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# DEPARTMENT OF DEFENSE STANDARD PRACTICE

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

**AMCS 9186** **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 Issues 4.0 and 4.0.1 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 Support Activity, ATTN: AMXLS-AP, Redstone Arsenal, Al 35898-7466 or e-mailed to logsa.tmss@conus.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.daps.dla.mil/quicksearch/.



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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 4.0/4.0.1 for major weapon systems, and their related systems, subsystems, equipment, weapons replacement assemblies (WRAs), and shop replacement assemblies. 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 LOGSA

## 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, S1000D, and MIL-STD-3008 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.



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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.

Requirements in this document designated with the "(JS)" symbol have been coordinated with and received consensus from the Joint Services IETM (Interactive Electronic Technical Manual) Technology Working Group.

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.



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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-1686 — Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies, and Equipment (Excluding Electrically Initiated Explosive Devices) (Metric)

**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-263 — Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices) (Metric)

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 at https://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

H4/H8 — Commercial and Government Entity (CAGE) Codes

H6 — Federal Item Name Directory

(Copies of Handbooks H4/H8 and H6 are available on CD-ROM from the Commander, Defense Logistics Services Center, Battle Creek, MI 49017-3084 or available at http://www.dlis.dla.mil/hseries.asp.)



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2.2.2 Other Government documents.

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 40-12 | — | Quarantine Regulations of the Armed Forces |
| 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 Program |
| AR 750-10 | — | Army Modification Program |
| DA PAM 25-40 | — | Army Publishing: Action Officer's Guide |
| 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 |

(Application for copies should be addressed to U.S. Army Publications Distribution Center, 1655 Woodson Road, St. Louis, MO 63114-6181. Copies of AMC-R 25-76 are available at http://www.amc.army.mil/pa/officialcommandpubs.asp.)

| | | |
|---|---|---|
| AMC-P 25-31 | — | Preparation of Plans for Technical Publications Verification |
| AMC-R 25-76 | — | The U.S. Army Materiel Command (AMC) Equipment Publications Program |

(Copies of are available at http://www.amc.army.mil/pa/officialcommandpubs.asp.)

| | | |
|---|---|---|
| DODI 5200.01-R | — | Information Security Program |
| DODD 5220.22-M | — | National Industrial Security Program Operating Manual (NISPOM) |
| DODD 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 http://www.dtic.mil/whs/directives/.)

| | | |
|---|---|---|
| FM 3-04.203 | — | Fundamentals of Flight |
| FM 3-04.240 | — | Instrument Flight for Army Aviators |
| FM 3-04.500 | — | Army Aviation Maintenance |
| FM 4-25.11 | — | First Aid |



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| | | |
|---|---|---|
| FM 4-30.31 | — | Recovery And Battle Damage Assessment And Repair |
| TM 38-250 | — | Preparing Hazardous Materials For Military Air Shipments |
| TM 1-1500-204-23 | — | General Aircraft Maintenance |
| 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 |
| TM 5-632 | — | Military Entomology Operational Handbook |
| TM 55-1500-342-23 | — | Army Aviation Engineering Manual, 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. )

2.2.3 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.

**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 http://www.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.)

**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 http://www.astm.org/.)

**GOVERNMENT ELECTRONICS AND INFORMATION TECHNOLOGY ASSOCIATION**

| | | |
|---|---|---|
| GEIA-HB-0007 | — | Logistics Product Data Handbook, GEIA Engineering Bulletin |
| GEIA-STD-0007 | — | Logistics Product Data, GEIA Standard |



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(Applications for copies should be addressed to the Government Electronics and Information Technology Association Standards & Technology Department, 2500 Wilson Boulevard, Arlington, VA 22201.)

**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 http://www.w3c.org.)

2.2.4 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.



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## 3. **DEFINITIONS**

### 3.1 General.

This standard is only applicable when used with S1000D Issues 4.0/4.0.1. 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 3.2.

### 3.2 Acronyms used in this standard.

The acronyms used in this standard are defined as follows:

| | |
|---|---|
| AAL | Additional Authorization List |
| ACT | Applicability Cross-reference Table |
| AECMA | European Association for Aerospace Industries |
| AIA | Aerospace Industries Association of America |
| AMC | Aviation Maintenance Company |
| AMCOM | Army Aviation and Missile Life Cycle Management Command |
| AMDF | Army Master Data File |
| ANSI | American National Standards Institute |
| Ao | Operational Availability |
| AOAP | Army Oil Analysis Program |
| APD | Army Publishing Directorate |
| AQL | Acceptable Quality Level |
| AR | Army Regulation |
| ARDEC | Armament Research, Development, and Engineering Center |
| ASD | AeroSpace and Defense Industries Association of Europe |
| ASTM | American Society for Testing and Materials |
| ATE | Automatic Test Equipment |
| AVIM | Aviation Intermediate Maintenance |
| BII | Basic Issue Items |
| BIT | Built in Test |
| BITE | Built in Test Equipment |
| BOI | Basis Of Issue |
| BR | Business Rule |
| BREX | Business Rules EXchange |
| C-E LCMC | Communications-Electronics/Life Cycle Management Command |
| CAGEC | Commercial and Government Entity Code |



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| | |
|---|---|
| CALS | Continuous Acquisition and Life-cycle Support |
| CAWG | Civil Air Working Group |
| CBRN | Chemical, Biological, Radiological, and Nuclear |
| CCSS | Commodity Command Standard System |
| CCT | Conditions Cross-reference Table |
| CD | Compact Disk |
| CD-ROM | Compact Disk Read Only Memory |
| CG | Center-of-gravity |
| CGM | Computer Graphics Metafile |
| COEI | Component Of End Item |
| COMSEC | Communications Security |
| COTS | Commercial Off The Shelf |
| CPC | Corrosion Prevention and Control |
| CPF | Change Proposal Form |
| CPI | Conversion of Paper/PDF to Interactive |
| CSDB | Common Source Database |
| CSI | Critical Safety Items |
| CSLA | CECOM Communications Security Logistics Activity |
| CTA | Common Table of Allowance |
| DC | Dublin Core |
| DMC | Data Module Code |
| DMRL | Data Module Requirements List |
| DMWR | Depot Maintenance Work Requirement |
| DOD | Department of Defense |
| dpi | dots per inch |
| DRMO | Defense Reutilization Marketing Office |
| DS | Direct Support |
| DVD | Digital Video Disk (alt: Digital Versatile Disk) |
| DX | Direct Exchange |
| ECBC | Research, Development, and Engineering Command, Edgewood Chemical Biological Center |
| ECM | Electronic Countermeasures |
| ECP | Engineering Change Proposal |



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| | |
|---|---|
| e.g. | exempli gratia (for example) |
| EIC | End Item Code |
| EIR | Equipment Improvement Recommendation |
| EMP | Electromagnetic Pulse |
| ESD | Electrostatic Discharge |
| ESML | Expendable/Supply Material |
| FAR | Federal Acquisition Regulations |
| FGC | Functional Group Code |
| FOUO | For Official Use Only |
| FP | Foldout Page |
| FSC | Federal Supply Classification |
| GIF | Graphics Interchange Format |
| GL | Grade Level |
| GS | General Support |
| GUI | Graphical User Interface |
| HAP | Hazardous Air Pollutants |
| HCI | Hardness Critical Item |
| HCP | Hardness Critical Process |
| HR | Hand Receipt |
| 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 |
| IGES | Initial Graphics Exchange Specification |
| ILSC-SBC | Integrated Logistics Support Center-Soldier Biological Chemical |
| IPD | Illustrated Parts Data |
| ISO | International Organization for Standardization |
| JMC | Joint Munitions Command |
| JPEG | Joint Photographers Experts Group |
| JTA | Joint Table of Allowances |
| JTCI | Joint Technical Committee for Information Technology |



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| | |
|---|---|
| LAN | Local Area Network |
| LMI | Logistics Management Information |
| LOAP | List of Applicable Publications |
| LOGSA | Logistics Support Activity |
| LRU | Line Replacement Unit |
| MAC | Maintenance Allocation Chart |
| MEL | Maintenance Expenditure Limit |
| MOC | Maintenance Operational Checks |
| MOS | Military Occupational Specialty |
| MOV | Model Version |
| MRP | Mandatory Replacement Part |
| MTBCM | Meantime Between Corrective Maintenance |
| MTBF | Meantime Between Failures |
| MTF | Maintenance Test Flight |
| MTOE | Modified Table of Organization and Equipment |
| MTTR | Mean Time to Repair |
| MWO | Modification Work Order |
| NATO | North Atlantic Treaty Organization |
| NDTI | Non-Destructive Testing Inspection |
| NHA | Next Higher Assembly |
| NIIN | National Item Identification Number |
| NMWR | National Maintenance Work Requirement |
| ODS | Ozone Depleting Substances |
| OIP | Overhaul Inspection Procedure |
| OS | Output Specification |
| OSD | Office of the Secretary of Defense |
| OSHA | Occupational Safety and Health Act |
| P/N | Part Number |
| PCB | Printed Circuit Boards |
| PCT | Product Cross-reference Table |
| PDA | Personal Digital Assistant |
| PI | Parts Information |



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| | |
|---|---|
| PMA | Portable Maintenance Aid |
| PMAC | Preliminary Maintenance Allocation Chart |
| PMC | Preventive Maintenance Checklist |
| PMCS | Preventive Maintenance Checks and Services |
| PMI | Phased Maintenance Inspection |
| PMS | Preventive Maintenance Services |
| PNG | Portable Network Graphic |
| POL | Petroleum, Oil, and Lubricant |
| PSA | Preshop Analysis |
| QA | Quality Assurance |
| QTY | Quantity |
| RAM | Reliability, Availability, Maintainability |
| RCM | Reliability Centered Maintenance |
| RDF | Resource Description Framework |
| RMS | Reliability, Maintainability, and Supportability |
| RPC | Responsible Partner Company |
| SB | Supply Bulletin |
| SC | Supply Catalog |
| SDM | Service Data Management |
| SKO | Sets, Kits, and Outfits |
| SMR | Source, Maintenance, and Recoverability |
| SNS | Standard Numbering System |
| SRA | Specialized Repair Activity |
| TACOM | Tank-automotive and Armaments Command |
| TAMMS | The Army Maintenance Management System |
| TB | Technical Bulletin |
| TBO | Time Between Overhaul |
| TDA | Tables of Distribution and Allowances |
| TEREQ | Tool or test Related Equipment |
| TM | Technical Manual |
| TMDE | Test, Measurement, and Diagnostic Equipment |
| TOC | Table of Contents |



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| | |
|---|---|
| TOE | Table of Organization and Equipment |
| TPS | Test Program Sets |
| U/I | Unit of Issue |
| UAC | Usable on Code Assembly |
| UAS | Unmanned Aircraft System |
| UOC | Usable On Code |
| URL | Uniform Resource Locator |
| USSMG | United States S1000D Management Group |
| UUT | Unit Under Test |
| vURL | Virtual Uniform Resource Locator |
| WARCO | Warranty Control Office |
| 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 component, activity, or organization of a using military service, or that organization delegated by a using service that is responsible for the selection and determination of requirements for Technical Manuals (TMs). Also referred to as "the project" in this document.

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 American National Standards Institute (ANSI).

A private sector organization, which plans, develops, establishes, or coordinates standards, specifications, handbooks, or related documents.



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3.3.6 Army Master Data File (AMDF).

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

3.3.7 Army Oil Analysis Program (AOAP).

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

3.3.8 Assembled item.

An item source coded AO, AF, AH, AL, or AD that is not stocked as an assembly but is assembled from its constituent repair parts.

3.3.9 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.

3.3.10 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.).

3.3.11 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.

3.3.12 Basis of Issue (BOI).

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

3.3.13 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.

3.3.14 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.

3.3.15 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.



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3.3.16 Business Rules EXchange (BREX).

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

3.3.17 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.

3.3.18 Callout.

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

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

Reference to decontamination procedures performed on equipment and/or personnel exposed to chemical, biological, radiological, and nuclear 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. CAGEC assignments are listed in the H4/H8 CAGE Publications.

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).

A standard digital form for graphics preparation.

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.



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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 or retard the gradual destruction and/or pitting of a metal surface or other materials, such as rubber and plastic, due to chemical attack.

3.3.28 Critical Safety Item (CSI).

Formerly referred to as Flight Safety Critical Aircraft Parts (FSCAP), CSI is an aviation-related 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 (FSCAP) is the consequence of failure, not the probability that the failure or consequence would occur. The term CSI (FSCAP) is used throughout this manual.

3.3.29 Degradation.

The reduction in systems/subsystems/components performance capability.

3.3.30 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.

3.3.31 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. 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.

3.3.32 Depot-level maintenance.

Maintenance that is beyond the capability of the field and below depot sustainment maintenance activities. Depot-level maintenance normally consists of overhaul, recondition, manufacture, repair, or modification and requires technical assistance beyond lower maintenance level capability.



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3.3.33 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.

3.3.34 Disassemble.

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

3.3.35 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.

3.3.36 Electronic Countermeasures (ECM).

Electronic surveillance equipment for detecting and adverting threatening enemy weapons systems.

3.3.37 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.

3.3.38 End Item Acronym Code (EIAC).

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).

3.3.39 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.

3.3.40 Equipment Improvement Recommendation (EIR).

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

3.3.41 Equipment nomenclature.

The official name of the equipment as shown in AMDF.

3.3.42 Essential.

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



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3.3.43 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.

3.3.44 Expendable items.

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

3.3.45 Extensible Markup Language (XML).

A subset of Standard Generalized Markup Language (SGML) in accordance with REC-xml-20001006. It enables generic SGML to be served, received, and processed on the Web in the way that is now possible with HyperText Markup Language (HTML). XML has been designed for ease of implementation and for interoperability with both SGML and HTML.

3.3.46 Extensible Style sheet Language (XSL).

A language for transforming XML documents into other XML documents, such as HTML as specified in REC-xslt-19991116.

3.3.47 Field maintenance.

Field maintenance is on-system maintenance and is mainly replacement of defective parts and preventive maintenance. Field maintenance returns repaired equipment to the soldier. Some "off-system" maintenance can be done at field level if, based on task analysis, it is simple to complete or it is critical to mission readiness.

3.3.48 Follow-on maintenance.

A follow-on maintenance is a maintenance condition which may be accomplished sometime following the completion of a task to clean up or undo actions performed during the task.

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 basic (usually two-position) group code assigned to identify major components, assemblies, and subassemblies to a functional system. Subordinate sub functional groups/subassemblies are coded to relate back to the basic (top position) FGC in a sequential, Next Higher Assembly (NHA) relationship (i.e., top-down breakdown structure).



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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 scheduled maintenance.

Hardtime maintenance is scheduled maintenance conducted at predetermined fixed intervals because of age, calendar, or usage 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-subassemblies 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.



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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 Interactive Electronic Technical Manual (IETM).

A technical manual prepared in digital form and designed for interactive display to the maintenance technicians or system operator end users by means of a computer controlled viewer. Refer to 3.4.5.

3.3.66 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).

3.3.67 Interchangeability.

Defined in this specification as above, the scope of classic interchangeability. The intent/purpose of this specification is to allow fully innovative fixes/repairs to the aircraft. This includes minor modifications that can be made to achieve interchangeability. Capable of being put or used in place of each other.

3.3.68 Legend.

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

3.3.69 Limited repair.

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

3.3.70 Linear Interactive Electronic Technical Publication (IETP).

Technical data that is displayed in a sequential or document oriented manner. The sequence of the data presentation is largely predefined 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.



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3.3.71 List of Applicable Publications (LOAP).

A separate listing of publications which are related to a specific piece of equipment, group of equipment, or system.

3.3.72 Logistics Management Information (LMI).

The selective application of scientific and engineering efforts undertaken during the acquisition process, as part of the systems engineering process, to assist in acquiring the required support; and providing the required support during the operational phrase at minimum cost.

3.3.73 Maintenance Allocation Chart (MAC).

A list of equipment maintenance functions showing maintenance level. The MAC is arranged in functional group code sequence or in top-down, breakdown sequence in the logical order of disassembly following the Illustrated Parts Data (IPD) order of assembly/subassembly listings.

3.3.74 Maintenance level.

The separation of maintenance activities or functions in the U.S. Army according to the required skills and available facilities.

3.3.75 Maintenance task.

A series of related maintenance procedures with a definite beginning and end.

3.3.76 Mean Time Between Corrective Maintenance (MTBCM).

For a particular interval, the total functional life of a population of an item divided by the total number of failures within the population during the measurement interval. The definition holds for time, rounds, miles, events, or other measure of life units. (Used only when referring to depot level maintenance.)

3.3.77 Mean Time Between Failures (MTBF).

For a particular interval, the total functional life of a population of an item divided by the total number of failures within the population during the measurement interval. The definition holds for time, rounds, miles, events, or other measure of life units.

3.3.78 Mean Time to Repair (MTTR).

The total elapsed time (clock hours) for corrective maintenance divided by the total number of corrective maintenance actions during a given period of time.

3.3.79 Modified Table of Organization and Equipment (MTOE).

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

3.3.80 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.

3.3.81 Module.

A subassembly that, in the area of electronic systems, may be removed and replaced without use of soldering equipment or special tools; a module may be encapsulated.



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3.3.82 Mouse-over.

A program element that triggers a change on an item (typically a graphic change, such as making an image or hyperlink 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.

3.3.83 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.

3.3.84 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.

3.3.85 Next Higher Assembly (NHA).

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

3.3.86 Nomenclature.

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

3.3.87 Non-Destructive Testing Inspection (NDTI).

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

3.3.88 Non-linear Interactive Electronic Technical Publication (IETP).

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, external sources or events (as in diagnostics). An organization of content that does not follow a document or page based paradigm. There are multiple paths through the data. Individual paths through the data are generally determined based on user or other input via dialog boxes.

3.3.89 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.

3.3.90 Operator maintenance.

Consists of inspecting, servicing, lubricating, adjusting, replacing, and repairing those items authorized by LMI and/or MAC.

3.3.91 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.



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3.3.92 Overhaul Inspection Procedure (OIP).

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

3.3.93 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.

3.3.94 Phased 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.

3.3.95 Pictorial.

A type of illustration showing the physical appearance of equipment or component parts. This term is used instead of such general terms as illustration, drawing, and diagram.

3.3.96 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.

3.3.97 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.

3.3.98 Preventive Maintenance Checklist (PMC).

A listing of all before, during, and after operation preventive maintenance checks, including tactical and safety checks, that the operator or crew performs to ensure that the equipment is mission capable and in good operating condition.

3.3.99 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.

3.3.100 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.

3.3.101 Preventive Maintenance Checks and Services (PMCS).

Periodic inspection and maintenance at scheduled intervals to ensure that the equipment and its components remain mission capable and in good operating condition. In aircraft, checks are



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required of mandatory safety-of-flight items. Lubrication is part of PMCS. PMCS procedures can be performed by maintainers at any level of maintenance, not just by operators.

3.3.102 Proponent.

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

3.3.103 Publication Identification Number (PIN).

A number (assigned by the Army Publishing Directorate (APD) to each publication) that can be found in DA PAM 25-30 and is comprised of 6 numerals and a 3-digit "change number" field that permits ordering a specific change to the publication.

3.3.104 Publication type.

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

3.3.105 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.

3.3.106 Rebuild.

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

3.3.107 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.

3.3.108 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.

3.3.109 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.

3.3.110 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.

3.3.111 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,



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module (component or assembly), end item, or system. Repair is authorized by the LMI/MAC and the assigned maintenance level is shown as the fourth position code of the SMR code.

3.3.112 Repair part.

Those support items that are an integral part of the end item or weapons system, which are coded as not repairable (i.e., consumable items).

3.3.113 Replace.

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

3.3.114 Revision.

A revision is comprised of corrected, updated, or additional pages to the current edition of a publication.

3.3.115 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 should be shown.

3.3.116 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.

3.3.117 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).

3.3.118 Source, Maintenance, and Recoverability (SMR) code.

The five-position code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction. The first two positions of the SMR code determine how to get an item. The third position represents who can install, replace, or use the item. The fourth position dictates who can do complete repair on the item. The fifth position represents who determines disposition action on unserviceable items.

3.3.119 Spare part.

Those support items that are an integral part of the end item or weapons system that are coded as repairable (i.e., reparable items). Spares include those equipments authorized by TOE line item plus equipments, assemblies, and modules designated as operational readiness float. TOE training equipment is excluded.

3.3.120 Special tools.

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



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3.3.121 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).

3.3.122 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).

3.3.123 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.

3.3.124 Sustainment maintenance.

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

3.3.125 System.

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

3.3.126 Tags.

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

3.3.127 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.

3.3.128 Task.

A sequence of user actions with a beginning and an end. User tasks relate to installation, checkout, operation, and maintenance of systems or equipment.

3.3.129 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.



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3.3.130 Test.

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

3.3.131 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.

3.3.132 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.

3.3.133 Top-down generation 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.

3.3.134 Usable On Code (UOC).

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

3.3.135 User.

A person using the technical manual.

3.3.136 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.

3.3.137 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



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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 4.0/4.0.1 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 publication.

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 schema and style sheets 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 schema, refer to S1000D. The schemas may be obtained from http://www.s1000d.org.



