidance for completing the matrix that suits their needs.

D.5 DETAILED REQUIREMENTS.

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TABLE D-I. S1000D Functionality Matrix.

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Functionality Category: Access																												
Login	2		A																									
Suspend and Restart	1		A																									
Exit	1	R	A																									
Functionality Category: Annotation																												
Action complete indicator (check box)	1																											
Local data annotation	2		A																									
Personal annotation	1		A																									
Redlining text	3		A																									
Redlining graphics	3		A																									

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Functionality Category: Deliver and Distribution																												
Printed publication	5		A																									
Physical media	1		A																									
Network distribution	2		A																									
Functionality Category: Diagnostics and Prognostics																												
Diagnostics - User determined entry to data	1																											
Diagnostics - Software driven entry to data	2																											
Dynamic diagnostics	5																											

TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Wire/Fluid system tracing	4																											
System simulation	4																											
Prognostics	5																											
Functionality Category: External Processes																												
Transmittal	3																											
Retrieval	2																											
Parts ordering	3	R																										
Deficiency/ Improvement report transmittal	3	R	A																									
Maintenance data collection	3																											
Operator debriefing	3																											

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Resource scheduling	3																											
Knowledge management	5																											
Functionality Category: Graphics Functionality																												
Pan, zoom, expand, magnify	1		A																									
Assembly/Disassembly	2																											
Locator graphics	1																											
3D modeling	4																											
Functionality Category: Linking																												
External reference	2		A																									

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Internal references	1		A																									
Hot reference	2		A																									
Link to separate parts data	2		A																									
TOC, list of figures, tables and photos	1	R	A																									
Hot spotting	3		A																									
Functionality Category: Navigation and Tracking																												
Next and previous	1	R	A																									
Return (Chronological)	1		A																									
History of traversed link	1	R	A																									

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
User creation of bookmarks	1		A																									
System/Subsystem navigation	1		A																									
Restore initial navigation view	1	R	A																									
Audit trail	2		A																									
Graphical navigation	2																											
Dialog-driven interaction	3																											
Voice-Activated commands	3		A																									
Search - Full text	1	R	A																									
Search - User defined Boolean	1		A																									

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APPENDIX D

TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Search - Across multiple data-bases/files	3		A																									
Search - Context	2		A																									
Search - Keyword	2		A																									
Filter content per applicability	1		A																									
Simultaneous display of multiple content objects	2		A																									
Tear off window	2		A																									
Functionality Category: Printing																												
Print Screen	1	R	A																									
Data module specific printing	2	R	A																									

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Print linked data	2		A																									
Fully formatted/ book version	5		A			R ⁷	R ⁷	R ⁷																				
Functionality Category: Special Content																												
Front matter	1		A																									
Supporting technical data	2		A																									
Alerts	1		A																									
Emergency procedures	2		A																									
Photos	1																											
Audio	2																											
Motion video	3																											
Animation	4																											

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Content sensitive help (Tech data help)	1	R	A																									
Context sensitive help (Viewer)	2	R	A																									
User training	3		A																									
Functionality Category: Updates																												
Passive change indications and markings	1	R	A																									
Active change indications and markings	2	R	A																									
Full change	1		A																									
Block cycle and urgent changes	2		A																									

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TABLE D-I. S1000D Functionality Matrix. (continued)

Functionality	Complexity	Requirement	All Data Sets	Operator / Operator & Field (-10/-12/-12&P)	Field (-20/-20&P)	Field (-20P)	NMWR/DMWR	SUM/SAM	DMWRs (Demilitarization)	Data Sheets	Aviation Field (-20/-20&P)	Aircraft PMD/PMS	Aircraft PMI Checklist	BDAR	Destruction of Equipment to Prevent Enemy Use	Lubrication Order	Preventive Maintenance Checklist	General Maintenance	Hand Receipt	Technical Bulletin	Supplemental Information for COTS	Aircraft operator (Aviation -10)	Pilot/Crew checklist (aircraft, -CL)	MTF	Demilitarization of surplus military items	WTB	MWO	Preparation for shipment of Army aircraft
Near real time updates	2		A																									
Functionality Category: User Operation Mode																												
Web browser viewable	3		A																									
Stand alone mode	1	R	A																									
Network connectivity	2		A																									

CONCLUDING MATERIAL

Custodians:

Army - TM

Navy - MC

Preparing Activity:

Army - TM

Review Activities:

Army - AC, AR, AT, AV,

CR, EA, MI, PT

Project Number:

TMSS-2025-010

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.