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## 5. **DETAILED REQUIREMENTS**

5.1 S1000D Chapter 1 – Introduction to the specification.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 1 Introduction to the specification
b. Chapter 1.1 Purpose
c. Chapter 1.2 Scope
d. Chapter 1.3 How to use the specification

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)

5.2.1.2 Order of precedence.

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

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)

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 Support Activity (LOGSA) AMXLS-AP Redstone Arsenal, AL 35898-5000. LOGSA 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.

5.3.2 Project decisions.

None.

5.4 S1000D Chapter 2 – Documentation Process.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 2 Documentation process
b. Chapter 2.1 Documentation process – Overview
c. Chapter 2.2 Documentation process – Use of standards
d. Chapter 2.3 Documentation process – Relations to other processes and standards



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e. Chapter 2.4 Documentation process – Implementation guide
f. Chapter 2.5 Documentation process – Business rules
g. Chapter 2.5.1 Business rules – Categories and layers
h. Chapter 2.5.2 Business rules – Generation and use

5.5 S1000D Chapter 3 – Information generation.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 3 Information generation
b. Chapter 3.1 Information generation – Introduction
c. Chapter 3.2 Information generation – Data modules
d. Chapter 3.8 Information generation – Disassembly principles
e. Chapter 3.9 Information generation – Authoring
f. Chapter 3.9.2.5 Illustration rules and multimedia – Interactive 3D content
g. Chapter 3.9.2.6 Illustration rules and multimedia – e-learning and SCORM
h. Chapter 3.9.5 Authoring – Data modules
i. Chapter 3.9.5 Authoring – Data modules
j. Chapter 3.9.5.1.1 Identification and status section – Export control
k. Chapter 3.9.5.2.1 Content section – Common constructs
l. Chapter 3.9.5.2.8 Content section – Battle damage assessment and repair information
m. Chapter 3.9.5.2.13.1 Learning data module – Learning plan information type
n. Chapter 3.9.5.2.13.2 Learning data module – Learning overview information type
o. Chapter 3.9.5.2.13.3 Learning data module – Learning content information type
p. Chapter 3.9.5.2.13.4 Learning data module – Learning summary information type
q. Chapter 3.9.5.2.13.5 Learning data module – Learning assessment information type
r. Chapter 3.9.6 Authoring – Attributes

5.6 S1000D Chapter 3.3 – Information generation – Information sets.

5.6.1 Army business rules.

5.6.1.1 Content selection matrices.

Content Selection Matrixes 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 Army S1000D content selection tables 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 tables 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.

5.6.1.2 Content selection.

The tables in Appendix A simplify tailoring the technical content requirements of technical manuals prepared using this standard as a guide. The tables indicate which portions of this



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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.

5.6.1.3 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 LOGSA to ensure consistent implementation across the Army.

5.6.2 Project decisions.

5.6.2.1 Definitions of information sets.

The project shall decide which information sets are used and the definition of their content.

5.6.2.2 Project specific information sets.

The project shall define all project specific information sets.

5.6.2.3 Content selection matrices.

The project shall complete the content selection matrices by indicating which conditional and optional content is required by the project.

5.7 S1000D Chapter 3.4 – Information generation – Zoning and access.

5.7.1 Army business rules.

5.7.1.1 General.

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)

5.7.2 Project decisions.

5.7.2.1 Use of zoning and access.

The project shall decide whether to use the zoning rules or not.

5.7.2.2 Methods for zoning air systems.

The project shall decide which method of zoning to use.

5.7.2.3 General identification of access points.

The project shall determine the identification system for those access points that do not have identifiers.

5.7.2.3.1 Identifying access points for air systems.

The project shall decide which method of zoning access to use, if needed.

5.7.2.3.2 Identifying access points for surface ships and submarine systems.

The project shall decide which method of zoning access to use, if needed.



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5.8 S1000D Chapter 3.5 – Information generation – Updating data modules.

5.8.1 Army business rules.

5.8.1.1 Change package.

Changes shall consist of the following:

a. Data Dispatch Note (list of changed files)
b. All changes, including
    (1) Applicable publication modules
    (2) Changed front matter (e.g., Table of Contents (TOC))
    (3) Changed/new data modules
    (4) Changed/new illustrations
    (5) Authentication page
    (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)

5.8.1.2 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.

5.8.1.3 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.

5.8.1.4 Changed data modules.

Changed data modules shall conform to the style and format of the basic publication/IETP and shall incorporate all approved information.

5.8.1.5 Changes to identification and status section only.

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

5.8.2 Project decisions.

5.8.2.1 Frequency of updates.

The project shall decide on the frequency of updates.

5.8.2.2 Deleted data modules.

The project shall determine the method for handling and notification of deleted data modules.

5.9 S1000D Chapter 3.6 – Information generation – Security and data restrictions.

5.9.1 Army business rules.

5.9.1.1 Classified data modules.

The security classification markings for classified data modules, shall be identified in accordance with DODI 5200.01-R, and DODD 5220.22-M, and Executive Order 12958.



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5.9.1.2 For official use only.

Army communications security (COMSEC) unclassified publications/IETPs shall contain the notice FOR OFFICIAL USE ONLY unless otherwise specified by the acquiring activity. Unclassified publications/IETPs shall contain the notice FOR OFFICIAL USE ONLY using the value "**cv51**" for the attribute **caveat**.

5.9.1.3 Commercial classification.

The attribute **commercialClassification** may be used if desired by vendors for internal uses, but it shall not be presented to the user.

5.9.2 Project decisions.

5.9.2.1 For official use only.

The project shall determine the use of the protective marking "FOR OFFICIAL USE ONLY (FOUO)" for non-COMSEC publications.

5.9.2.2 Caveats.

Security code words applied to security classifications shall be defined within the project.

5.10 S1000D Chapter 3.7 – Information generation – Quality assurance.

5.10.1 Army business rules.

5.10.1.1 Final delivery of unverified data modules.

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

5.10.1.2 Verification rules.

The project verification rules shall comply with AMC-P 25-31.

5.10.2 Project decisions.

5.10.2.1 Degree of the application of Quality Assurance (QA).

The project shall decide the degree of the application of QA.

5.10.2.2 Decide on which type of first verification to use.

The project shall decide which of the types of first verification are applied to data modules/technical publications.

5.10.2.3 Decide on the appropriate review cycle process.

The project shall decide on the most appropriate review cycle processes and procedures.

5.10.2.4 In process review.

The project shall determine the use of an in process review.

5.10.2.5 Applicability.

The project shall decide if it is permitted to differentiate QA information depending on product configuration.



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5.10.2.6 Draft delivery of unverified data modules.

For other than final delivery, the project shall decide on whether unverified data modules can be delivered to the customer. (JS)

5.11 S1000D Chapter 3.9.1 – Authoring – General writing rules.

5.11.1 Army business rules.

5.11.1.1 Descriptive text.

Explanatory, descriptive, or theoretical text shall not contain procedures.

5.11.1.2 Simple word order.

Narrative text (nonprocedural) will be written using simple word order (subject, verb, object) to the extent possible. Modifiers, including prepositional phrases, will be as close as possible to the word modified. Simple word order will ordinarily be used for description and discussion statements such as warnings, cautions, and notes.

5.11.1.3 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.

5.11.1.4 Neutral terms.

Technical data shall make no reference to age, gender, race, or national origin. Use gender neutral terms. Terms such as "midshipman" and "workman" are considered gender neutral. Terms such as male and female connectors, pins, etc., are acceptable.

5.11.1.5 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.

5.11.1.6 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.

5.11.1.7 Nomenclature.

Unless specified otherwise by the acquiring activity, only approved names and official nomenclature shall be used.

5.11.1.8 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.

5.11.1.9 Abbreviations.

Abbreviations shall be in accordance with ASME Y14.38, except when the abbreviation stands for a marking actually found in the equipment. Abbreviations may be plural (s) or possessive ('s).



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5.11.1.10 U.S. Government Printing Office (GPO) Style Manual.

When using Standard American English, the U.S. Government Printing Office Style Manual 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)

5.11.1.11 Use of equations.

The use of equations shall be held to the minimum use required by the needs of the user.

5.11.1.12 Language.

Data modules shall be produced in English.

5.11.1.13 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.

5.11.1.14 Advertising.

Publication material shall not contain advertising matter.

5.11.1.15 Special marking.

5.11.1.15.1 Nuclear hardness (Hardness-Critical Processes) marking.

All Hardness-Critical Processes shall be preceded with the acronym HCP (**`itemCharacteristic="ic02"`**), refer to 5.48.1.16. 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.



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5.11.1.15.2 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 5.48.1.16. 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:

   "REMOVAL
   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 in accordance with MIL-STD-1686.

5.11.1.15.3 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 5.48.1.16. Only procedures at the step level shall be labeled with QA. For example:

"1. QA _____"

5.11.2 Project decisions.

5.11.2.1 Simplified Technical English.

The project shall decide whether to require the use of Simplified Technical English or not.

5.11.2.2 Measurements.

The project shall determine the primary and secondary units of measure.

**NOTE**

There is an error in S1000D Issue 4.0 regarding units of measure. The following text, to replace paragraph 2.5 in Chapter 3.9.1, was erroneously omitted from the specification:

"Units of measurement

Projects must determine the standard of measurement used (e.g., International System (SI) units, Imperial units, or U.S. customary units). The standard of measurement selected (the primary units) must be used consistently throughout



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all data modules for a given project. If the equipment, instrument, or tool, etc., is calibrated in alternate units, these must be presented as the primary units.

If an additional unit of measurement is selected by the project, the primary units must be followed by the secondary unit conversion in brackets [( )] unless the equipment, instrument, or tool, etc., is calibrated in the secondary units. In that case, the equipment-specific units must be presented first, followed by the primary units in brackets.

Any conversion necessary is to be rounded up or down to a corresponding number of significant figures. The one exception to this rule is the case of Nautical Miles."

5.12 S1000D Chapter 3.9.2 – Authoring – Illustration rules and multimedia.

5.12.1 Army business rules.

None.

5.12.2 Project decisions.

5.12.2.1 Scope of printable data.

The project shall determine which parts of the documentation need to be printable.

5.12.2.2 Multimedia technologies and environment.

The project shall agree to the multimedia technologies used and the expected environment in which they will operate.

5.13 S1000D Chapter 3.9.2.1 – Illustration rules and multimedia – Illustrations, General.

5.13.1 Army business rules.

5.13.1.1 Illustration and multimedia scope.

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.

5.13.1.2 Digital graphic formats.

Use digital graphic formats that are native to a web browser such as Joint Photographers Experts Group (JPEG) or Graphics Interchange Format (GIF). The JPEG format is preferred for half-tone images and photographs. For print purposes, provide 150 or 300 dots per inch (dpi) resolution.

5.13.1.3 Use of human figures.

When necessary, illustrations may include a human figure or parts of the body. 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.

5.13.1.4 Procedural steps.

Procedural step text shall not be placed on an illustration.



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5.13.1.5 Credit lines.

The photographer's or illustrator's name shall not appear on any illustration. A manufacturer's name, symbol, or trademark shall not appear on illustrations for the purpose of identifying the illustration.

5.13.1.6 Multisheet illustrations.

Multisheet illustrations may be used to clarify, identify significant features, or further detail equipment assemblies, subassemblies, and detailed parts.

5.13.1.7 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.

5.13.1.8 Landscape.

When inserting a figure into a publication in the horizontal (landscape) position, the preferred method is that the figure number and title is located at the bottom of the page as it exists before rotation.

5.13.1.9 Graphics size options.

Size options for graphics are full page, 1/2 page, 1/4 page, and 1/8 page.

5.13.1.10 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.

5.13.1.11 Graphics in tables.

Use symbol to present graphics in a table. In S1000D, symbol is defined as "illustrations presented without a figure reference line and the information control number. The symbols may be presented inline with regular text."

5.13.1.12 Engineering drawings.

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.

5.13.1.13 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.



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5.13.1.14 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.

5.13.1.15 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.

5.13.1.16 Index number order.

When index numbers are used to locate and identify equipment components or parts, the index numbers shall be assigned in clockwise sequence (beginning at 11 o'clock).

5.13.1.17 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.

5.13.1.18 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.

5.13.1.19 Index numbers in multisheet illustrations.

Within a multisheet illustration, if an item already assigned an index number is used in more than one illustration in that multisheet illustration, it shall retain the same index number.

5.13.1.20 Legends.

Illustrations shall not contain legends. If a legend is required, it shall only be prepared using appropriate XML markup.

5.13.1.21 Cartoons.

Cartoon-type drawings and other similar visual techniques shall not be used.

5.13.1.22 Illustrations and graphs – Air crew manuals.

5.13.1.22.1 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. Broadsides (illustrations that have been turned 90 degrees on the page) shall not be used.



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5.13.1.22.2 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.

5.13.1.22.3 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.

5.13.1.22.4 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).

5.13.1.22.5 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.

5.13.1.22.6 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.

5.13.1.22.7 Titles for graphs.

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



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5.13.1.22.8 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.

5.13.1.22.9 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.

5.13.1.22.10 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.

5.13.1.22.11 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.

5.13.1.22.12 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.

5.13.1.22.13 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,



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EXAMPLE II, etc.). If a single example is used, it shall be identified by the heading "EXAMPLE."

5.13.1.22.14 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.

5.13.1.22.15 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.

5.13.1.22.16 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.

5.13.1.22.17 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.

5.13.1.22.18 Grid.

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

5.13.1.22.19 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



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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.

5.13.1.22.20 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).

5.13.1.22.21 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.

5.13.1.22.22 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 or operational range | 1 | Most even value |
| | | | | 0 | Alternate lines |
| | | | | .00 | Use if increments change |
| 2. | Grid Lines | Grey | Correspond to Primary scales | 0 | Major increments |
| | | | | 00 | Minor increments |
| 3. | Transfer Grid | Grey | 1/3 to 1 major grid | 0.00 | Direction of transfer only |



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| | Use | Color | Length | Width | Remarks |
|---|---|---|---|---|---|
| 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 major 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 Limited Operation | Grey | As required | 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 inches | Width 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.



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5.13.1.22.23 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.

5.13.1.22.24 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.

5.13.2 Project decisions.

5.13.2.1 Portrait.

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.

5.13.2.2 Case.

The project shall decide on the use of sentence case or uppercase for text annotation.

5.13.2.3 Schematics.

The project shall decide if schematics derived from engineering drawings shall include the original drawing number and revision status within the illustration area.

5.14 S1000D Chapter 3.9.2.2 – Illustration rules and multimedia – Navigation and configuration.

5.14.1 Army business rules.

5.14.1.1 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.

5.14.1.2 Nested hotspots.

Hotspots shall not be nested.



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5.14.1.3 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.

5.14.1.4 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."

5.14.1.5 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.

5.14.1.6 Identical parts in same figure.

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

5.14.1.7 References.

Reference shall be made to parts on diagrams by enough of their description or reference designator to identify the item.

5.14.2 Project decisions.

None.

5.15 S1000D Chapter 3.9.2.3 – Illustration rules and multimedia – Use of color and photographs.

5.15.1 Army business rules.

5.15.1.1 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)

5.15.1.2 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.



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5.15.2 Project decisions.

5.15.2.1 Color.

Unless specified otherwise by the acquiring activity, black and shades of black (one color) shall be used for paper publications. Prior approval for color will be obtained by the acquiring activity from the Army Publishing Directorate (APD). The acquiring activity will provide written approval, designating color(s) to be used.

5.15.2.2 Photographs.

Photographic illustrations may be used only when prior approval has been obtained from the acquiring activity.

5.16 S1000D Chapter 3.9.2.4 – Illustration rules and multimedia – Multimedia, General.

5.16.1 Army business rules.

5.16.1.1 Classified data files.

Audio and video shall not convey classified data.

5.16.2 Project decisions.

5.16.2.1 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.

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

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

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.

The warnings and cautions to observe in servicing a particular tank or reservoir shall be stated clearly.

5.17.1.2 Header.

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.

5.17.1.3 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.



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5.17.1.4 Warnings in separate 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)

5.17.1.5 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)

5.17.1.6 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)

5.17.1.7 Vital.

The attribute **`vitalWarningFlag`** on the element **`<warning>`** shall not be used.

5.17.1.8 First aid.

Warnings shall include basic first aid instructions/guidance in the event of exposure/injury.

5.17.1.9 Descriptive text.

Warnings and cautions shall not be used in descriptive data, except in the case of a publication's safety summary (for example, IC 012J). (JS)

5.17.1.10 Use of notes.

Notes may be used in any data module type allowed by the schema.

5.17.1.11 Placement of notes.

Notes shall follow the title and precede the associated text.

5.17.1.12 Indenture.

Warning, caution, and note text shall be indented on the right and left.

5.17.1.13 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.

5.17.1.14 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).



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5.17.1.15 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.

5.17.1.16 Use of attribute **`warningType`**.

The attribute **`warningType`** shall not be used.

5.17.1.17 Use of attribute **`cautionType`**.

The attribute **`cautionType`** shall not be used.

5.17.1.18 Use of attribute **`noteType`**.

The attribute **`noteType`** shall not be used.

5.17.2 Project decisions.

5.17.2.1 Use of the warnings and cautions collection.

The project shall decide whether to use the warning and caution collection (**`<warningsAndCautions>`**) or not.

5.18 S1000D Chapter 3.9.4 – Authoring – Front matter.

5.18.1 Army business rules.

5.18.1.1 Use of list of effective pages.

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

5.18.1.2 List of effective data modules content.

The List of Effective Data Modules (LOEDM) shall contain data module code, title, data module sequence number, and issue number. (JS)

5.18.2 Project decisions.

5.18.2.1 Use of the extended highlight data module.

The project shall decide whether to use an extended highlight data module or not.

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)

5.19.1.2 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 LOGSA to ensure consistency across the Army.



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5.19.1.3 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`**").

5.19.1.4 Use of classification.

The attributes **`securityClassification`** and **`caveat`** on the element **`<security>`** shall contain the overall classification of the publication or data modules as specified in DODI 5200.01-R. (JS)

5.19.1.5 Classification values.

Refer to 5.48.1.29.

5.19.1.6 Use of North Atlantic Treaty Organization (NATO) classified data.

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

5.19.1.7 Data restrictions.

The optional element **`<dataRestrictions>`** (and appropriate child elements as indicated in 5.19.1.7.1 through 5.19.1.7.8) shall be used for all publication modules and data modules. (JS)

5.19.1.7.1 Distribution.

The element **`<dataDistribution>`** within **`<restrictionInstructions>`** shall contain the appropriate distribution statement as selected from DODD 5230.24. (JS)

5.19.1.7.2 Export control.

The element **`<exportControl>`** within **`<restrictionInstructions>`** shall be used as directed by DODD 5230.25 and it shall contain the appropriate export control statement as specified in DODD 5230.24. (JS)

5.19.1.7.3 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)

5.19.1.7.4 Destruction.

For classified and unclassified 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 DODI 5200.01-R. (JS)

5.19.1.7.5 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)

5.19.1.7.6 Use of copyrighted material.

Publications should not contain copyrighted material except as specified in the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulation (DFAR)



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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)

5.19.1.7.6.1 Lists in copyright statement.

If random lists are used in the element **<copyright>**, they shall contain only one level.

5.19.1.7.7 Policy reference.

The element **<policyStatement>** within **<restrictionInfo>** within **<dataRestrictions>** within **<pmStatus>** shall contain the classification source and reason for classification for the publication as specified in DODI 5200.01-R. (JS)

5.19.1.7.8 Data conditions.

The element **<dataConds>** within **<restrictionInfo>** within **<dataRestrictions>** within **<pmStatus>** shall contain declassification and downgrade instructions for the publication as specified in DODI 5200.01-R. (JS)

5.19.1.8 Originator Commercial and Government Entity (CAGE) values.

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.

5.19.1.9 Use of the 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)

5.19.1.10 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.

5.19.1.11 Use of the 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 references to all appropriate reason for update documentation (e.g., engineering change proposals). (JS)

5.19.1.12 Use of the 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. (JS)



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5.19.1.13 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**.

5.19.1.14 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).

5.19.1.15 Publication title page.

Publication title pages shall be generated from the meta data contained in the publication module identification and status section.

5.19.1.16 Logo.

The element **`<logo>`** shall not be used.

5.19.1.17 Skill level.

The element **`<skillLevel>`** (within element **`<dmstatus>`**) shall not be used.

5.19.1.18 Use of product safety.

The element **`<productSafety>`** shall not be used.

5.19.1.19 Second verification.

Second verification (element **`<secondVerification>`** on element **`<qualityAssurance>`**) is mandatory for final delivery.

5.19.1.20 Issue type.

Use of the attribute **`issueType`** is mandatory.

5.19.2 Project decisions.

5.19.2.1 Exchange of draft data modules within the project.

The project shall decide whether to allow the exchange of draft data modules or not.

5.19.2.2 Issue date.

The definition of the issue date for data modules is to be determined by the project in its business rules. This can be, for example, the input date (i.e., the release to Common Source Database (CSDB) date), or the cut-off date for the information.

5.19.2.3 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.

5.19.2.4 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`**.



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5.19.2.5 Deleted data module retention.

The project shall decide on the length of time that they retain changed and deleted data modules.

5.19.2.6 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.

5.19.2.7 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. Refer to 5.69.1.5.

5.19.2.8 Originator name.

The project shall decide the use of the element **`<enterpriseName>`** within the element **`<originator>`**. If used, then its use shall be consistent and made mandatory for the whole project. Refer to 5.69.1.5.

5.19.2.9 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.

5.19.2.10 Technical standard.

Project shall decide the use of the element **`<techStandard>`**. If used, it shall be used consistently throughout the entire project.

5.19.2.10.1 Technical standard, details.

If used, the project shall decide the use of publications base line and authority exceptions within the element **`<techStandard>`**. The project shall decide the use of case, space, and punctuation with regard to **`<techStandard>`**.

5.19.2.11 Authority information values.

The project shall define the authority information values and their use shall be consistent for the whole project.

5.19.2.12 The element **`<authorityNotes>`**.

If used, the project shall decide on suitable entries for the element **`<authorityNotes>`**. Refer to 5.19.1.9.

5.19.2.13 Use of applicability information.

The project shall decide whether to use applicability on QA information.

5.19.2.14 System breakdown or functional breakdown codes.

The project shall decide on whether or not to use one of the elements **`<systemBreakdownCode>`**, **`<functionalItemCode>`**, and **`<functionalItemRef>`**. When deciding the use of these elements, projects shall establish consistent population.



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5.19.2.15 Use of the attribute **functionalItemNumber** within the element **<functionalItemRef>**.

The project shall decide how attribute **functionalItemNumber** is to be populated when the element **<functionalItemRef>** is used.

5.19.2.16 Use of manufacturer code within the element **<functionalItemRef>**.

The project shall decide if attribute **manufacturerCodeValue** is used and the required contexts, when using the element **<functionalItemRef>**.

5.19.2.17 Standard reasons for update.

The project shall define standard reason for update sentences to be used.

5.19.2.18 Reason for update and the production process.

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

5.19.2.19 Use of applicability information.

The project shall decide if it is permitted to differentiate reasons for update depending on Product configuration.

5.19.2.20 Definition of safety label attributes.

The project shall decide what safety label attributes to use and what their definitions are.

5.19.2.21 Use of applicability information.

The project shall decide if it is permitted to differentiate general remarks depending on Product configuration.

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 marking.

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

5.20.1.2 Use of the attribute **updateReasonType**.

The attribute **updateReasonType** shall be used for each change in a data module.

5.20.2 Project decisions.

5.20.2.1 Use of the cross-reference method for the reason for update.

The project shall decide whether or not to use the cross-reference method for linking changes to reasons for update. The method used shall be applied consistently in the project.

5.20.2.2 Types of changes to mark up.

The project shall decide if the update reason types (attribute **updateReasonType**) "**urt01**" (Editorial change), "**urt03**" (Markup change), and "**urt04**" (Applicability change) are to be used. Irrespective of the decision made, all projects shall follow the rules that change markers



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should only be included if the change is a technical change ("**urt02**"), and editorial changes shall not be marked. Further, no change markers shall appear if the issue type is not changed.

5.20.2.3 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.

5.20.2.4 Format of reason for update identifiers.

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

5.20.2.5 Standard statements for reason for update.

The project shall decide whether to use "standard reason for update" statements or not.

5.20.2.6 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.

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

The project shall decide if the element **<reasonForUpdate>** is to be used during the production process.

5.20.2.8 Use of applicability information.

The project shall decide if it is permitted to differentiate reasons for update depending on product configuration.

5.20.2.9 Use of the attribute **id** on the element **<changeInline>**.

The project shall decide if the attribute **id** is allowed to be used on the element **<changeInline>**. The purpose of the attribute shall be defined and it is considered good practice to define a format of the identifier.

5.20.2.10 Modify and add change markers.

The project shall decide the use of "**modify**" and "**add**" change markers.

5.20.2.11 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.

5.20.2.12 Display of change markings in tables.

The project shall decide if change markings are to be displayed for parts of a table; for page-oriented output, the change is displayed next to the row that contains the change.



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5.20.2.13 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.

5.20.2.14 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.

5.20.2.15 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.

5.21 S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing.

5.21.1 Army business rules.

5.21.1.1 Minimum cross reference.

If a figure, table, paragraph, or step is referenced, the element **<internalRef>** shall be used to link to the target element. (JS)

5.21.1.2 Internal references.

The element **<internalRef>** shall only be used to link to items with autogenerated labels.

5.21.1.3 Use of the attribute **internalRefTargetType**.

The attribute **internalRefTargetType** shall be used to identify the link type and to display captions as needed (e.g., "Fig," "Table").

5.21.1.4 Linking to list items.

A list item shall not be the destination of a link.

5.21.1.5 Cross reference text.

Cross references shall use the following type wording "(See Figure 1.)." The verb in the cross-reference statement (e.g., "See," "Repeat," "Skip") shall be manually authored. If appropriate, the label (e.g., "Figure," "Para," "Step") shall be generated from the attribute **internalRefTargetType**. The number shall be auto-generated during the publication process. (JS)

5.21.1.6 References in titles.

Titles shall not contain references.

5.21.1.7 Data module references.

The element **<dmRef>** shall include **<dmCode>** and **<dmTitle>**, but shall not include **<issueInfo>** or **<issueDate>** of the referenced data module. (JS)

5.21.1.8 Use of the element **<dmRefAddressItems>**.

The element **<dmRefAddressItems>** shall be used.



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5.21.1.9 Use of the element **<dmTitle>**.

The element **<dmTitle>** shall be used and shall contain the title of the referenced data module.

5.21.1.10 Publication module references.

The element **<pmRef>** shall include the element **<pmCode>** and element **<pmTitle>**. The element **<issueInfo>**, **<issueDate>**, and element **<language>** are prohibited. All other information is optional.

5.21.1.11 Use of the element **<pmRefAddressItems>**.

The element **<pmRefAddressItems>** shall be used.

5.21.1.12 Use of the element **<pmTitle>**.

The element **<pmTitle>** shall be used and shall contain the title of the referenced publication module.

5.21.1.13 External publication references.

The element **<externalPubRef>** shall include the element **<externalPubTitle>** and the element **<externalPubCode>**. All other information is optional.

5.21.1.14 Use of the element **<externalPubTitle>**.

The element **<externalPubTitle>** shall be used.

5.21.1.15 Use of the element **<behavior>**.

The element **<behavior>** shall not be used in any **<refs>** child elements.

5.21.1.16 Use of other information in data module references.

The data module reference shall not contain issue date, in-work numbers, language, or country codes.

5.21.1.17 Title case in references.

The data module title in references shall be presented in title case.

5.21.2 Project decisions.

5.21.2.1 Use and format of the attribute **referredFragment** of element **<dmRef>**.

The project shall decide on the use of the attribute **referredFragment**. The project shall state in the business rules when **referredFragment** will be used and shall list the precautions if it is used.

5.21.2.2 Referenced technical publications.

The project shall decide the format of the referenced technical publications. For example, reference technical publications should be listed by their number, then a dash followed by the title. The project shall create business rules for this and shall define the use of punctuation.

5.21.2.3 Element **<internalRef>** target when addressing graphical objects.

The project shall decide the use of the optional attribute **referredFragment** of element **<internalRef>**.



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5.21.2.4 Element **<internalRef>** destination title when addressing graphical objects.

The project shall decide the use of the optional attribute **targetTitle** of element **<internalRef>**.

5.21.2.5 Text in **<internalRef>** when addressing graphical objects.

The project shall decide on rules for what text is allowed within the element **<internalRef>**.

5.21.2.6 Use of the element **<externalPubIssueInfo>**.

The project shall decide the use of the element **<externalPubIssueInfo>** and its child element **<externalPubIssue>**.

5.21.2.7 Use of the element **<externalPubRefAddressItems>**.

The project shall decide the use of the element **<externalPubRefAddressItems>**.

5.21.2.8 Use of the element **<shortExternalPubTitle>**.

The project shall decide the use of the element **<shortExternalPubTitle>**.

5.22 S1000D Chapter 3.9.5.2.1.3 – Common constructs – Lists.

5.22.1 Army business rules.

5.22.1.1 Use of titles.

It is not required that titles be consistently used for lists. The project may decide on a case-by-case basis whether an individual list shall require a title.

5.22.1.2 Use of the definition list header.

It is not required that headers be consistently used for definition lists. The project may decide on a case-by-case basis whether an individual definition list shall require a header or not.

5.22.2 Project decisions.

5.22.2.1 Simple or unordered lists.

For random lists, the project shall define the use of simple and unordered lists.

5.23 S1000D Chapter 3.9.5.2.1.4 – Common constructs – Caption Groups.

5.23.1 Army business rules.

5.23.1.1 Caption group.

The optional element **<captionGroup>** shall not be used.

5.23.2 Project decisions.

5.23.2.1 Caption attributes.

Captions are used to describe the appearance of actual controls and indicators and present them within the technical data. If the element **<caption>** is used, the project shall decide applicable values for the following presentation attributes.

a. How to encode the attribute **systemIdentCode** if used.
b. Whether the attribute **tableOfContentType** is required.



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c. If in-line captions affect the text line spacing.
d. If element **<captionLine>** text color should be adjusted depending on the caption color.

The presentation in the publication/IETP should match the equipment appearance/presentation as closely as possible.

5.24 S1000D Chapter 3.9.5.2.1.5 – Common constructs – Titles.

5.24.1 Army business rules.

5.24.1.1 Step titles.

Procedural steps shall not have titles.

5.24.1.2 Paragraph titles.

Primary paragraphs and subparagraphs shall have titles.

5.24.2 Project decisions.

None.

5.25 S1000D Chapter 3.9.5.2.1.6 – Common constructs – Tables.

5.25.1 Army business rules.

5.25.1.1 Graphics in tables.

The **<graphic>** branch of the element **<table>** shall not be used.

5.25.1.2 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.

5.25.2 Project decisions.

5.25.2.1 Table foldouts.

The project shall decide the use of the element **<foldout>** for tables.

5.25.2.2 Use of applicability information.

The project shall decide if the indication of applicability information is permitted on various table sub-elements depending on the Product configuration. If permitted, then the project shall also decide on the use of the attribute **applicRefId** for this purpose.

5.26 S1000D Chapter 3.9.5.2.1.7 – Common constructs – Figures and foldouts.

5.26.1 Army business rules.

None.



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5.26.2 Project decisions.

5.26.2.1 Use of applicability.

The project shall decide whether and how to use the attribute **applicRefId** for complete figures and illustration sheets.

5.26.2.2 Decide on the format of the entries in the legend.

The project shall define:

a. whether the text in the legend is in sentence case, upper case, or mixed case.
b. whether or not the element **<listItemTerm>** is to contain a leading zero when using callout/item numbers.
c. how hotspots are to be used.

5.26.2.3 Use of foldout.

The project shall decide whether the element **<foldout>** is used for IETP.

5.27 S1000D Chapter 3.9.5.2.1.8 – Common constructs – Hotspots.

5.27.1 Army business rules.

None.

5.27.2 Project decisions.

5.27.2.1 Use of hotspots.

The project shall decide whether or not to use hotspots.

5.28 S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion.

5.28.1 Army business rules.

5.28.1.1 Test equipment and tools setup information.

Test equipment and tools setup information shall be listed in support equipment (element **<reqSuportEquips>**) of preliminary requirements (element **<preliminaryRqmts>**).

5.28.1.2 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.

5.28.1.3 References in preliminary requirements.

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.

5.28.1.4 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.



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5.28.1.5 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").

5.28.1.6 Person.

The element **<person>** shall not be used.

5.28.1.7 Use of the element **<taskDuration>**.

The attribute **procedureDuration** of the element **<taskDuration>** shall be used to author elapsed time to complete a task. The attributes **startupDuration** and **closeupDuration** shall be authored by project decision.

5.28.1.8 Man-Hours.

The element **<estimatedTime>** of the element **<personnel>** shall be used to author man-hours for a task.

5.28.1.9 National Stock Number (NSN).

NSNs shall not be used in preliminary requirements.

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

The element **<partAndSerialNumber>** shall not be used.

5.28.2 Project decisions.

5.28.2.1 Production management data.

The project shall decide whether or not to use the element **<productionMaintData>**.

5.28.2.2 Use of the element **<thresholdInterval>**.

The project shall decide whether or not to use element **<thresholdInterval>**.

5.28.2.3 Use of the element **<zoneRef>**.

The project shall decide whether or not to use the element **<zoneRef>** and how to use it.

5.28.2.4 Use of the element **<accessPointRef>**.

The project shall decide whether or not to use the element **<accessPointRef>** and how to use it.

5.28.2.5 Use of the attribute **lsarData**.

The project shall decide whether or not to use the attribute **lsarData**.

5.28.2.6 Use of the element **<workArea>**.

The project shall decide whether or not to use the element **<workArea>** and how to use it. If used, projects shall decide which data module types will use it.



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5.28.2.7 Use of the attributes **startupDuration** and **closeupDuration**.

The project shall decide if and how the attributes **startupDuration** and **closeupDuration** shall be used.

5.28.2.8 Use of the attribute **reqCondCategory**.

The project shall decide the use of the attribute **reqCondCategory** (refer to 5.48.1.25).

5.28.2.9 Use of list of the element **<reqCondCircuitBreaker>**.

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 or if the circuit breaker settings are part of the steps.

5.28.2.10 Values for the attribute **personCategoryCode**.

The project shall define a list of categories (e.g., Electrician, Propulsion Engineer, Maintainer).

5.28.2.11 Trade codes.

The project shall define a list of trades/trade codes.

5.28.2.12 Use of the element **<reqTechInfo>**.

The project shall decide whether or not to use the element **<reqTechInfo>**.

5.28.2.13 When to use the element **<reqTechInfo>**.

The project shall decide when to use the element **<reqTechInfo>**.

5.28.2.14 Listing of common and standard tools.

The project shall decide what types of common and standard tools or toolkits are to be identified and listed.

5.28.2.15 Use of the attribute **internalRefTargetId** of element **<internalRef>** and the attribute **id** on element **<supportEquipDescr>**.

The project shall decide to make use of cross-references from the procedure to the support equipment listed in preliminary requirements. The attribute **internalRefTargetId** on element **<internalRef>** and the attribute **id** on element **<supportEquipDescr>** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged.

5.28.2.16 Use of identification.

The project shall decide which elements to use for identification and how to populate these elements.

5.28.2.17 Use of the attribute **internalRefTargetId** of element **<internalRef>** and the attribute **id** on element **<supplyDescr>**.

The project shall decide to make use of cross-references from the procedure to the supplies listed in preliminary requirements. The attribute **internalRefTargetId** on element **<internalRef>** and the attribute **id** on element **<supplyDescr>** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged.



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5.28.2.18 Use of the attribute **`internalRefTargetId`** of element **`<internalRef>`** and the attribute **`id`** on element **`<spareDescr>`**.

The project shall decide to make use of cross-references from the procedure to the spares listed in preliminary requirements. The attribute **`internalRefTargetId`** on element **`<internalRef>`** and the attribute **`id`** on element **`<spareDescr>`** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged.

5.29 S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements.

5.29.1 Army business rules.

5.29.1.1 Size and scale of symbols.

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. (JS)

5.29.1.2 Footnotes.

Footnotes shall not be used in regular text. Footnotes are allowed in tables.

5.29.1.3 Use of the element **`<inlineSignificantData>`**.

The element **`<inlineSignificantData>`** shall not be used to identify an item that can be styled with existing tags.

5.29.1.4 Miscellaneous significant paragraph data.

The value definition "miscellaneous" (or anything similar) for **`significantParaDataType`** is prohibited.

5.29.2 Project decisions.

5.29.2.1 Index.

The project shall decide whether an index is required and to what level indexing should be made.

5.29.2.2 Subscript.

The project shall determine the use of the element **`<subScript>`**.

5.29.2.3 Superscript.

The project shall determine the use of the element **`<superScript>`**.

5.29.2.4 Acronym.

The project shall decide the use of the optional element **`<acronym>`**.

5.29.2.5 Use of attribute **`verbatimStyle`**.

The project shall decide the use of the available values for the attribute **`verbatimStyle`** (refer to 5.48.1.40) and allocate suitable definitions to them in the project or organization business rules.



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5.29.2.6 Types of inline significant data to markup.

If using paragraph significant data markup, the project shall decide which types of data to mark up and in what contexts. Refer to 5.48.1.30 for values for the attribute **`significantParaDataType`**.

5.29.2.7 Level of implementation.

The project shall decide whether to use quantity data markup and to what extent it is used.

5.29.2.8 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.

5.29.2.9 Use of unit of measure.

If using the value and tolerance decomposition, the project shall decide at which level of the markup that the unit of measure is to be applied.

5.29.2.10 Types of unit of measure.

If using the value and tolerance decomposition, the project shall decide which unit of measure types to allow.

5.29.2.11 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.

5.29.2.12 Circuit breaker attributes.

The project shall decide whether to use the attributes **`circuitBreakerAction`** and **`checkSum`**. If the attribute **`checkSum`** is used, the project shall decide how it is to be populated. If the attribute **`circuitBreakerAction`** is used, the project shall establish writing rules to ensure that authors will be consistent in paragraph text and the value of the attribute itself.

5.29.2.13 Zones and access points.

The project shall decide whether or not to use the element **`<zoneRef>`** and the element **`<accessPointRef>`**.

5.29.2.14 Footnote marker type.

The project shall determine the type of footnote marker to be used.

5.29.2.15 Use of the attribute **`controlIndicatorNumber`**.

The project shall decide whether or not to use the attribute **`controlIndicatorNumber`**.

5.30 S1000D Chapter 3.9.5.2.1.11 – Common constructs – Controlled content.

5.30.1 Army business rules.

5.30.1.1 Use of controlled content.

The attributes **`authorityName`** and **`authorityDocument`** shall not be used.



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5.30.2 Project decisions.

None.

5.31 S1000D Chapter 3.9.5.2.1.12 – Common constructs – Common information.

5.31.1 Army business rules.

5.31.1.1 Use of common information.

The element **<commonInfo>** shall be used when it is necessary to provide data to the user that applies to the entire data module.

5.31.1.2 Markup method for common information.

The element **<commonInfo>** has one branch that contains **<note>**, **<para>**, and **<commonInfoDescrPara>** and one branch that contains only **<commonInfoDescrPara>**. The branch containing **<note>**, **<para>**, and **<commonInfoDescrPara>** shall not be used.

5.31.2 Project decisions.

None.

5.32 S1000D Chapter 3.9.5.2.2 – Content section – Descriptive information.

5.32.1 Army business rules.

5.32.1.1 Granularity.

The granularity of data modules shall be consistent with the granularity implied by the content selection matrices in A.5.

5.32.1.2 Paragraph depth.

Paragraph depth shall be limited to a primary paragraph plus four subparagraph levels.

5.32.1.3 Warnings and cautions.

Warnings and cautions shall not be used in descriptive data, except in the case of a publication's warning summary.

5.32.1.4 Use of the attribute **id**.

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

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

The attribute **id** values shall be unique within a data module. Projects may determine attribute **id** value format. (JS). Use of the attribute **id** in **<supportEquipDescr>** is required in Army publications, but it is not a Joint Service requirement.



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5.32.2 Project decisions.

5.32.2.1 Single subparagraphs.

The schema allows for a single subparagraph under a parent. The project shall decide whether to allow this breakdown in their descriptive data modules or to insist on a minimum of two subparagraphs.

5.33 S1000D Chapter 3.9.5.2.3 – Content section – Procedural information.

5.33.1 Army business rules.

5.33.1.1 Step titles.

Steps shall not have titles.

5.33.1.2 Single step numbering.

A single step shall not be numbered.

5.33.1.3 Skill levels.

Only the defined values are allowed for the attribute **`skillLevelCode`**. Refer to 5.48.1.31.

5.33.1.4 Use of the optional attribute **`keepWithNext`**.

The attribute **`keepWithNext`** shall be used as appropriate.

5.33.1.5 Use of the optional attribute **`itemCharacteristic`**.

The attribute **`itemCharacteristic`** shall be used as appropriate.

5.33.2 Project decisions.

5.33.2.1 Use of the optional element **`<commonInfo>`**.

The project shall decide whether or not to use the element **`<commonInfo>`**, when to use the element, and give guidance and rules that will ensure it is consistently used.

5.33.2.2 Check.

The project shall decide whether or not to use the attribute **`independentCheck`** and how to use it.

5.33.2.3 Skill levels.

The project shall decide whether or not to use the attribute **`skillLevelCode`** and how to use it.

5.33.2.4 Maximum number of step levels.

The project shall decide on the maximum step levels allowed.

5.33.2.5 Use of single sub-step.

The schema allows for a single sub-step under a parent. The project shall decide whether to allow this breakdown in their procedural data modules or to insist on a minimum of two sub-steps.



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5.34 S1000D Chapter 3.9.5.2.4 – Content section – Fault information.

5.34.1 Army business rules.

5.34.1.1 Step titles.

Steps shall not have titles.

5.34.1.2 Skill levels.

Only the defined values are allowed for the attribute **skillLevelCode**. Refer to 5.48.1.31.

5.34.1.3 Preliminary requirements.

To avoid duplication, the element **<preliminaryRequirements>** shall not be used in the **<faultIsolation>** structure as it is required in the **<isolationProcedure>** structure.

5.34.2 Project decisions.

5.34.2.1 Use of correlation.

The project shall decide whether to use the correlated fault concept or not.

5.34.2.2 Correlated fault messages and warnings.

The project shall decide how to populate element **<warningMalfunction>**, element **<assocWarningMalfunction>**, and element **<bitMessage>** when using the correlated fault concept.

5.34.2.3 Population of detection and description information elements.

The project shall decide whether or not the repetition of the detection and description information for the basic fault which has been correlated (element **<faultDescr>** and element **<detectionInfo>**) is used.

5.34.2.4 Single fault isolation data module.

The project shall decide whether all isolation procedures should be kept in a single data module for an item or fault or whether to refer out to other data modules.

5.34.2.5 Use of attribute **skillLevelCode**.

The project shall decide whether or not to use the attribute **skillLevelCode** in the element **<isolationProcedure>**, the element **<isolationStep>**, and the element **<isolationProcedureEnd>**. Refer to 5.48.1.31.

5.34.2.6 Use of attribute **independentCheck**.

The project shall decide whether or not to use the attribute **independentCheck** in the element **<isolationProcedure>**, the element **<isolationStep>**, and the element **<isolationProcedureEnd>**.



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5.35 S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information.

5.35.1 Army business rules.

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

The element **<maintPlanning>** allows for several branch options. Only the use of **<commonInfo>**, **<maintAllocation>**, **<toolsList>**, and **<remarksList>** is allowed. The **<preliminaryRqmts>**, **<inspectionDefinition>**, **<taskDefinition>**, and **<timeLimitInfo>** branches of the schedule data module shall not be used.

5.35.1.2 Use of the element **<commonInfo>**.

If needed, introductory information shall be included by the use the element **<commonInfo>**.

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

The element **<componentAssy>** shall be used only within the element **<componentAssyGroup>** and not in a separate branch.

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

The element **<componentAssyGroup>** shall be used when authoring component/assembly information.

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

The element **<maintQualifier>** shall be used only within the element **<componentAssyGroup>** and not in a separate branch.

5.35.1.6 Use of the attribute **function**.

Only the defined values are allowed for the attribute **function**, refer to 5.48.1.14.

5.35.1.7 Use of the attribute **maintLevelCode**.

Only the defined values are allowed for the attribute **maintLevelCode**, refer to 5.48.1.21.

5.35.1.8 Use of the attribute **skillLevelCode**.

Only the defined values are allowed for the attribute **skillLevelCode**, refer to 5.48.1.31.

5.35.1.9 Use of the element **<timeLimitCategory>**.

The element **<timeLimitCategory>** shall not be used.

5.35.1.10 Values for the attribute **limitUnitType**.

The attribute **limitUnitType** shall not be used.

5.35.1.11 Values for the attribute **releaseEvent**.

The attribute **releaseEvent** shall not be used.

5.35.1.12 Values for the attribute **markerType**.

The attribute **markerType** shall not be used.



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5.35.1.13 Values for the attribute **taskCode**.

The attribute **taskCode** shall not be used.

5.35.1.14 Values for the attribute **relatedTaskDescr**.

The attribute **relatedTaskDescr** shall not be used.

5.35.1.15 Values for the attribute **sourceCriticality**.

The attribute **sourceCriticality** shall not be used.

5.35.1.16 Values for the attribute **sourceTypeCode**.

The attribute **sourceTypeCode** shall not be used.

5.35.1.17 Values for the attribute **supervisorLevelCode**.

The attribute **supervisorLevelCode** shall not be used.

5.35.1.18 Values for the attribute **inspectionTypeCategory**.

The attribute **inspectionTypeCategory** shall not be used.

5.35.1.19 Use of the attribute **sourceOfRqmt**.

The attribute **sourceOfRqmt** shall not be used.

5.35.1.20 Use of the attribute **approval**.

The attribute **approval** shall not be used.

5.35.1.21 Use of the attribute **skillType**.

The attribute **skillType** shall not be used.

5.35.1.22 Use of the attribute **worthinessLimit**.

The attribute **worthinessLimit** shall not be used.

5.35.1.23 Use of the attribute **reducedMaint**.

The attribute **reducedMaint** shall not be used.

5.35.1.24 Control of the names of equipment.

The control names concept shall not be used.

5.35.1.25 Task groupings.

The task grouping concept shall not be used.

5.35.1.26 Sequence.

The sequence of tasks concept shall not be used.

5.35.1.27 Sampling rates.

The element **<sampling>** shall not be used.

5.35.1.28 Trigger definitions.

The element **<trigger>** shall not be used.



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5.35.1.29 Threshold.

The element **<threshold>** shall not be used.

5.35.2 Project decisions.

5.35.2.1 Values for the attribute **thresholdUnitOfMeasure**.

The project shall decide on the needed and available values for units of measurement. Refer to 5.48.1.38.

5.35.2.2 Use of the attribute **skilllLevelCode**.

The project shall decide whether or not to use the attribute **skillLevelCode**. Refer to 5.48.1.31.

5.35.2.3 Use of the element **<commonInfo>**.

The project shall decide whether or not to use this element.

5.35.2.4 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.

5.36 S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information.

5.36.1 Army business rules.

5.36.1.1 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>**). All aircrew procedural information shall be prepared with the Crew/Operator data module using the flight reference card branch (element **<crewRefCard>**). See Table A-XXXI, Table A-XXXII and Table A-XXXIII.

5.36.1.2 Crew drill step levels.

Crew drill steps (<crewDrillStep>) shall not exceed seven levels.

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

The element **<crewMemberGroup>** shall not be used.

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

The element **<crewProcedureName>** shall not be used.

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

The element **<endMatter>** shall not be used.

5.36.1.6 Use of operators.

If operators (for example, Boolean, functional, string, etc.) are needed in operator data, then the process data module schema shall be used.



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5.36.1.7 Use of the attribute **skillLevelCode**.

Only the defined values are allowed for the attribute **skillLevelCode**. Refer to 5.48.1.31.

5.36.2 Project decisions.

5.36.2.1 Skill level.

The project shall decide whether or not to use the attribute **skillLevelCode**. Refer to 5.48.1.31.

5.36.2.2 Special conditions.

The project shall decide whether or not to use the attribute **crewStepCondition**.

5.36.2.3 Check.

The project shall decide whether or not to use the attribute **independentCheck**.

5.36.2.4 Use of the attribute **keepWithNext**.

The project shall decide whether and how to use the attribute **keepWithNext** or not.

5.36.2.5 Use of crew member types.

The project shall define needed values for the attribute **crewMemberType**. Refer to 5.48.1.9.

5.37 S1000D Chapter 3.9.5.2.7 – Content section – Parts information.

5.37.1 Army business rules.

5.37.1.1 Figures.

A single **<figure>** or element **<multimedia>** shall precede each parts list.

5.37.1.2 Callout placement.

When practical, all callouts shall be placed outside the boundaries of the parts illustrated so that parts are not obscured.

5.37.1.3 Number of callouts.

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

5.37.1.4 Leader lines.

Leader lines shall not cross another leader line.

5.37.1.5 Number of items.

A multiplier shall not be used to indicate the number of items.

5.37.1.6 Place nuts.

Place nuts shall be illustrated.

5.37.1.7 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 and identified in the "DESCRIPTION" entry. All changes to or proposed substitutions of HCIs shall be evaluated for hardness impacts



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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.

5.37.1.8 Electrostatic Discharge (ESD).

If electronic equipment to be handled, inspected, repaired or assembled is ESD sensitive, the items shall be marked and identified 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.

5.37.1.9 Expendable and durable items.

Expendable and durable items shall not be listed in the IPD.

5.37.1.10 List order.

Items shall be listed in ascending alphanumeric sequence.

5.37.1.11 Nonstocked 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 illustration in the IPD.

5.37.1.12 Special tools.

All special tools shall be listed in one IPD data module.

5.37.1.13 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.

5.37.1.14 North Atlantic Treaty Organization (NATO) stock number.

The element **`<natoStockNumber>`** shall be used for all stocked parts that have an NSN.

5.37.1.15 National Stock Number (NSN) optional attributes.

The following attributes of the element **`<natoStockNumber>`** shall be used:

a. **`natoSupplyClass`** shall contain the four-digit Federal Supply Classification (FSC).
b. **`natoCodificationBureau`** shall contain the first two digits of the National Item Identification Number (NIIN).
c. **`natoItemIdentNumberCore`** shall contain the final seven digits of the NIIN.

5.37.1.16 Use of the element **`<fullNatoStockNumber>`**.

The element **`<fullNatoStockNumber>`** is prohibited.

5.37.1.17 Item entry for kits and sets.

When published, the Item entry shall contain "K" for KIT or "S" for set.



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5.37.1.18 Identical parts.

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

5.37.1.19 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 "See FIG ## FOR BREAKDOWN."

5.37.1.20 Functional group title.

Functional group title shall be "BASIC ISSUE ITEMS (REPAIR ITEMS) for basic issue items."

5.37.1.21 Bulk item functional group.

The functional group number and title shall be "BULK MATERIAL" for bulk items.

5.37.1.22 Bulk item presentation.

The next line(s) below shall be the figure number and the figure title and titled "FIG. BULK."

5.37.1.23 Part numbers.

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 added to the item description (e.g., USBL EFF SER NOS 1719-1941).

5.37.1.24 Quantities for basis of issue items.

The element **`<quantityPerNextHigherAssy>`** shall be left empty for special tools which include Basis of Issue (BOI).

5.37.1.25 Part characteristic.

The attribute **`partCharacteristic`** shall be used when appropriate conditions are present.

5.37.1.26 Depot level items.

A "D" shall be placed in the third position of the SMR code to represent a depot level item.

5.37.1.27 Special tool sets and kits.

Components of special tool sets and kits, in the description (element **`<partIdentSegment>`**), shall be listed in figure (attribute **`catalogSeqNumberValue`** in element **`<catalogSeqNumber>`**) and item number sequence (attribute **`catalogItemNumber`** or attribute **`catalogSeqNumberValue`** in element **`<catalogSeqNumber>`**).

5.37.1.28 Component indenture.

The component shall be indented two positions and listed by item name (element **`<partIdentSegment>`**), the figure number (attribute **`catalogSeqNumberValue`** in element **`<catalogSeqNumber>`**), and the item numbers (attribute **`catalogItemNumber`** or attribute **`catalogSeqNumberValue`** in element **`<catalogSeqNumber>`**).

5.37.1.29 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`**").



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5.37.1.30 Catalog sequence number value.

The attribute **`catalogSeqNumberValue`** on the first occurrence of **`<catalogSeqNumber>`** in each IPD data module is required. It shall be used to generate IPD figure numbers.

5.37.1.31 Non-chapterized Catalog Sequence Number (CSN).

The use of non-chapterized CSNs is prohibited.

5.37.1.32 Quantities.

Quantities of components shall be included in BOI statement.

5.37.1.33 Kit identification.

The statement "part of Kit P/N (*insert kit P/N*)" shall follow item name **`<partIdentSegment>`**.

5.37.1.34 Bulk item lists.

Bulk items shall be listed alphabetically by name **`<partIdentSegment>`**.

5.37.1.35 Service.

The first two characters for the **`<service>`** code shall be US. 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)

5.37.1.36 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>`**.

5.37.1.37 Quantity per end item.

Quantity per end item (**Marine Corps only**) shall be recorded using the generic part data elements. The attribute **`genericPartDataName`** shall be set to "**`qtyPerEndItem`**" and the value shall be identified using the element **`<genericPartDataValue>`**.

5.37.1.38 Use of the attribute **`genericPartDataName`**.

The attribute **`genericPartDataName`** shall contain only "**`qtyPerEndItem`**" or "**`basisOfIssue`**" as applicable.

5.37.1.39 Part location data segment.

The element **`<partLocationSegment>`** shall be used as applicable.

5.37.1.40 Initial provisioning project number.

The element **`<initialProvisioningProject>`** and its attributes shall not be used.



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5.37.1.41 Special storage.

The element **<specialStorage>** shall be used when there are special storage requirements for the part.

5.37.1.42 Fitment code.

The element **<fitmentCode>** shall be used when modification is required to fit the part to the equipment.

5.37.1.43 Calibration marker.

The element **<calibrationMarker>** shall be used when the part requires calibration.

5.37.1.44 Physical security.

The element **<physicalSecurityPilferageCode>** shall not be used in parts list data.

5.37.1.45 Usable on code equipment.

The usable on codes provided by the provisioning data shall be used for **<usableOnCodeEquip>**.

5.37.1.46 Usable on code assembly.

The usable on codes provided by the provisioning data shall be used for **<usableOnCodeAssy>**.

5.37.1.47 Interchangeability.

The element **<interchangeability>** shall be used when two or more parts have the same form, fit, and function.

5.37.1.48 Model version.

The allowable values for the element **<modelVersion>** shall match the allowable values for Usable Effective (USBL EFF) serial numbers, contained within **<effectivity>**.

5.37.2 Project decisions.

5.37.2.1 Item sequence number attributes.

The project shall decide the use of the optional attributes for the element **<itemSequenceNumber>**.

5.37.2.2 File identifier.

The project shall decide use of the optional file identifier element **<fileIdent>**.

5.37.2.3 Unit of issue.

The project shall decide use of the optional element **<unitOfIssue>**.

5.37.2.4 Unit of issue qualification segment.

The project shall decide use of the optional element **<unitOfIssueQualificationSegment>**.



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5.37.2.5 Use of the element **<descrForItem>**.

The project shall decide which project-specific values are needed, if any. The values shall be documented in the project business rules and BREX.

5.37.2.6 Unit of measure.

The project shall decide the list of allowable values for the attribute **unitOfMeasure**.

5.37.2.7 Select or manufacture from range.

The project shall decide the list of allowable values for the element **<selectOrManufactureFromIdent>**.

5.37.2.8 Source, maintenance and recoverability.

The project shall decide the allowable values for the sixth character of this code.

5.37.2.9 Model version.

The project shall decide the list of allowable values for the element **<modelVersion>**.Model version. The project shall decide the list of allowable values for the element <modelVersion>.

5.37.2.10 Effectivity.

The project shall decide the list of allowable values for unit/engine numbers.

5.37.2.11 Hotspots mechanism.

The project shall decide if the generic hotspots mechanism is addressed within the IPD data module content.

5.38 S1000D Chapter 3.9.5.2.9 – Content section – Wiring information (and all sub-chapters).

5.38.1 Army business rules.

None.

5.38.2 Project decisions.

5.38.2.1 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 LOGSA.

5.39 S1000D Chapter 3.9.5.2.10 – Content section – Process data module.

5.39.1 Army business rules.

5.39.1.1 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)

5.39.1.2 Alternative data modules.

Alternative data module nodes shall be mutually exclusive. (JS)



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5.39.2 Project decisions.

5.39.2.1 Use of the process data module.

The project shall decide when to use the process data module.

5.39.2.2 Level of context filtering.

The project shall decide the level at which to apply applicability for context filtering purposes.

5.39.2.3 Model structure or expression.

The project shall decide whether to use the applicability model structure for configuration items and applicability expressions for dynamic variables only or use the applicability expressions for both configuration items and dynamic variables.

5.39.2.4 Check.

The project shall decide on the use of the element **`<dmSeq>`** and the attribute **`checkQualification`** to indicate that the whole sequence shall be checked by a supervisor with a given qualification.

5.39.2.5 Skill level.

The project shall decide when the attribute **`skillLevelCode`** on element **`<dmSeq>`** is to be used.

5.39.2.6 Use of alternatives.

The project shall decide whether to use the alternative nodes construct or not.

5.39.2.7 Use of loops.

The project shall decide where and when to use the loop construct.

5.39.2.8 Dialogs associated with variables.

The project shall decide if they will provide dialogs for variables in the variable declaration markup or author explicit dialogs whenever a variable in an expression might not have a value.

5.39.2.9 Menu vs. **`<userEntry>`** dialogs.

The project shall decide when to use menu vs. fill-in type dialogs.

5.39.2.10 Dialog defaults.

The project shall decide whether or not to use default choices in menus and/or default values in **`<userEntry>`** dialogs.

5.39.2.11 Variable naming and typing.

The project shall determine authoring guidance about variable naming and typing.

5.39.2.12 Results receive method.

The project shall determine a consistent method of tagging variables being passed using element **`<receiveByName>`** and element **`<receiveByPosition>`**.



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5.40 S1000D Chapter 3.9.5.2.11 Content section – Technical information repository.

5.40.1 Army business rules.

5.40.1.1 Technical information repositories.

All delivered data shall include self-contained instances of the data modules (that is, free of unresolved technical information repository dependencies). This does not prohibit any of the following:

a. technical information repositories used in the development process,
b. delivery of technical information repository data modules as additional data, or
c. references to technical information repository data modules provided that the referencing data module is self contained and the reference is to a published technical information repository accessible to the user. (JS)

5.40.2 Project decisions.

5.40.2.1 Use of technical information repository.

The project shall decide whether or not to require the delivery of technical information repository data modules (as additional data).

5.41 S1000D Chapter 3.9.5.2.12 – Content section – Container data module.

5.41.1 Army business rules.

5.41.1.1 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.

5.41.2 Project decisions.

None.

5.42 S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules.

5.42.1 Army business rules.

5.42.1.1 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 LOGSA.

5.42.2 Project decisions.

5.42.2.1 Use of learning data modules.

The project shall decide whether or not to use learning data modules.

5.42.2.2 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.



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5.43 S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections.

5.43.1 Army business rules.

None.

5.43.2 Project decisions.

5.43.2.1 Use of the attribute **`checkListCategory`**.

The project shall decide how to populate the enumerated attribute **`checkListCategory`** (refer to 5.48.1.5).

5.43.2.2 Checklist categories.

The project shall decide if business rules need to be created for which XML elements to use and how to markup checklists for each category type.

5.43.2.3 Use of the element **`<commonInfo>`**.

The project shall decide if the element **`<commonInfo>`** is used in the checklist data module.

5.43.2.4 Use of the element **`<preliminaryRqmts>`**.

The project shall decide if the element **`<preliminaryRqmts>`** is used in the checklist data module.

5.43.2.5 Use of the element **`<title>`**.

The project shall decide if the element **`<title>`** is used in the checklist data module.

5.43.2.6 Use of the element **`<checkListIntervals>`**.

The project shall decide if the element **`<checkListIntervals>`** is used in the checklist data module.

5.43.2.7 Use of the element **`<zoneRef>`**.

The project shall decide if the element **`<zoneRef>`** is used in the checklist data module and how it should be populated.

5.43.2.8 Use of the element **`<workArea>`**.

The project shall decide if the element **`<workArea>`** is used in the checklist data module and how it should be populated.

5.43.2.9 Use of the optional child elements of **`<checkListItem>`**.

The project shall decide which elements within **`<checkListItem>`** are used and how they should be populated.

5.43.2.10 Use of the element **`<itemNumbers>`**.

The project shall decide if the element **`<itemNumbers>`** is used in the checklist data module and how it should be populated.

5.43.2.11 Use of the element **`<threshold>`**.

The project shall decide if the element **`<threshold>`** is used in the checklist data module and how it should be populated.



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5.43.2.12 Use of the element **<equip>**.

The project shall decide if the element **<equip>** is used in the checklist data module and how it should be populated.

5.43.2.13 Use of the element **<name>**.

The project shall decide if the element **<name>** is used in the checklist data module and how it should be populated.

5.43.2.14 Use of the element **<remarks>**.

The project shall decide if the element **<remarks>** is used in the checklist data module and how it should be populated.

5.44 S1000D Chapter 3.9.5.3 – Data modules – Applicability.

5.44.1 Army business rules.

5.44.1.1 Applicability value clashes.

The project shall dictate all product attributes used in all applicability tables to avoid value clashes. The attributes shall be used consistently throughout the project.

5.44.1.2 Use of the element **<assign>**.

The first "assign" attribute in all Product Cross-reference Table (PCT) files shall serve as the unique identifier for the product as defined in the PCT. The applicability processor shall validate each PCT to ensure:

a. The first element **<assign>** for each product shall have the same value for attribute **applicPropertyIdent**.
b. The first element **<assign>** for each product shall have a unique value for attribute **applicPropertyValue**.

5.44.1.3 Obtaining a product value.

When a product value is obtained from the end-user, the PCT shall be used to match the entered value to a product defined in the PCT via the unique identifier. If found, the additional attribute values defined for that product shall be automatically obtained.

5.44.1.4 Product identifier type.

Each product listed in the PCT shall have the same applicability product identifier type. In other words, an Aircraft PCT that lists products by tail number cannot also list products by engine serial number.

5.44.1.5 Process data module variable mapping.

The project shall dictate the mapping scheme between process data module variables and applicability values, if applicability variables are used by the process data module. This mapping scheme shall be applied consistently throughout the project.

5.44.1.6 Use of the attribute **applicProperty**.

The values for the attribute **applicPropertyValue** shall conform to the following rules:



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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**")

5.44.1.7 Human readable display text.

If the human readable element **<displayText>** is not authored, the project shall predefine the applicability display text (**<displayText>**) for all possible applicability values.

5.44.1.8 Applicability statements.

Applicability statements shall be written in such a way to avoid excluded applicability values. S1000D applicability markup does not include a NOT operator.

5.44.2 Project decisions.

5.44.2.1 Applicability strategy.

The project shall determine the use of applicability and describe that approach in the business rules.

5.44.2.2 Population or generation of element **<displayText>**.

If using the human readable branch of applicability, the project shall decide whether the element **<displayText>** is populated by the technical author or generated from the computable branch or some other source.

5.44.2.3 Use of attribute **applicDisplayClass**.

If using the computable applicability annotation branch, the project shall decide whether to use the attribute **applicDisplayClass**. If the attribute **applicDisplayClass** is used, the allowable values and desired format for each value shall be documented in the project business rules.

5.44.2.4 Use of textual applicability annotations.

If using the computable applicability annotation branch, the project shall decide if textual applicability annotations are allowed in the element **<assert>** or if every element **<assert>** should reference a declared product attribute or condition.

5.44.2.5 Consistent population.

The project shall decide on the population of the elements and attributes of applicability and shall then enforce its consistency.



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5.44.2.6 Use of attribute **applicConfiguration**.

The project shall determine if the optional attribute **applicConfiguration** on element **<applic>** will be used for IPD data modules to qualify the type of applicability for a given part.

5.45 S1000D Chapter 3.9.5.3.1 – Applicability – Applicability cross-reference table.

5.45.1 Army business rules.

None.

5.45.2 Project decisions.

5.45.2.1 Use of pattern, enumeration, and open text.

Projects defining product attributes shall decide whether to specify the allowable values for a product attribute achieved by using a pattern, enumeration, or both or to allow open text by not using pattern and enumeration.

5.45.2.2 Method of defining multiple values or ranges.

If defining product attributes which contain multiple enumeration values or ranges, the project shall 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.

5.45.2.3 Use of display text.

Projects defining product attributes shall decide whether to fill the display text (element **<displayName>**).

5.46 S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table.

5.46.1 Army business rules.

None.

5.46.2 Project decisions.

5.46.2.1 Use of conditions cross-reference table.

The project shall decide whether to develop and deliver conditions cross reference table(s).

5.46.2.2 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.

5.46.2.3 Use of attribute **valuePattern**.

A project defining conditions shall decide whether to further specify the allowable values for a condition type using the attribute **valuePattern** in addition to the mandatory element **<enumeration>**.

5.46.2.4 Method of defining multiple values or ranges.

A project defining product attributes which contain multiple enumeration values or ranges shall 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.



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5.46.2.5 Use of display text.

Projects defining conditions shall decide whether to fill the display text (element **`<displayName>`**).

5.47 S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table.

5.47.1 Army business rules.

None.

5.47.2 Project decisions.

5.47.2.1 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.

5.47.2.2 Product attributes and conditions to include.

A project using the PCT shall 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.

5.48 S1000D Chapter 3.9.6.1 – Authoring – Project configurable attributes.

5.48.1 Army business rules.

5.48.1.1 Access point type – attribute **`accessPointTypeValue`**.

Attribute values shall be used as defined in the following table.

**TABLE III. Attribute values – accessPointTypeValue.**

| Allowable values | Army interpretation |
|---|---|
| **`accpnl01`** | Access is a door |
| **`accpnl02`** | Access is a panel |
| **`accpnl03`** | Access is an electrical panel |
| **`accpnl04`** – **`accpnl50`** | Not available for projects |
| **`accpnl51`** | Access is a cover |
| **`accpnl52`** | Access is a plate |
| **`accpnl53`** | Access is a screen |
| **`accpnl54`** | Access is an opening |
| **`accpnl55`** – **`accpnl65`** | Reserved for Army |
| **`accpnl66`** – **`accpnl99`** | Available for projects |

5.48.1.2 Type of acronym or abbreviation – attribute **`acronymType`**.

Attribute values shall be used as defined in the following table.

**TABLE IV. Attribute values – acronymType.**

| Allowable values | Army interpretation |
|---|---|
| **`at01`** | Acronym |
| **`at02`** | Term |
| **`at03`** | Symbol |



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| Allowable values | Army interpretation |
|---|---|
| **at04** | Spec |
| **at05** – **at50** | Not available for projects |
| **at51** – **at55** | Reserved for Army |
| **at56** – **at99** | Available for projects |

5.48.1.3 Caption for dialog cancel function – attribute **cancelCaption**.

Attribute values shall be used as defined in the following table.

**TABLE V. Attribute values – cancelCaption.**

| Allowable values | Army interpretation |
|---|---|
| **ca01** | Sets the caption to "CANCEL" |
| **ca02** | Sets the caption to "ABORT" |
| **ca03** | Not available for projects |
| **ca04** | Sets the caption to "END" |
| **ca05** | Sets the caption to "QUIT" |
| **ca06** – **ca50** | Not available for projects |
| **ca51** – **ca99** | Reserved for Army |

5.48.1.4 National caveat – attribute **caveat**.

Attribute values shall be used as defined in the following table.

**TABLE VI. Attribute values – caveat.**

| Allowable values | Army interpretation |
|---|---|
| **cv01** – **cv50** | Not available for projects |
| **cv51** | For Official Use Only |
| **cv52** – **cv55** | Reserved for Army |
| **cv56** – **cv99** | Available for projects |

5.48.1.5 Check list category – attribute **checkListCategory**.

Attribute values shall be used as defined in the following table.

**TABLE VII. 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 Checklist (PMC) |



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| Allowable values | Army interpretation |
|---|---|
| **clc53** – **clc55** | Reserved for Army |
| **clc56** – **clc99** | Available for projects |

5.48.1.6 Caption color – attribute **color**.

Attribute values shall be used as defined in the following table.

**TABLE VIII. 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 |
| **co09** | Clear |
| **co10** – **co50** | Not available for projects |
| **co51** – **co55** | Reserved for Army |
| **co56** – **co99** | Available for projects |

5.48.1.7 Priority level of a comment – attribute **commentPriorityCode**.

Attribute values shall be used as defined in the following table.

**TABLE IX. 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 |

5.48.1.8 Commercial security classification – attribute **commercialClassification**.

Refer to 5.9.1.3.

5.48.1.9 Type of crew member required for drill or procedural step – attribute **crewMemberType**.

Attribute values shall be used as defined in the following table.



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**TABLE X. 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 |
| **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 |

5.48.1.10 Crew step condition – attribute **crewStepCondition**.

Attribute values shall be used as defined in the following table.

**TABLE XI. Attribute values – crewStepCondition.**

| Allowable values | Army interpretation |
|---|---|
| **csc01** | Used to indicate if equipment is installed or available (O) |



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| Allowable values | Army interpretation |
|---|---|
| **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) |
| **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 requires 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 |

5.48.1.11 IPD item description code – attribute **descrForItemCode**.

Attribute values shall be used as defined in the following table.

**TABLE XII. Attribute values – descrForItemCode.**

| Allowable values | Army interpretation |
|---|---|
| **dic01** | Support Equipment |
| **dic02** | Not available for projects |
| **dic03** | Not available for projects |
| **dic04** | Not available for projects |
| **dic05** – **dic21** | Not available for projects |
| **dic22** | Special Tool |
| **dic23** | Part |
| **dic24** | Basic Issue Item (BII) |
| **dic25** | Components of End Item (COEI) |



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| **Allowable values** | **Army interpretation** |
|---|---|
| **dic26** | Tool |
| **dic27** | Additional Authorization List (AAL) item |
| **dic28** – **dic50** | Not available for projects |
| **dic51** – **dic55** | Reserved for Army |
| **dic56** – **dic99** | Available for projects |

5.48.1.12 Type of aircrew drill – attribute **drillType**.

Attribute values shall be used as defined in the following table.

**TABLE XIII. 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 projects |

5.48.1.13 Type of emphasis – attribute **emphasisType**.

Attribute values shall be used as defined in the following table.

**TABLE XIV. 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 |



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5.48.1.14 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.

**TABLE XV. Attribute values – function.**

| Allowable values | Army interpretation |
|---|---|
| **`ft00`** | None |
| **`ft01`** | Inspect |
| **`ft02`** | Test |
| **`ft03`** | Service |
| **`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 |
| **`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 |



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| Allowable values | Army interpretation |
|---|---|
| **ft73** | Park |
| **ft74** | Moor |
| **ft75** | Cover |
| **ft76** | Hoist |
| **ft77** | Sling |
| **ft78** | External Power |
| **ft79** | Software Maintenance |
| **ft80** | Other maintenance tasks |
| **ft81-ft99** | Reserved for Army |

5.48.1.15 Type of equipment install location – attribute **installationLocationType**.

Attribute values shall be used as defined in the following table.

**TABLE XVI. Attribute values – installationLocationType.**

| Allowable values | Army interpretation |
|---|---|
| **instloctyp01** | Zone |
| **instloctyp02** | Section |
| **instloctyp03** | Station |
| **instloctyp04** | Water line |
| **instloctyp05** | Buttock line |
| **instloctyp06** – **instloctyp50** | Not available for projects |
| **instloctyp51** – **instloctyp55** | Reserved for Army |
| **instloctyp56** – **instloctyp99** | Available for projects |

5.48.1.16 Item characteristic – attribute **itemCharacteristic**.

Attribute values shall be used as defined in the following table.

**TABLE XVII. Attribute values – itemCharacteristics.**

| Allowable values | Army interpretation |
|---|---|
| **ic01** | Used to indicate steps related to hardness critical process |
| **ic02** | 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 |

5.48.1.17 Origin of an equipment or harness or wire – attribute **itemOriginator**.

Attribute values shall be used as defined in the following table.



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**TABLE XVIII. 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 |

5.48.1.18 Limit type – attribute **limitUnitType**.

The attribute **limitUnitType** shall not be used.

5.48.1.19 Prefix of **<randomList>** items – attribute **listItemPrefix**.

Attribute values shall be used as defined in the following table.

**TABLE XIX. Attribute values – listItemPrefix.**

| Allowable values | Army interpretation |
|---|---|
| **pf01** | Simple (No prefix, only indent) |
| **pf02** | Unorder [-], [•], [-] |
| **pf03** | Dash [-] (short dash) |
| **pf04** | 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 |

5.48.1.20 Lowest authorized level – attribute **lowestLevel**.

Attribute values shall be used as defined in the following table.

**TABLE XX. 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. |



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| Allowable values | Army interpretation |
|---|---|
| **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. |
| **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 |

5.48.1.21 Maintenance level code – attribute **maintLevelCode**.

Attribute values shall be used as defined in the following table.

**TABLE XXI. 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 |

5.48.1.22 Part characteristic – attribute **partCharacteristic**.

Attribute values shall be used as defined in the following table.



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**TABLE XXII. Attribute values – partCharacteristic.**

| Allowable values | Army interpretation |
|---|---|
| **pc01** | Used to indicate a hardness critical item |
| **pc02** | Not available for projects |
| **pc03** | Used to indicate mandatory replacement parts |
| **pc04** | Used to indicate critical safety items |
| **pc05** | Used to indicate test equipment |
| **pc06** | Used to indicate parts with electrostatic discharge sensitivity |
| **pc07** – **pc50** | Not available for projects |
| **pc51** – **pc55** | Reserved for Army |
| **pc56** – **pc99** | Available for projects |

5.48.1.23 Publication module entry type – attribute **pmEntryType**.

Attribute values shall be used as defined in the following table.

**TABLE XXIII. 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 |

5.48.1.24 Quantity type – attribute **quantityType**.

Attribute values shall be used as defined in the following table.

**TABLE XXIV. Attribute values – quantityType.**

| Allowable values | Army interpretation |
|---|---|
| **qty01** | Length |
| **qty02** | Price |



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| Allowable values | Army interpretation |
|---|---|
| **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 |

5.48.1.25 Required condition category – attribute **reqCondCategory**.

Attribute values shall be used as defined in the following table.

**TABLE XXV. Attribute values – reqCondCategory.**

| Allowable values | Army interpretation |
|---|---|
| **rcc01** | Normal |
| **rcc02** | Special environmental conditions such as reduced lighting, ventilation, and temperature. |
| **rcc03** – **rcc50** | Not available for projects |
| **rcc51** – **rcc55** | Reserved for Army |
| **rcc56** – **rcc99** | Available for projects |

5.48.1.26 Required technical information category – attribute **reqTechInfoCategory**.

Attribute values shall be used as defined in the following table.

**TABLE XXVI. 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** – **ti55** | Reserved for Army |
| **ti56** – **ti99** | Available for projects |



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5.48.1.27 Caption for Dialog reset function – attribute **`resetCaption`**.

Attribute values shall be used as defined in the following table.

**TABLE XXVII. 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 |

5.48.1.28 Type of response to a comment – attribute **`responseType`**.

Attribute values shall be used as defined in the following table.

**TABLE XXVIII. 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 |

5.48.1.29 Security classification – attribute **`securityClassification`**.

Attribute values shall be used as defined in the following table. (JS)

**TABLE XXIX. 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 |

5.48.1.30 Paragraph significant data type – attribute **`significantParaDataType`**.

Attribute values shall be used as defined in the following table.



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**TABLE XXX. 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 |
| **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 |

5.48.1.31 Personnel skill level – attribute **skillLevelCode**.

Attribute values shall be used as defined in the following table.

**TABLE XXXI. 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 |

5.48.1.32 Personnel skill category – attribute **skillType**.

Attribute values shall be used as defined in the following table.



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**TABLE XXXII. Attribute values – skillType.**

| Allowable values | Army interpretation |
|---|---|
| **st01** | Airframe |
| **st02** | Electrical |
| **st03** | Avionic |
| **st04** | Engine |
| **st05** – **st50** | Not available for projects |
| **st51** | Structural |
| **st52** | Armament |
| **st53** | Mechanical |
| **st54** – **st60** | Reserved for Army |
| **st61** – **st99** | Available for projects |

5.48.1.33 Source criticality – attribute **sourceCriticality**.

The attribute **sourceCriticality** shall not be used.

5.48.1.34 Source type code – attribute **sourceTypeCode**.

The attribute **sourceTypeCode** shall not be used.

5.48.1.35 Caption for dialog submit function – attribute **submitCaption**.

Attribute values shall be used as defined in the following table.

**TABLE XXXIII. 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 |

5.48.1.36 Supervisor level – attribute **supervisorLevelCode**.

The attribute **supervisorLevelCode** shall not be used.

5.48.1.37 Task code – attribute **taskCode**.

The attribute **taskCode** shall not be used.

5.48.1.38 Unit of measurement for the threshold interval – attribute **thresholdUnitOfMeasure**.

Attribute values shall be used as defined in the following table.



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**TABLE XXXIV. 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 |
| **th33** | Service check |
| **th34** | Transit |
| **th35** – **th50** | Not available for projects |
| **th51** | Rounds |
| **th52** | Underway/Steaming Hours |
| **th53** | Arrestments |
| **th54** | Catapults |
| **th55** | Message units |
| **th56** | Cycles |
| **th57** | Minutes |
| **th58** | Hours |



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| Allowable values | Army interpretation |
|---|---|
| **th59** | Kilometers |
| **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 |
| **th75** – **th79** | Reserved for Army |
| **th80** – **th99** | Available for projects |

5.48.1.39 Update reason type for reason for update – attribute **updateReasonType**.

Attribute values shall be used as defined in the following table.

**TABLE XXXV. 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** – **urt55** | Reserved for Army |
| **urt56** – **urt99** | Available for projects |



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5.48.1.40 Style/class of verbatim text – attribute **`verbatimStyle`**.

Attribute values shall be used as defined in the following table.

**TABLE XXXVI. Attribute values – verbatimStyle.**

| Allowable values | Army interpretation |
|---|---|
| **`vs01`** | Generic verbatim |
| **`vs02`** | Filename |
| **`vs03`** – **`vs10`** | Not available for projects |
| **`vs11`** | XML/SGML markup |
| **`vs12`** | XML/SGML element name |
| **`vs13`** | XML/SGML attribute name |
| **`vs14`** | XML/SGML attribute value |
| **`vs15`** | XML/SGML entity name |
| **`vs16`** | XML/SGML processing instruction |
| **`vs17`** – **`vs20`** | Not available for projects |
| **`vs21`** | Not available for projects |
| **`vs22`** | User input |
| **`vs23`** | Computer output |
| **`vs24`** | Program listing |
| **`vs25`** | Program variable name |
| **`vs26`** | Not available for projects |
| **`vs27`** | Constant |
| **`vs28`** | Class name |
| **`vs29`** | Parameter name |
| **`vs30`** – **`vs50`** | Not available for projects |
| **`vs51`** – **`vs55`** | Reserved for Army |
| **`vs56`** – **`vs99`** | Available for projects |

5.48.2 Project decisions.

5.48.2.1 Application of project specific values.

The project shall decide which project specific definitions of attribute values are needed. The project definitions shall be established and documented in the project business rules.

5.49 S1000D Chapter 3.9.6.2 – Attributes – Fixed Values.

5.49.1 Army business rules.

None.



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5.49.2 Project decisions.

5.49.2.1 Use of project specific values.

The project shall decide if any project specific additions of attribute values are needed. If needed, the project definitions shall be established and made known to anyone who will need the definitions to be able to interpret the produced information properly.

5.50 S1000D Chapter 3.9.7 – Authoring – Human performance technology and training.

5.50.1 Army business rules.

None.

5.50.2 Project decisions.

5.50.2.1 Scope information.

The project shall decide on the scope of training information provided.

5.50.2.2 Presentation.

The project shall make decisions concerning issues related to presentation of training information.

5.50.2.3 Scope of preplanning.

The project shall determine the scope of the preplanning guidance.

5.51 S1000D Chapter 4 – Information Management.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 4 Information management
b. Chapter 4.1 Information management – Introduction
c. Chapter 4.2.2 Common source database – Related standards for the CSDB
d. Chapter 4.3.9 Data module code – Learning code
e. Chapter 4.3.10 Data module code – Learning event code
f. Chapter 4.3.11 Data module code – Summary
g. Chapter 4.5 Information management – Data module lists
h. Chapter 4.9 Information management – Publication and SCO management
i. Chapter 4.9.3 Publication and SCO management – Building of publications and SCOs
j. Chapter 4.9.4 Publication and SCO management – Updating of publications
k. Chapter 4.9.5 Publication and SCO management – SCO module
l. Chapter 4.10.3 Business rules exchange – The BREX default data module
m. Chapter 4.13 Information management – Optimizing and reuse

5.52 S1000D Chapter 4.2 – Information management – Common Source Data Base (CSDB).

5.52.1 Army business rules.

5.52.1.1 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.



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5.52.1.2 Use of optional elements.

Elements which are optional shall be agreed by the project and included in the project business rules.

5.52.2 Project decisions.

None.

5.53 S1000D Chapter 4.2.1 – Common source database – Information objects.

5.53.1 Army business rules.

5.53.1.1 Use of Extensible Markup Language (XML).

Data modules shall be coded in XML. (JS)

5.53.2 Project decisions.

None.

5.54 S1000D Chapter 4.3 – Information management – Data module code.

5.54.1 Army business rules.

None.

5.54.2 Project decisions.

5.54.2.1 Data module coding strategy.

The project shall document the data module coding strategy which shall consist of all business rules associated with data module coding.

5.55 S1000D Chapter 4.3.1 – Data module code – Model identification code.

5.55.1 Army business rules.

5.55.1.1 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.

5.55.1.2 Model identification code for general purpose data modules.

The model identification code for general purpose data modules shall be service or organization specific and shall not be the same model identification used for the equipment-specific data modules. General purpose data modules may include administrative and general information data modules (e.g., reporting errors and improvements, promulgation letters, etc.) that are not equipment-specific. Examples of general purpose model identification codes are: USN, US ARMY, etc. (JS)

5.55.1.3 Model identification registration with NATO (North Atlantic Treaty Organization) Maintenance and Supply Agency (NAMSA).

The project shall register all new model identification code(s) with the NAMSA and the project shall use AMC Form 1217 to coordinate the model identification code(s) with LOGSA.



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5.55.2 Project decisions.

5.55.2.1 Allocation of model identification code.

The project shall decide on which model identification codes to use for the project.

5.55.2.2 Use of one or several model identification codes.

The project shall decide whether to allow the use of one or several model identification codes.

5.55.2.3 Model identification code.

The project shall decide whether to use the end item UOC as part of the model identification code.

5.55.2.4 Model identification structure.

The project shall decide on, and document, the model identification structure used on a project (e.g., engines, common systems, etc.).

5.56 S1000D Chapter 4.3.2 – Data module code – System difference code.

5.56.1 Army business rules.

None.

5.56.2 Project decisions.

5.56.2.1 System difference code.

The project shall determine how to populate the system difference code and, if using Logistics Management Information (LMI) or a comparable process, define the relationship to LMI.

5.56.2.2 Usable On Code (UOC) as system difference code.

The project shall decide whether or not to use UOC as the system difference code.

5.57 S1000D Chapter 4.3.3 – Data module code – Standard numbering system.

5.57.1 Army business rules.

5.57.1.1 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 Government Electronics and Information Association (GEIA)-STD-0007 data element **`technical_manual_functional_group_code_Type`** (DED 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 (GEIA-HB-0007) as necessary.

5.57.1.2 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



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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.

5.57.1.3 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)

5.57.1.4 Documentation of Standard Numbering System (SNS) and technical names.

The project shall compile a list which defines the SNS and all technical names. (JS)

5.57.1.5 Use of technical names and Standard Numbering System (SNS).

Technical names used in content shall match the technical names used in the SNS. (JS)

5.57.1.6 Responsible Partner Company (RPC).

Single-character RPC codes shall not be used in IPD data module SNS codes.

5.57.1.7 Initial Provisioning Project Number (IPPN).

A four-digit IPPN shall not be used in IPD data module SNS codes.

5.57.2 Project decisions.

5.57.2.1 Material item category code.

The project shall determine the use of the material item category code (to indicate different types of SNS applicable to an individual project).

5.57.2.2 Sub-subsystem Standard Numbering System (SNS) allocations.

The project shall determine the sub-subsystem SNS allocations.

5.57.2.3 Unit or assembly portion of the Data Module Code (DMC).

The allocation of the unit or assembly portion of the DMC shall be clearly defined in that project's business rules.

5.57.2.4 Number of characters in unit or assembly.

The project shall decide if 2 or 4 characters will be used for the unit or assembly portion of the DMC.

5.58 S1000D Chapter 4.3.4 – Data module code – Disassembly code.

5.58.1 Army business rules.

5.58.1.1 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:



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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").

5.58.2 Project decisions.

5.58.2.1 Alternate use of the disassembly code.

Projects shall determine if and when the alternate use of disassembly code addressed in 5.58.1.1 is used.

5.58.2.2 Disassembly code linking.

The project shall determine if the disassembly code should be linked to figures in IPD.

5.59 S1000D Chapter 4.3.5 – Data module code – Disassembly code variant.

5.59.1 Army business rules.

None.

5.59.2 Project decisions.

5.59.2.1 Disassembly Code Variant (DCV).

The project shall decide whether to use one, two or three characters for the disassembly code variant.

5.60 S1000D Chapter 4.3.6 – Data module code – Information codes.

5.60.1 Army business rules.

5.60.1.1 Information codes and information names.

Information codes, information code variants, and information names shall be used as instructed in Appendix A, Content selection matrices, and Appendix B, Army information codes.



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5.60.1.2 "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 LOGSA and submit proposed information codes to S1000D via the CPF process described in 5.3.1.1.

5.60.2 Project decisions.

None.

5.61 S1000D Chapter 4.3.7 – Data module code – Information code variant.

5.61.1 Army business rules.

5.61.1.1 Information code variants.

The project shall coordinate all information code variants with LOGSA. 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.

5.61.2 Project decisions.

None.

5.62 S1000D Chapter 4.3.8 – Data module code – Item location code.

5.62.1 Army business rules.

None.

5.62.2 Project decisions.

5.62.2.1 Allocation of the item location code "T."

The project shall decide to use the item location code "T" or to use the learn type information.

5.63 S1000D Chapter 4.4 – Information management – Information Control Number.

5.63.1 Army business rules.

5.63.1.1 Information Control Number (ICN).

ICN shall be consistent with the rules in S1000D except in cases where legacy graphics are used which already contain the ICN and the project would encounter expense to remove it.

5.63.1.2 Presentation of Information Control Number (ICN).

The ICN shall be placed outside the graphic except in cases where legacy graphics are used which already contain the ICN within the graphic and the project would encounter expense to remove it. The ICNs are normally derived from the XML attribute **`infoEntityIdent`** and put in place by the page layout system.

5.63.1.3 Identification code, system difference code, and Standard Numbering System (SNS).

The model identification code, system difference code, and SNS for ICN shall be populated in a manner consistent with the project data module coding strategies. (JS)



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5.63.1.4 Use of Commercial and Government Entity (CAGE) code or model identification code based Information Control Number (ICN).

The project is not required to decide which method is used for the ICN. Both methods can be used. NOTE: The August 2007 published version of GEIA-STD-0007 is only compatible with the CAGE based method of ICN structures.

5.63.1.5 Unique identifier.

The illustration originator shall determine how to populate the unique identifier of the ICN.

5.63.2 Project decisions.

5.63.2.1 Responsible Partner Company (RPC).

The project shall determine how to populate RPC in an ICN for model identification code based ICNs.

5.63.2.2 Commercial and Government Entity Codes (CAGECs) for originator.

The project shall define a list of valid CAGECs for originator in ICN.

5.63.2.3 Illustration variant code.

The project shall define the use of the illustration variant code.

5.63.2.4 Issue number.

The project shall define the use of the issue number.

5.63.2.5 Security classification.

The project shall decide whether to use the project security classifications or whether the originator's classifications are allowed to be used.

5.64 S1000D Chapter 4.5.1 – Data module lists – Data module requirement list.

5.64.1 Army business rules.

5.64.1.1 Data Module Requirements List (DMRL).

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.

5.64.1.2 Population of **`modelIdentCode`** in the data module requirements list.

The model identification code of the data module requirements list identification code shall be populated in conformance with the rules for **`modelIdentCode`** in the data module code. (JS)

5.64.1.3 Change markers.

Change markers shall be included in the DMRL.

5.64.1.4 Data module title.

Data module title shall be included in the DMRL.



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5.64.1.5 Issue date.

Issue date shall be included in the DMRL.

5.64.1.6 Security classification.

Security classification shall be included in the DMRL.

5.64.2 Project decisions.

5.64.2.1 Data Module Requirements List (DMRL) format.

The project shall decide if the DMRL will be prepared and delivered as recommended using the S1000D DMRL schema or if some alternative, such as a spreadsheet, will be used.

5.64.2.2 Commercial and Government Entity (CAGE) codes for Data Module Requirements List (DMRL) senders.

The project shall define the valid CAGE codes for DMRL senders for a project.

5.64.2.3 Issue date.

The project shall decide whether the issue date of a DMRL should be the input date (i.e., the release to CSDB date), the cut-off date for the information, the planning date or some other more appropriate date.

5.64.2.4 Use of data restriction.

The project shall decide whether or not to use the element **`<dataRestriction>`** in the DMRL status section.

5.64.2.5 Use of reference.

The project shall decide whether or not to use the element **`<dmlRef>`** in the DMRL status section.

5.64.2.6 Use of data module code extension.

The project shall decide whether or not to use the element **`<identExtension>`** in the DMRL.

5.64.2.7 Use of data module issue number.

The project shall decide whether or not to use the element **`<issueInfo>`** in the DMRL.

5.64.2.8 Use of data module requirement answer.

The project shall decide whether or not to use the element **`<answer>`** in the DMRL.

5.64.2.9 Use of data module requirement remarks.

The project shall decide whether or not to use the element **`<remarks>`** in the DMRL.

5.64.2.10 Deleted Data Modules (DMs).

The project shall specify whether deleted data modules should appear in the DMRL (value "**`d`**" of attribute **`dmEntryType`** in element **`<dmEntry>`**) or if the entries should be deleted from the DMRL entirely.



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5.65 S1000D Chapter 4.5.2 – Data module lists – CSDB status list.

5.65.1 Army business rules.

5.65.1.1 CSDB (Common Source Data Base) Status List (CSL) delivery.

The CSL shall be provided, at minimum, with each data delivery.

5.65.1.2 Data deliverable dates.

The project shall specify dates for data deliverables.

5.65.2 Project decisions.

5.65.2.1 Data module issues.

The project shall specify in the content of the CSL whether to list all issues of data modules or just the latest issues.

5.65.2.2 CSDB (Common Source Data Base) Status List (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.).

5.66 S1000D Chapter 4.6 – Information management – Comment.

5.66.1 Army business rules.

5.66.1.1 Department of the Army (DA) Form 2028.

DA Form 2028 shall be used for commenting in page-based manuals.

5.66.1.2 Use of comment schema.

If the S1000D comment schema is used with IETPs, data equivalent to DA Form 2028 shall be collected.

5.66.2 Project decisions.

The following comment business rule options are only applicable to IETP implementations.

5.66.2.1 Use of comment.

The project shall specify whether comments should be used.

5.66.2.2 Workflow.

The project shall specify workflow for commenting.

5.66.2.3 Model information code.

The project shall specify how to populate model identification code in comments.

5.66.2.4 Commercial and Government Entity Codes (CAGECs) for issuing authority.

The project shall define the valid CAGECs for the issuing authority of comments.

5.66.2.5 Use of titles.

The project shall specify whether comment titles are required or not. If required, the project shall provide rules for establishing titles.



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5.66.2.6 Originator.

The project shall specify rules for population of **<originator>**, accounting for any data protection act issues with respect to content that includes names, phone numbers, etc.

5.66.2.7 Data restrictions.

The project shall specify whether **<dataRestriction>** is required or not.

5.66.2.8 Priority codes.

The project shall define the rules for priority codes.

5.66.2.9 Use of response codes.

The project shall specify whether response codes should be used.

5.66.2.10 Rules for response codes.

The project shall define the rules for response codes.

5.66.2.11 Remarks.

The project shall specify whether remarks should be used.

5.66.2.12 References to attachments.

The project shall specify whether reference to attachment should be used.

5.66.2.13 Allowed file types.

The project shall determine the allowed file types that are supported by the viewing systems.

5.67 S1000D Chapter 4.7 – Information management – Version control of data modules.

5.67.1 Army business rules.

5.67.1.1 Data Dispatch Note (DDN).

Changes to printed manuals shall consist of a DDN (including a **<deliveryList>** of changed/new/deleted files), instructions for implementing the change, changed publication modules, changed data modules, affected illustrations, and an authentication page.

5.67.1.2 Revision summary (Change transmittal page).

A revision summary (change transmittal page) shall be prepared for each change to a publication and shall be included in the change package. The change transmittal page shall not be numbered and shall be located following the warning summary. When updates are prepared, the change date shall be shown on the change transmittal page. Unless specified otherwise by the acquiring activity, the change date shall be the date at which the material to be included was received (copy freeze date, provided by the acquiring activity).

5.67.1.3 Authentication block.

An authentication block shall be included on the change transmittal sheet(s). The authentication block shall be placed after all of the other information on the change transmittal sheet(s).

5.67.1.4 Interactive Electronic Technical Publication (IETP) updates.

Updates to IETP shall consist of a release of the complete IETP with latest change marks visible.



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5.67.1.5 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.

5.67.1.6 Printed publication revisions.

A complete revision of a publication requires rewrite and reorganization of the technical content of the data. All existing changes to the publication will be merged. All change dates and change symbols will be removed, and page numbering will be revised.

5.67.2 Project decisions.

5.67.2.1 Data module revisions.

The project shall decide when data modules will be revised.

5.67.2.2 Delivery of inwork Data Modules (DMs).

The project shall specify whether inwork data modules should be delivered.

5.68 S1000D Chapter 4.8 – Information management – Interchange of data modules.

5.68.1 Army business rules.

5.68.1.1 Data Dispatch Notes (DDNs).

The use of DDNs is required.

5.68.2 Project decisions.

5.68.2.1 File formats.

The project shall define which packaging file formats may be used to deliver change packages between vendor and customer.

5.68.2.2 Procedures for data exchange.

The project shall define the procedures for exchange of deliverables (e.g., periodicities, media, etc.).

5.68.2.3 Inclusion of graphics.

The project shall specify whether all graphics referenced have to be included in the exchange package.

5.68.2.4 Non-sequential numbering.

The project shall specify whether numerical gaps are allowed in data modules and/or illustration numbering, or if non-sequential numbering is allowed.

5.68.2.5 Mixed data.

The project shall specify whether the content of exchange packages can include mixed data or if it should be limited to only content-related deliverables. It is conceivable that vendors include other documents (e.g., schedules, invoices, etc.) in exchange packages.

5.68.2.6 Use of photographs.

The project shall decide for what purposes photographs will be used, if at all.



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5.68.2.7 Use of multimedia formats.

The project shall decide which multimedia formats will be used, if any at all.

5.68.2.8 Raster graphic resolution.

The project shall decide the resolution to use for raster graphics.

5.69 S1000D Chapter 4.9.1 – Publication management – Publication module.

5.69.1 Army business rules.

5.69.1.1 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)

5.69.1.2 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)

5.69.1.3 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"/>`**).

5.69.1.4 Data restrictions.

The optional element **`<dataRestrictions>`** shall be used for all publications and for data modules.(JS) Refer to 5.19.1.7 for more information.

5.69.1.5 Use of originator and responsible partner company.

Projects shall decide the responsible partner company and the originator for each data module and publication module.

a. 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 responsible for maintaining the object.
b. 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.
c. The responsible partner company for parent publication modules shall be the publication issuing authority (e.g., "Headquarters, Department of the Army"). (JS)

5.69.1.6 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



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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.

5.69.1.7 Use of media.

The element **`<pubMedia>`** shall be used for parent publication modules. It shall not be used for nested publication modules (refer to 5.69.1.1).

5.69.1.8 Publication media type.

The attribute **`pubMediaType`** shall be populated with the appropriate text from the list below:

a. "Not specified"
b. "PDF – Optimized for Standard page size"
c. "PDF – Optimized for Double standard page size"
d. "PDF – Optimized for Logbook page size"
e. "PDF – Optimized for Pocket page size"
f. "PDF – Optimized for Operator checklist page size"
g. "PDF – Optimized for Operator MTF page size"
h. "PDF – Other"
i. "IETP – Optimized for CD"
j. "IETP – Optimized for DVD"
k. "IETP – Optimized for web browser"
l. "IETP – Other"

Unless the publication module is specifically designed for a particular restricted output use, the value for the attribute pubMediaType shall not be b, c, d, e, f, g, or k.

5.69.1.9 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.

5.69.1.10 Location.

The attribute **`mediaLocation`** shall not be used.

5.69.1.11 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.

5.69.1.12 Reason for update.

Reason for update (element **`<reasonForUpdate>`**) shall be used and include the reasons for updates for each changed data module in the latest change package. It shall also include references to all appropriate reason for update documentation (e.g., engineering change proposals).



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5.69.1.13 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.

5.69.1.14 Titles for multi-volume publications.

The information in the publication title area shall be the same for all volumes of a multivolume set.

5.69.1.15 Nomenclature.

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.

5.69.1.16 Issue date.

The element **<issueDate>** within **<pmAddress>** shall contain the date of the document as specified in DODI 5200 1-R. (JS)

5.69.1.17 Logo.

The element **<logo>** shall not be used.

5.69.2 Project decisions.

5.69.2.1 Volume.

The project shall specify whether (and how) the attribute **volumeNumber** should be used in the element **<pubMedia>** in the publication module status section. A single volume (i.e., 1 CD or 1 DVD) is preferred.

5.69.2.2 Short publication module title.

The project shall determine the use and population of the element **<shortPmTitle>**.

5.70 S1000D Chapter 4.9.2 – Publication management – Coding of publications.

5.70.1 Army business rules.

5.70.1.1 Publication numbering.

Publication module codes for publications shall consist of the following components:

5.70.1.1.1 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. (JS)

5.70.1.1.2 Issuing authority.

The attribute **pmIssuer** shall be populated with a value that combines a single digit issuing authority code selected from Table XXXVII and a four-digit category code. (JS)



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**TABLE XXXVII. Issuing Authority Codes.**

| Code | Proponent |
|---|---|
| 0 | Tank-automotive and Armaments Command (TACOM) |
| 1 | Army Materiel Command (AMC) |
| 2 | Aviation and Missile Command (AMCOM) |
| 3 | Armament Research, Development, and Engineering Center (ARDEC) |
| 4 | Communications-Electronics/Life Cycle Management Command (C-E LCMC) |
| 5 | CECOM Communications Security Logistics Activity (CSLA) |
| 6 | Integrated Logistics Support Center-Soldier Biological Chemical (ILSC-SBC) |
| 7 | Research, Development, and Engineering Command, Edgewood Chemical Biological Center (ECBC) |
| 8 | Joint Munitions Command (JMC) |
| 9 | Reserved |
| A | Reserved |

The four-digit category code is equal to the applicable FSC available from https://www.drms.dla.mil/asset/fsclist.html. Refer to AMC-R 25-76 for additional information about proponents.

5.70.1.1.3 Publication number.

The attribute **`pmNumber`** shall be populated with a value that combines a three-digit joint service publication code found in column one of Table XXXVIII and a two-digit sequence number assigned by the project. (JS)

**TABLE XXXVIII. Joint Service Publication Codes.**

| Publication code | Definition | Legacy publication type |
|---|---|---|
| OPI | Operator's Manual | 10 |
| MM3 | Operator and Field Maintenance Manual | 13 |
| M3B | Operator and Field Maintenance Manual including Parts List | 13&P |
| MM1 | Operator, Field, and Sustainment Maintenance Manual | 14 |
| M1B | Operator, Field, and Sustainment Maintenance Manual including Parts List | 14&P |
| MM2 | Field Maintenance Manual | 23 |
| M2B | Field Maintenance Manual including Parts List | 23&P |
| M2P | Field Maintenance Parts List | 23P |



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| Publication code | Definition | Legacy publication type |
|---|---|---|
| MM4 | Field and Sustainment Maintenance Manual | 24 |
| M4B | Field and Sustainment Maintenance Manual including Parts List | 24&P |
| M4P | Field and Sustainment Maintenance parts list | 24P |
| MM0 | Sustainment Maintenance Manual | 40 |
| M0B | Sustainment Maintenance Manual including Parts List | 40&P |
| M0P | Sustainment Maintenance Parts List | 40P |
| 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 |
| NWR | National Maintenance Work Requirement | NMWR |
| NWP | NMWR including Parts List | NMWR w/Parts |
| TTM | Aviation Field/Sustainment/Field & Sustainment 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 |
| PAL | List of Publications | L |
| CLG | Preparation for Shipment (aircraft) | S |
| CCL | Pilot/Crew checklist (aircraft) | CL |
| HDR | Hand receipt | HR |
| FMM | Maintenance test flight (aircraft) | MTF |
| PCL | Operating procedures (communications 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 |
| SUM | Supply Manual | SM |
| SUC | Supply Catalog | SC |



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| Publication code | Definition | Legacy publication type |
|---|---|---|
| SUB | Supply Bulletin | SB |
| DRL | Depot Maintenance Reference List | DMRL |
| DMM | Depot Maintenance Manual | DM |

5.70.1.1.4 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)

5.70.1.2 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:

5.70.1.2.1 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.

5.70.1.2.2 Issuing authority.

The attribute **pmIssuer** shall be populated with a value that combines a single digit issuing authority code selected from Table XXXVII 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.

5.70.1.2.3 Publication number.

The attribute **pmNumber** shall be assigned by the project.

5.70.1.3 Chapters.

Chapters shall be used to divide publication data into specific functional information groups.

5.70.1.4 Chapter publication module.

Data modules for each chapter shall be sequenced using a nested publication module (refer to 5.48.1.23). A chapter publication module may contain additional nested publication modules and additional data modules as needed.

5.70.1.5 Chapter numbers.

Chapters shall be numbered in sequential order throughout the publication using Arabic numerals. Sequential numbering shall continue from volume to volume.

5.70.2 Project decisions.

5.70.2.1 Applicability.

The project shall specify whether applicability should be used in publication module status.



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5.70.2.2 Publication number.

The project shall document the method used for populating the attribute **pmNumber** for nested publication modules.

5.70.2.3 Nested publication module volume.

The project shall determine the use of the attribute **pmVolume** for nested publication modules.

5.71 S1000D Chapter 4.10 – Information management – Business rules exchange.

5.71.1 Army business rules.

5.71.1.1 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)

5.71.2 Project decisions.

5.71.2.1 Simplified Technical English.

The project shall decide if Simplified Technical English is to be used in the narrative content of the BREX file.

5.72 S1000D Chapter 4.10.1 – Information Business rules exchange – Coding of BREX data modules.

5.72.1 Army business rules.

5.72.1.1 Business rules reference.

The BREX file shall contain a reference to each external document that contains project business rules. Each reference shall include any identification or tracking numbers necessary to identify the correct version of the business rules document.

5.72.2 Project decisions.

5.72.2.1 Applicable sets of business rules.

The project shall decide which set or sets of business rules are allowed within the given project. Accordingly, it shall decide which BREX data module or modules will be used to reflect those business rules.

5.73 S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module.

5.73.1 Army business rules.

5.73.1.1 Exchange of Standard Numbering System (SNS) using the BREX data module.

The project shall use the BREX data module for exchange of information on the applied SNS to the greatest extent possible.

5.73.1.2 Use of the element **<snsDescr>**.

Projects shall use the element **<snsDescr>** to provide a description for each specific SNS system.



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5.73.1.3 Use of the **<snsRules>** branch.

Projects shall document their SNS and technical names using the **<snsRules>** branch.

5.73.1.4 Standard Numbering System (SNS) titles.

Projects shall include the SNS title identical to the technical name for that SNS.

5.73.2 Project decisions.

5.73.2.1 Notations.

The project may decide to exclude one or several of the notations (element **<notationRule>**) allowable by S1000D. These restrictions are to be included in the BREX data module.

5.73.2.2 System documentation.

Projects shall document all applicable system (1st level breakdown) codes using the element **<snsSystem>**.

5.73.2.3 Subsystem documentation.

Projects shall document all applicable subsystem (2nd level breakdown) codes using the element **<snsSubSystem>**.

5.73.2.4 Sub-subsystem documentation.

Projects shall document all applicable sub-subsystem (3rd level breakdown) codes using the element **<snsSubSubSystem>**.

5.73.2.5 Assembly documentation.

Projects shall document all applicable assembly (4th level breakdown) codes using the element **<snsAssy>**.

5.74 S1000D Chapter 4.11 – Information management – Process data module.

5.74.1 Army business rules.

5.74.1.1 Process data module.

The project shall determine the use of the process data module and describe that approach in the business rules.

5.74.2 Project decisions.

5.74.2.1 Use of the process data module.

The project shall decide whether to use the process data module or not.

5.74.2.2 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.



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5.75 S1000D Chapter 4.12 – Information management – Multiple instances of data modules.

5.75.1 Army business rules.

5.75.1.1 Use of several instances per data module.

Multiple instances of any one data module issue shall not be allowed.

5.75.2 Project decisions.

None.

5.76 S1000D Chapter 4.13.1 – Optimizing and reuse – Paragraph significant data and quantity data.

5.76.1 Army business rules.

None.

5.76.2 Project decisions.

5.76.2.1 General use of paragraph significant data elements.

The paragraph significant data elements are optional, and the project shall decide to use all or part of them, or not to use them.

5.77 S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module.

5.77.1 Army business rules.

Refer to 5.40.1.1.

5.77.2 Project decisions.

5.77.2.1 Use of technical information repository.

The project shall decide whether or not to require the delivery of technical information repository data modules (as additional data).

5.78 S1000D Chapter 4.13.3– Optimizing and reuse – Container data module.

5.78.1 Army business rules.

None.

5.78.2 Project decisions.

5.78.2.1 Use of container data module.

The project shall decide if container data modules are used.

5.78.2.2 Identification of container data module.

The project shall choose the container identification method. The chosen method shall be used systematically.

5.78.2.3 Use of applicability within container data module content.

The project shall decide if applicability annotations are duplicated from the referenced data modules to the container data module or not.



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5.79 S1000D Chapter 4.14 – Information management – Applicability.

5.79.1 Army business rules.

None.

5.79.2 Project decisions.

5.79.2.1 Providing the human readable part of applicability.

The project shall decide whether to provide the human readable part of applicability or rely on the viewer to build the human readable part.

5.79.2.2 Level of applicability lifecycle.

The project shall decide to what level to implement the life cycle of applicability.

5.79.2.3 Product attribute, conditions naming and identification scheme.

If using the Applicability Cross-reference Table (ACT) and Conditions Cross-reference Table (CCT) data modules, the project shall define a consistent naming and identification scheme for product attributes and conditions.

5.79.2.4 Method of displaying invalid content.

The project shall specify the method that content is presented which is not valid for the current maintenance context.

5.79.2.5 Number of Applicability Cross-reference Table (ACT), Conditions Cross-reference Table (CCT), and Product Cross-reference Table (PCT) data module instances.

A project shall decide whether to provide one instance of each data module type or to segregate the project into multiple instances of each data module type, and the method for segregation.

5.80 S1000D Chapter 4.14.1 – Information management – Applicability cross-reference table.

5.80.1 Army business rules.

None.

5.80.2 Project decisions.

5.80.2.1 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).

5.80.2.2 Configuration management of product attributes.

The project shall decide to what extent they configuration manage and limit editing access to the product attributes. The modification of an existing product attribute can have a significant affect to existing data.

5.81 S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table.

5.81.1 Army business rules.

None.



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5.81.2 Project decisions.

5.81.2.1 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).

5.81.2.2 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.

5.81.2.3 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.

5.81.2.4 Use of the incorporation list.

The project shall decide whether to use the incorporation status list.

5.82 S1000D Chapter 4.14.3 – Information management – Products cross-reference table.

5.82.1 Army business rules.

None.

5.82.2 Project decisions.

5.82.2.1 Use of a published or a transient data module.

The project shall decide whether to publish a static issue of the data module or use the data module as a transient transfer mechanism between an external system and a viewer.

5.82.2.2 Scope of the product instances.

The project shall decide how many product instances are contained in a data module.

5.82.2.3 Configuration management of the product instances.

The project shall decide how to configuration manage the list of product instances and associated values for product attributes and conditions.

5.83 S1000D Chapter 5 – Information sets and publications.

There are no Army business rules or project decisions in the following S1000D chapters:

| | | |
|---|---|---|
| a. | Chapter 5 | Information sets and publications |
| b. | Chapter 5.1 | Information sets and publications – General |
| c. | Chapter 5.2 | Information sets and publications – Information sets |
| d. | Chapter 5.2.1.3 | Common information sets – Maintenance information |
| e. | Chapter 5.2.2 | Information sets – Air specific information sets |
| f. | Chapter 5.2.2.2 | Air specific information sets – Structure repair information |
| g. | Chapter 5.2.3 | Information sets – Land/Sea specific information sets |
| h. | Chapter 5.3 | Information sets and publications – Publications |
| i. | Chapter 5.3.1 | Publications – Common requirements |
| j. | Chapter 5.3.1.2 | Common Requirements – Technical content |



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5.84 S1000D Chapter 5.2.1 – Information sets – Common information sets.

5.84.1 Army business rules.

5.84.1.1 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.

5.84.1.2 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. LMI. The technical data and instructions developed by the requirements of LMI and DOD Requirements for an LMI, (including the MAC) shall be used as the baseline to prepare TMs/IETPs.
b. MAC. For equipment that does not have LMI 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.

5.84.1.3 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



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q. Basic Issue Items (BII) List
r. Additional Authorization List (AAL)
s. Tools Identification List
t. Critical Safety Items (CSI (FSCAP))

5.84.2 Project decisions.

None.

5.85 S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information.

5.85.1 Army business rules.

5.85.1.1 Scope.

This section contains content requirements for the following information sets:

a. Description and use of controls and indicators (refer to 5.85.3)
b. Operation under usual conditions (refer to 5.85.4)
c. Operation under unusual conditions (refer to 5.85.5)
d. Operation under emergency conditions (refer to 5.85.6)
e. Stowage and decal/data plate guide (refer to 5.85.7)

5.85.1.2 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.

5.85.1.3 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.

5.85.2 Project decisions.

5.85.2.1 Types.

The project shall determine which optional operator instruction information sets apply.

5.85.3 Controls and indicators.

Data Module Type: Descriptive Information Code: 111A

5.85.3.1 Army business rules.

5.85.3.1.1 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,



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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.

5.85.3.1.2 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.

5.85.3.1.3 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.

5.85.3.2 Project decisions.

5.85.3.2.1 Use of the technical information repository.

The project shall determine whether controls and indicators are prepared with descriptive DMs or technical information repository DMs.

5.85.3.2.2 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).

5.85.3.2.3 Multiple data modules.

If the technical information repository data module method is selected, the project shall decide whether one single data module or multiple data modules are used depending on the SNS.

5.85.3.2.4 Use of the control indicator number attribute.

If the technical information repository data module method is selected, the project shall decide whether or not to use the attribute **`controlIndicatorNumber`** when referring to the technical information repository (element **`<controlIndicatorRef>`**).



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5.85.4 Operation under usual conditions.

5.85.4.1 Army business rules.

5.85.4.1.1 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.

5.85.4.1.2 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.

5.85.4.1.3 Siting.

Data Module Type: Procedural Information Code: 122A

When siting instructions peculiar to the equipment exist, those requirements shall be prepared. Note that "siting" refers to the physical site for the equipment and not to "line of sight." Operational 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. Compensating for adverse siting conditions.
h. Orientation to a baseline during siting when the equipment contains large components, such as towers and antennas.
i. Mobile equipment oriented during installation.

5.85.4.1.4 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. Environnemental conditions (e.g., venting).



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g. Power requirements.
h. Unusual requirements specific to equipment, such as air-conditioning.
i. Architectural and engineering data on beam sizes, lengths, bending moments, and required supports shall not be included.

5.85.4.1.5 Assembly and preparation for use.

Data Module Type: Procedural Information Code: 710B

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.

5.85.4.1.6 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.

5.85.4.1.7 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 prepare. 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:



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(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.

5.85.4.1.8 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.

5.85.4.1.9 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.

5.85.4.1.10 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.

5.85.4.1.11 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.



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5.85.4.2 Project decisions.

5.85.4.2.1 Optional siting features.

The project shall determine optional siting features.

5.85.4.2.2 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.

5.85.5 Operation under unusual conditions.

5.85.5.1 Army business rules.

5.85.5.1.1 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 5.85.4.1.2), the data module(s) for security measures for electronic data (IC 990D) shall be used in this section.

5.85.5.1.2 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.

5.85.5.1.3 Fording and swimming.

Data Module Type: Procedural Information Code: 131R

If applicable, procedures for fording and swimming the equipment shall be provided.

5.85.5.1.4 Interim Chemical, Biological, Radiological, and Nuclear (CBRN) decontamination procedures.

Data Module Type: Procedural Information Code: 139B

As applicable and specified by the acquiring activity, interim general Biological, Radiological, and Nuclear (CBRN) decontamination procedures to be performed until CBRN decontamination facilities are available shall be prepared. Other decontamination TMs/IETPs shall be referenced only when necessary.

5.85.5.1.5 Jamming and Electronic Countermeasures (ECM) procedures.

Data Module Type: Procedural Information Code: 144A



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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.

5.85.5.1.6 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.

5.85.5.2 Project decisions.

None.

5.85.6 Operation under emergency conditions.

Data Module Type: Procedural Information Code: 140B

5.85.6.1 Army business rules.

5.85.6.1.1 General.

As applicable, emergency procedures using, but not limited to, the operating and shutdown shall be prepared.

5.85.6.1.2 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.

5.85.6.1.3 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.

5.85.6.2 Project decisions.

None.

5.85.7 Stowage and decal/data plate guide.

Data Module Type: Descriptive Information Code: 067B

5.85.7.1 Army business rules.

5.85.7.1.1 General.

Stowage and decal/data plate guide data module shall be prepared as directed by the acquiring activity. The guide plan shall include information provided by the acquiring activity.

5.85.7.1.2 Scope.

A brief scope statement shall be prepared explaining the purpose of the Stowage and decal/data plate guide.



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5.85.7.1.3 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 shall be included.

5.85.7.2 Project decisions.

5.85.7.2.1 Preparation instructions and information.

The project shall determine preparation instructions and information for stowage and decal/data plate guide(s).

5.86 S1000D Chapter 5.2.1.2 – Common information sets – Description and operation.

5.86.1 Army business rules.

5.86.1.1 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 5.86.3).
b. General information (refer to 5.86.4).
c. Equipment description and data (refer to5.86.5).
d. Theory of operation (refer to 5.86.6).
e. General information (**Preventive Maintenance Service Manual only**) (refer to 5.86.7).
f. General information (**Phased Maintenance Inspection Manual only**) (refer to 5.86.8).

5.86.1.2 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.

5.86.1.3 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.

5.86.2 Project decisions.

None.

5.86.3 General data.

Data Module Type: Descriptive Information Code: 010A



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5.86.3.1 Army business rules.

5.86.3.1.1 General.

A single descriptive data module shall be used to prepare the following general data:

5.86.3.1.2 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.

5.86.3.1.3 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.

5.86.3.1.4 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.

5.86.3.1.5 Preparation for storage or shipment.

Reference shall be made to the preparation for storage or shipment procedures, including packaging and administrative storage, found in the applicable maintenance instructions information sets.

5.86.3.1.6 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

5.86.3.1.7 List of abbreviations/acronyms.

A list shall be prepared, consisting of all abbreviations, acronyms, signs, or symbols used in the manual/IETP. For aircraft only, 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 aircraft

5.86.3.1.8 Safety, care, and handling.

The following general precautions and safety regulations shall be prepared.

a. **For ammunition TMs/IETPs**, information shall be prepared to comply with DA PAM 385-63. References to applicable Army Regulations (ARs) for range safety and



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danger zones during training and combat shall be included. Explanations and official definitions shall be prepared for such safety-related terms as "misfire," "hang fire," and "cook-off," which describe characteristics associated with the specific items(s) covered by the TM/IETP under preparation. A reference to AR 385-64 and DA PAM 385-64 shall be made for general ammunition care, handling, and safety.

b. **For TMs/IETPs 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/IETP on radioactive materials shall be included. If additional coverage on radioactive materials is needed, but is not included in applicable TMs/IETPs, instructions shall be prepared as required. In addition, the following information shall be prepared for inclusion throughout the TM/IETP.

   (1) Nuclear warning notices 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 prior to maintenance actions, or in the event of breakage of radioactive parts or components, including safety, care, and handling instructions.
   (3) Radioactive parts or components shall be shown and identified on a parts location diagram or illustration, and warning notices.
   (4) A list of radioactive parts or components and the type and quantity of radioactive material involved 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. Refer to MIL-STD-1686 and MIL-HDBK-263, which contains ESD control procedures and material necessary to protect these items. For classifications of ESD marking procedures, refer to 5.37.1.8.

d. (**DMWRs/NMWRs only**) When applicable, reference shall be made to the electromagnetic compatibility standards that apply to the equipment covered in the DMWR/NMWR.

5.86.3.1.9 Calibration.

Equipment requiring calibration shall be identified, and reference shall be made to the publication containing the applicable calibration procedure.

5.86.3.1.10 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 unit maintenance/Aviation Unit Maintenance.

5.86.3.1.10.1 Common tools and equipment.

The following statement shall be included:

"COMMON TOOLS AND EQUIPMENT



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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."

5.86.3.1.10.2 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.

5.86.3.1.10.3 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)."

5.86.3.1.11 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.

5.86.3.2 Project decisions.

None.

5.86.4 General information.

Data Module Type: Descriptive Information Code: 010B

5.86.4.1 Army business rules.

5.86.4.1.1 General.

A single descriptive data module shall be used to prepare the following general information:

5.86.4.1.2 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



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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 conventional and chemical 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 385-40. 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.

5.86.4.1.3 Reporting equipment improvement recommendations.

The following statement shall be included:

"REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your (*insert equipment item name*) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to https://aeps.ria.army.mil/aepspublic.cfm (scroll down and choose the "Submit Quality Deficiency Report" bar). The Internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR or a Warranty Claim Action (WCA). You may also submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 via e-mail, regular mail, or facsimile using the addresses/facsimile 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."



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5.86.4.1.3.1 Additional reporting equipment improvement recommendations (Marine Corps).

The following statement shall be added for Marine Corps TMs:

"For Marine Corps users: Quality deficiency reports (QDR) shall be submitted on SF 368 in accordance with MCO 4855.10. A reply will be furnished to you."

5.86.4.1.4 Hand Receipt (HR) manuals (**Field**).

If hand receipt information exists and is included with the TM/IETP, the following statement shall be included in the general information data module and a link/instructions shall be provided to access the information:

"HAND RECEIPT (HR) MANUALS

This IETP contains hand receipts that list end item related equipment (i.e., COEI, BII, and AAL) that shall be accounted for."

If hand receipt information exists but is not included with the TM/IETP, the following statement shall be included in the general information data:

"HAND RECEIPT (HR) MANUALS

This manual has a companion document (*insert external document reference number*) that consists of preprinted hand receipts that list end item related equipment (i.e., COEI, BII, and AAL) that shall be accounted for. As an aid to property accountability, additional HR manuals may be requisitioned through normal publication channels."

5.86.4.1.5 Corrosion prevention and control.

A statement similar to the following shall be prepared:

"CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. 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.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking. Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS)."

**For aircraft TMs**, this information shall include a reference to TM 1-1500-343-23 (Avionic Cleaning and Corrosion Prevention/Control).

5.86.4.1.6 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.



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"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."

5.86.4.1.7 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."

5.86.4.1.8 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."

5.86.4.1.9 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." For aircraft maintenance TMs/IETPs, include a reference to FM 3-04-500. The abbreviation "QA" shall be defined either in a note or in the text.

5.86.4.1.10 Critical Safety Items (CSIs) (Flight Safety Critical Aircraft Parts (FSCAP)) **(aircraft only).**

The following statement shall be included for critical safety items (CSI (FSCAP)) (**aircraft only**):

"CRITICAL SAFETY ITEMS (CSI) (Flight Safety Critical Aircraft Parts (FSCAP)) PROGRAM

Parts, assemblies, or installations identified under the CSI (FSCAP) program require special handling during maintenance or overhaul (M&O). Throughout the M&O



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procedures, warnings are included emphasizing critical instructions to be followed. These warnings are identified as CSI (FSCAP) warnings.

A critical safety item (flight safety critical aircraft part) is defined as:

An aviation-related 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 (FSCAP) is the consequence of failure, not the probability that the failure or consequence would occur.

All CSIs (FSCAPs) shall be handled and managed as prescribed in DOD 4140.1R and DA PAM 95-9.

Throughout the maintenance tasks, 'CRITICAL SAFETY ITEM' (FLIGHT SAFETY CRITICAL AIRCRAFT PART) alerts will precede the procedural step that includes a CSI (FSCAP)), emphasizing that this part or parts require(s) special handling during maintenance."

5.86.4.1.11 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."

5.86.4.1.12 Modification list **(DMWR/NMWR only)**.

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 DA PAM 750-8. The applicable MWOs and the ECPs shall be listed (title and number). This listing shall be supplied by the major subordinate command (MSC). Alternatively, a statement shall be made stating that the modifications shall be applied during the overhaul of the item. For example:

"MODIFICATIONS

All Modification Work Orders (MWOs), all minor alteration procedures (MAP) specified in the contract/work directive, and all ECPs listed in the (*insert DMWR or NMWR*) shall be applied during the overhaul of the item."

5.86.4.1.13 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."



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5.86.4.1.14 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*)."

5.86.4.1.15 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 AMC-R 750-51. This requirement does not apply to items exempted from MEL in accordance with AMC-R 750-51."

5.86.4.2 Project decisions.

5.86.4.2.1 References to Quality Assurance (QA).

The project shall determine if a reference shall be made to the pertinent QA or included directly (refer to 5.86.4.1.9).

5.86.4.2.2 Separate Hand Receipt (HR).

The project shall determine if Hand Receipts will be part of the publications or referenced as a separate document.

5.86.5 Equipment description and data.

Data Module Type: Descriptive Information Code: 000B

5.86.5.1 Army business rules.

5.86.5.1.1 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.

5.86.5.1.2 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



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operation and maintenance of the equipment. Unless otherwise directed, the information may be in narrative or tabular format.

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.
d. **For ammunition TMs/IETPs**, packing and packaging information shall be prepared, including number of rounds per pack.

5.86.5.1.3 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.



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5.86.5.1.4 Differences between models.

Significant differences affecting interchangeability shall be identified. Specifically, differences associated with equipment models or units of the same model shall be indicated that would affect operator or maintenance actions. These differences shall be related explicitly to equipment model, part number, or serial number ranges in such a manner that the TM/IETP user can identify the specific equipment configuration involved. When model differences exist but have no effect on operation or maintenance, this fact shall be stated.

5.86.5.1.5 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. 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.

5.86.5.1.6 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).

5.86.5.2 Project decisions.

None.

5.86.6 Theory of operation **(except Conventional and Chemical Ammunition only)**.

Data Module Type: Descriptive Information Code: 042F

5.86.6.1 Army business rules.

5.86.6.1.1 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 LMI maintenance concept, the MAC, or an approved



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maintenance plan. This information set shall not contain any operator or maintenance procedures.

5.86.6.1.2 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 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 non-repairable, throw-away components.

5.86.6.2 Project decisions.

5.86.6.2.1 DMWR/NWMR.

The project shall decide if DMWR/NMWR will include theory of operation data modules.

5.86.6.2.2 Introductory general information.

The project shall decide if introductory general information will precede the theory of operation narrative.



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5.86.7 General information **(Preventive Maintenance Services Manual only)**.

Data Module Type: Descriptive Information Code: 010D

5.86.7.1 Army business rules.

5.86.7.1.1 General.

Preventive Maintenance Services manuals and Preventive Maintenance Daily manuals shall contain the content requirements provided in 5.86.7.1.3. The italicized text shall be deleted, and as applicable, replaced with the appropriate information. A single descriptive data module shall be used.

5.86.7.1.2 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."

5.86.7.1.3 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



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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.



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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*)."

5.86.7.2 Project decisions.

None.

5.86.8 General information **(Phased Maintenance Inspection Manual only)**.

Data Module Type: Descriptive Information Code: 010E

5.86.8.1 Army business rules.

5.86.8.1.1 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."

5.86.8.1.2 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



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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.



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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 is 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*)"

5.86.8.2 Project decisions.

None.

5.87 S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures.

5.87.1 Scope.

This section contains content requirements for the following information sets:

a. Service upon receipt (refer to 5.87.3)
b. PMCS including lubrication instructions (refer to 5.87.4)
c. Preventive maintenance checklist (refer to 5.87.7)



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d. Maintenance tasks (refer to 5.87.8)
e. Follow-on maintenance (refer to 5.87.9)
f. General maintenance (refer to 5.87.10)
g. Lubrication instructions (refer to 5.87.11)
h. Facilities (refer to 5.87.12)
i. Overhaul and retirement schedule (refer to 5.87.13)
j. Overhaul inspection procedures (refer to 5.87.14)
k. Depot mobilization requirements (refer to 5.87.15)
l. QA requirements (refer to 5.87.16)
m. Illustrated list of manufactured items (refer to 5.87.17)
n. Torque limits (refer to 5.87.18)
o. Ammunition maintenance (refer to 5.87.19)
p. Ammunition marking information (refer to 5.87.20)
q. Foreign ammunition (refer to 5.87.21)
r. Maintenance/Demilitarization of conventional and chemical ammunition (refer to 5.87.22)
s. Daily preventive maintenance checklist (refer to 5.87.23)

5.87.2 General.

5.87.2.1 Army business rules.

5.87.2.1.1 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 LMI, 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.

5.87.2.1.2 Maintenance information sets.

Individual maintenance information sets shall be developed for the overall weapon system/equipment and each maintainable system, subsystem, and Weapons Replacement Assembly (WRA)/shop replacement assembly for each applicable maintenance level as indicated in the approved MAC or maintenance plan.

5.87.2.1.3 Preliminary requirements.

When preliminary requirements information differs for specific maintenance tasks, additional data modules shall be developed.

5.87.2.1.4 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.

5.87.2.2 Project decisions.

None.



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5.87.3 Service upon receipt **(Field only)**.

5.87.3.1 Army business rules.

5.87.3.1.1 General.

Service upon receipt information sets shall be prepared and 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. For equipment that requires extensive service upon receipt, this information set shall be further subdivided into the following tasks:

5.87.3.1.2 Service upon receipt of materiel.

The following information shall be prepared:

5.87.3.1.2.1 Unpacking.

Data Module Type: Procedural Information Code: 840B

As a minimum, the following information shall be prepared.

a. Any special sequence of action necessary to protect the equipment.
b. If a special design reusable container is involved for either the end item or components which are authorized for replacement, instructions shall be prepared to report or reenter the empty container through supply channels. Instructions shall be prepared on how to package the unserviceable component in the empty container in the same manner that the new component was packaged if a component is being replaced.
c. Man-hour requirements and total man-hours required for unpacking the equipment.

5.87.3.1.2.2 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). The following data shall be included.

a. Packaging material. For each item of a component requiring inspection, acceptable, reparable, and non-reparable conditions shall be provided.
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.
c. Damage. In addition, the following shall be inserted exactly as stated here.

"Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 361, Transportation Discrepancy Report. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with applicable service instructions (e.g., for Army instructions, refer to DA PAM 750-8).

Check to see whether the equipment has been modified."

5.87.3.1.2.3 Processing unpacked equipment.

Data Module Type: Procedural Information Code: 870C

Instructions shall be prepared for processing the unpacked equipment, as long as they do not conflict with any warranty provisions. The following information shall be prepared, as applicable.



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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.

5.87.3.1.3 Installation instructions.

a. Instructions shall be prepared to install the equipment properly, including use of tools; to make the necessary interconnections; and to lubricate, calibrate, and adjust the equipment.
b. 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 for fabricating interconnecting cable assemblies from spares and bulk supplies. The part number, drawing number, and manufacturer or designer for each part of the cable assembly shall be shown, and wires, connectors, pin connections, and letters or other designators shall be identified.
c. 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. Cautions shall be included where necessary.
d. A wiring diagram shall be prepared which fully identifies each wire to be connected, by color code or wire number if applicable. This diagram shall show the location of each pertinent terminal, which shall be identified by number or other marking, if available, or by position if neither is available. Where appropriate, voltage readings shall be annotated.
e. All alternate connection patterns required for various modes of operation shall be shown and explained.
f. Only one diagram shall be used to illustrate interconnection patterns which appear more than once within the same equipment.
g. 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.

5.87.3.1.3.1 Assembly of equipment.

Data Module Type: Procedural Information Code: 710C

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 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. If the containers are to be used again, kept for future use, turned in to supply, or require a special disposition method, the necessary procedures to restore the containers shall be included.
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.



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5.87.3.1.3.2 Install procedure.

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. If performance of any step in the installation instructions requires the assistance of personnel from a higher level of maintenance, this shall be stated in a note similar to that below.

"NOTE

The following installation procedure shall be made with the assistance of (*insert level*) maintenance personnel (include Military Occupational Specialty (MOS), if applicable)."

f. Installation instructions shall be considered complete only when they include instructions for:

   (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.

5.87.3.1.3.3 Special application installation instructions.

Data Module Type: Procedural Information Code: 720B

Installation instructions, which are common to all special applications of a system, shall be prepared. Details resulting from the installation but peculiar only to the equipment into which the system is being installed shall be omitted (e.g., special treatment required when installing the system in a vehicle or aircraft).

5.87.3.1.3.4 Van and shelter procedure.

Data Module Type: Procedural Information Code: 123C

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 and replacement of each nonpermanent unit.
b. Installation instructions shall not be prepared when the equipment is permanently installed in vans or shelters.



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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.

5.87.3.1.4 Preliminary servicing.

Data Module Type: Procedural Information Code: 200F

Instructions for all lubrication required on newly installed equipment shall be prepared.

5.87.3.1.5 Preliminary checks and adjustment of equipment.

Data Module Type: Procedural Information Code: 271B

Instructions for all checks and adjustments to be made on newly installed equipment shall be prepared. 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 shall be made before equipment is put into operation and for all other checks required to ensure proper operation of the equipment. These instructions shall include 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. 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 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.

5.87.3.1.6 Preliminary calibration of equipment.

Data Module Type: Procedural Information Code: 273D



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Instructions for all calibration to be made on newly installed equipment shall be prepared.

5.87.3.1.7 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 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.

5.87.3.1.8 Ammunition service upon receipt tasks.

Procedures shall be prepared for performing visual inspection of ammunition received from the ammunition supply facility. This inspection shall include verification that ammunition received was that requisitioned. Instructions shall be prepared for a condition check of the shipment (pallets, containers, boxes, and legibility of markings). Instructions shall be prepared to note the quantity of each lot for recording purposes.

5.87.3.1.9 Ammunition marking.

Data Module Type: Procedural Information Code: 067C

Instructions shall be prepared for marking ammunition and ammunition containers.

5.87.3.1.10 Classification of defects.

Data Module Type: Procedural Information Code: 350C

Procedures shall be prepared for performing visual inspection of ammunition/containers (pallets, boxes, etc.) and shall include classification and disposition of defective ammunition/containers.

5.87.3.1.11 Handling ammunition.

Data Module Type: Procedural Information Code: 170E

Procedures shall be prepared for handling ammunition:

a. Unpacking. As a minimum, the following information shall be prepared.
   (1) Any special sequence of action necessary to protect the ammunition.
   (2) If a special design reusable container is involved for either the end item or components, which are authorized for replacement, instructions shall be prepared to report or reenter the empty container through supply channels.
   (3) Man-hour requirements and total man-hours required for unpacking the ammunition.
b. Packing. As a minimum, the following information shall be prepared.
   (1) Any special sequence of action necessary to protect the ammunition.



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(2) Instructions shall be prepared on how to package defective ammunition.
(3) Man-hour requirements and total man-hours required for packing the ammunition.

5.87.3.1.12 Procedures to activate ammunition.

Data Module Type: Procedural Information Code: 120G

Procedures shall be prepared for activation of ammunition, mines, etc., preparatory to detonation.

5.87.3.1.13 Other service upon receipt task.

Additional service upon receipt task 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, proponent shall submit to LOGSA the requirements for this service upon receipt task type (including proposed information codes) for possible incorporation within future revisions to this standard.

5.87.3.2 Project decisions.

5.87.3.2.1 Other service upon receipt task.

The project shall determine if additional service upon receipt task data modules shall be developed.

5.87.4 Preventive Maintenance Checks and Services (PMCS), including lubrication instructions **(except for Conventional and Chemical Ammunition, aircraft TMs, DMWR and NMWR only).**

5.87.4.1 Army business rules.

5.87.4.1.1 Reliability Centered Maintenance (RCM).

Preventive maintenance checks and services (PMCS) shall be prepared and based upon the principles of RCM logic and shall include PMCS information, periodic lubrication instruction (extensive lubrication instructions may be included in a lubrication data module), and applicable scheduled corrosion inspections. An introduction for PMCS shall also be prepared.

5.87.4.2 Project decisions.

None.

5.87.5 Preventive Maintenance Checks and Services (PMCS) introduction.

Data Module Type: Descriptive Information Code: 018F

5.87.5.1 Army business rules.

5.87.5.1.1 General.

PMCS introduction data module shall explain the purpose and use of the PMCS data. A single descriptive data module shall be used.

5.87.5.1.2 Preventive Maintenance Checks and Services (PMCS) data.

a. An explanation shall be prepared for each PMCS entry and any general checks/services that are common to the entire piece of equipment. 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.



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b. If lubrication instructions are included in the PMCS data, general statement(s) shall be prepared which apply to the overall understanding of lubrication requirements.

c. If lubrication instructions are included in the PMCS data, lubricants shall be identified by standard military symbols in accordance with MIL-HDBK-113 and MIL-HDBK-275. The following lubrication interval symbols shall be used, as applicable.

(1) D daily
(2) W weekly
(3) M monthly
(4) Q quarterly
(5) S semiannually
(6) A annually
(7) B biennially
(8) H hours (operated)
(9) MI miles (operated)
(10) KM kilometers (operated)
(11) RDS rounds fired
(12) OC on-condition
(13) MRA maintenance repair action

d. A statement concerning CPC shall be prepared. This statement shall contain maintenance instructions or reference CPC requirements contained in the applicable maintenance instructions. In addition, if the inclusion of such instructions are applicable, a statement shall be prepared which states that the instructions are mandatory.

(1) Oil filter statement. As applicable, the following statement shall be included verbatim:

"Oil filters shall be serviced/cleaned/changed, as applicable, when:

a. They are known to be contaminated or clogged,

b. Service is recommended by AOAP laboratory analysis, or

c. At prescribed hard time intervals."

(2) Army Oil Analysis Program (AOAP) sampling interval statement. The following statement shall be inserted:

"Engine oil/transmission oil/hydraulic fluids shall be sampled at (*insert applicable hour/mileage time frame*) as prescribed by (*insert DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems – Aviation (TAMMS-A) or DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual*)."

(3) AOAP not available/non-enrolled statement. When a component/equipment is not enrolled in the AOAP or oil analysis support is not available, the following statement shall be inserted:

"This (*insert name of component/equipment*) is not enrolled in the Army Oil Analysis Program. HARDTIME INTERVALS APPLY."

(4) Warranty hardtime statement. The following statement shall be used, as applicable:



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"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)."

e. 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 READY/AVAILABLE IF: column.

"FLUID LEAKAGE

It is necessary for you to know how fluid leakage affects the status of the (*insert component/equipment name*). Following are types/classes of leakage you need to know to be able to determine the status of the (*insert component/equipment name*). Learn these leakage definitions and remember - when in doubt, notify your supervisor.

Equipment operation is allowed with minor leakage's (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) 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 item being checked/inspected.
(3) Class III Leakage of fluid great enough to form drops that fall from item being checked/inspected."

5.87.5.2 Project decisions.

None.

5.87.6 Preventive Maintenance Checks and Services (PMCS).

Data Module Type: Checklist Information Code: 200B

5.87.6.1 Army business rules.

5.87.6.1.1 General.

The PMCS procedures shall include the checks and services data described below. When specified by the acquiring activity, an illustration of the equipment shall be included. This illustration shall include a routing diagram by which the PMCS will be performed.

5.87.6.1.2 Preventive Maintenance Checks and Services (PMCS) data preparation.

PMCS data shall consist of the entries described below.



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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.

b. Intervals. The designated interval (INTERVAL) (i.e., "before," "during," "after," "weekly," etc.) when each check is to be performed shall be included. Procedures done first or most frequently (i.e., "before" checks and services) shall appear prior to "during" and "after" checks and services. When more advantageous to the user, intervals shall be sub grouped by crewmember(s). The "core" PMCS intervals which 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) Periodic
(11) Intermediate (**Aviation only**)
(12) Man-hour/day (**Aviation only**)
(13) Phased (**Aviation only**)
(14) 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. Procedures. The procedure (PROCEDURE) by which each check is to be performed, as well as any information required to accomplish each check or service, including lubrication, appropriate tolerances, adjustment limits, and instrument gauge readings shall be provided. 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 included or the applicable maintenance instruction data module may be referenced. Any periodic/scheduled lubrication procedures required for the equipment may be included in the PMCS procedures and shall meet the following requirements:

(1) Lubrication procedures shall be prepared including information on authorized lubricants, lubrication intervals, man-hour requirements, and the AOAP. Lubrication instructions shall be prepared so as to enable the user to receive, lubricate, and return to an acceptable performance standard all components of the equipment in a



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minimum of time with the skills, tools, test equipment, and spare parts authorized by the LMI, or MAC. Information shall be included for any special lubrication required under extreme temperature, altitude, and humidity conditions within the limits established by the design specification for the equipment.

(2) Lubricant types and abbreviations for flight vehicles and components shall be identified by standard military symbols as specified in MIL-HDBK-275; lubricant types and abbreviations for ground equipment systems, lubricants, functional fluids, preservatives, and specialty products shall be identified by standard military symbols in accordance with MIL-HDBK-113.

(3) Lubrication instructions shall include all applications, procedures, lubricants, and 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 contain instructions for applying lubricants, taking into account the following factors: type, grade, availability, and properties of the prescribed lubricant; expected temperature; lubrication guns and tools available to authorized maintenance level; types of lubrication fittings; and 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.

(4) Disassembly and hand-packing instructions shall be prepared for medium- and high-speed antifriction bearings that are sensitive to the amount of lubrication applied and do not have bleed holes or relief valves.

(5) Cleaning, disassembling, and assembling instructions required before or after lubrication shall be prepared or referenced.

(6) Instructions shall be prepared for washing and natural drying of finely machined and dirt-sensitive parts before relubricating. Use of compressed air jets or temperatures above 212° F shall not be prescribed.

(7) Instructions shall not specify a coating of preservative material, either before or after packing parts that are lubricated with grease; nor shall they specify an application of oil, solvent, or additional grease to a "sealed-for-life" or prepackaged antifriction bearing.

(8) Where applicable, the statement "For Arctic operation, refer to FM 9-207, Operation and Maintenance of Ordnance Materiel in Cold Weather (0º to –65º F)." shall be inserted as a note. When specific restrictions, preferred grades of lubricant, and other conditions exist, notes shall be made. For example,

"NOTE

When MIL-L-2104 lubricant is authorized, use 15W-40 (OE/HDO-15/40) when available and applicable temperature range exists."

Or

"NOTE

15W-40 oil is not authorized in this particular (*insert component name*)."



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f. Equipment not ready/available if. A brief statement of the condition (EQUIPMENT NOT READY/AVAILABLE IF:)(e.g., malfunction, shortage) that would cause the equipment to be less than fully ready to perform its assigned mission shall be provided. If the procedure contains detail steps the statement shall be placed opposite the applicable step.

5.87.6.1.3 Mandatory replacement parts.

All items that shall be replaced during PMCS whether they have failed or not shall be identified.

a. When mandatory replacement parts are required, the information entries shall be placed in a table. The table shall follow the PMCS.

   (1) Interval
   (2) Item number
   (3) Part number/Commercial and Government Equipment Code (CAGEC)
   (4) National Stock Number (NSN)
   (5) Nomenclature
   (6) Quantity

b. If there are no mandatory replacement parts for your PMCS, the following statement shall be included in lieu of parts information:

"There are no replacement parts required for these PMCS procedures."

5.87.6.2 Project decisions.

5.87.6.2.1 Man-hours required.

The project shall determine if man-hours required to complete all prescribed lubrication services shall be included.

5.87.7 Preventive Maintenance Checklist (PMC).

5.87.7.1 Army business rules.

5.87.7.1.1 General.

A PMC shall be prepared when specified by the acquiring activity. The acquiring activity shall specify those inspection intervals for the PMC using those intervals as stated in 5.87.6.1.2.

5.87.7.1.2 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.

5.87.7.1.3 Front matter.

Refer to 5.128.1.

5.87.7.1.4 Technical content.

Data Module Type: Checklist Information Code: 200J

The PMC shall contain all items for the interval of inspections determined by the acquiring activity. The specified inspections shall be taken directly from the applicable PMCS table (refer to 5.87.6.1.2) in the operator or field level manual containing the inspection.



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5.87.7.1.5 Item numbering.

Item numbers in the checklist shall be the same as those assigned to the procedures in the operator or field level maintenance PMCS table.

5.87.7.1.6 Inspection checklist use.

The PMC shall be used in the same manner as the PMCS table. (Refer to 5.87.6).

5.87.7.2 Project decisions.

None.

5.87.8 Maintenance information sets (**Not required for aircraft PM and PMS manuals**).

5.87.8.1 Army business rules.

5.87.8.1.1 General.

Maintenance information shall be prepared and functionally divided into individual maintenance information sets. The technical content structure for these information sets 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. Each maintenance information set shall include all authorized maintenance tasks. Tasks shall consist of complete start-to-finish maintenance procedures in a logical sequence of occurrence. Task titles shall be identical to FGC titles as used in the applicable MAC and IPD.
b. Maintenance instructions shall reference or contain all procedures 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. Visual inspection and safety criteria shall be prepared to determine item serviceability. Instructions shall also contain procedures for disposition of defective ammunition. Procedures shall be prepared for use of cleaning materials and paint authorized for use in the specified maintenance operations.
c. When peculiar to the equipment, applicable CPC procedures shall be included, or the data module shall reference applicable CPC publications.
d. NSNs shall not be used in procedural steps, illustrations, or legends of maintenance information sets.
e. Part numbers shall not be used in procedural steps, illustrations, or legends, except when essential for identification.
f. Aviation maintenance TMs/IETPs shall reference procedures in TM 1-1500-204-23, as applicable.
g. 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.
h. (**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 and when established by maintenance engineering shall include critical measurement factors, such as Meantime Between Failures (MTBF), Meantime



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Between Corrective Maintenance (MTBCM), 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 maintenance engineering of the acquiring activity, the RAM information may be prepared in a narrative format.

5.87.8.1.2 Maintenance tasks.

Maintenance tasks shall be prepared for each authorized maintenance level in the general order listed below. For each maintenance task, illustrations shall be used to support or clarify the text, including schematics, wiring diagrams, parts location drawings and other visual aids.

a. Inspection (refer to 5.87.8.1.4)

   (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 5.87.8.1.5)
c. Servicing (refer to 5.87.8.1.6)
d. Adjust (refer to 5.87.8.1.7)
e. Align (refer to 5.87.8.1.8)
f. Calibrate (refer to 5.87.8.1.9)
g. Removal procedure (refer to 5.87.8.1.10)
h. Install procedure (refer to 5.87.8.1.11)
i. Replace (refer to 5.87.8.1.12)
j. Repair (refer to 5.87.8.1.13)
k. Painting (refer to 5.87.8.1.14)
l. Overhaul procedure (refer to 5.87.8.1.15)
m. Rebuild (refer to 5.87.8.1.16)
n. Lubrication (refer to 5.87.8.1.17)
o. Mark (refer to 5.87.8.1.18)
p. Pack procedure (refer to 5.87.8.1.19)
q. Unpacking (refer to 5.87.8.1.20)
r. Preservation procedure (refer to 5.87.8.1.21)
s. Assembly and preparation for use (refer to 5.87.8.1.22)
t. Assemble procedure (refer to 5.87.8.1.23)
u. Disassembly procedure (refer to 5.87.8.1.24)
v. Cleaning (refer to 5.87.8.1.25)
w. Non-destructive Testing Inspection (NDTI) (refer to 5.87.8.1.26)
x. Radio interference suppression (refer to 5.87.8.1.27)
y. Placing in service (refer to 5.87.8.1.28)
z. Ground handling (refer to 5.87.8.1.29)

   (1) Towing
   (2) Jacking



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(3) Parking
(4) Mooring
(5) Covering
(6) Hoisting
(7) Sling loading
(8) External power

aa. Preservation, packaging, and marking (refer to 5.87.8.1.30)
bb. Preparation for storage or shipment (refer to 5.87.8.1.31)
cc. Procedures to activate ammunition (refer to 5.87.8.1.32)
dd. Load (refer to 5.87.8.1.33)
ee. Unload (refer to 5.87.8.1.34)
ff. Software Maintenance (refer to 5.87.8.1.35)
gg. Additional maintenance task (refer to 5.87.8.2.2)

5.87.8.1.3 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. Peculiar instructions shall be prepared for lock wiring, installing cotter pins, use of sealing compounds, lubricants, or corrosion prevention compounds 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 (i.e., 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 which may result in a dangerous or hazardous mixture. Whether the danger is to personnel or equipment, it shall be identified and the effect shall be stated.
e. For aircraft, instructions shall be prepared for cleaning and washing the entire aircraft. Instructions shall be prepared for the removal of the battery, relief tube, power plant, and armament exhaust deposits, or other items or material as necessary. Instructions shall also be prepared regarding components which require relubrication after the aircraft has been washed or steam cleaned.
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 thereto. 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 shall 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.



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h. Maintenance procedures or steps that have a major quality assurance 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, overhaul inspection procedures (OIP), shall be included, in any applicable maintenance task. The OIP shall consist of the characteristics being inspected for, inspection methods, and the acceptance/reject criteria that shall be met. For characteristics having a major quality assurance effect, a statement such as "QA check" shall be placed immediately preceding the characteristic to which it applies. 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. The OIPs shall be placed immediately after the maintenance step for which it applies. When a maintenance task contains an excessive number of parts requiring OIPs, the OIPs may take the form of a consolidated table or list. A separate OIP table or list shall be provided for each part of the item that requires a critical inspection. OIP tables may be placed in a separate data module. If separate OIP data modules are developed, they shall be referenced within the procedural step where they apply.

5.87.8.1.4 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.

5.87.8.1.4.1 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**.**

5.87.8.1.4.2 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



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acquiring activity, these procedures contained in other publications shall be included in the task.

b. Instructions shall be prepared for inspection methods or techniques used to detect defective components or end items being processed. Classification of Material Defects tables shall be prepared for ammunition components and packaging and packing material. A classification of defects (e.g., minor, major, or critical) for both functioning and nonfunctioning categories shall be included. The tabulated data shall include the following entries:

(1) A list of categories of defects (minor, major, critical) 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. Visual inspection criteria shall be prepared for the packing of the items in conformance with the inspection criteria noted in a above.

d. 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.

e. 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 shall be included.

f. 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 parentheses shall be replaced with the appropriate information):

"(1) Each lot of material shall be inspected and screened 100 percent if one critical nonfunctioning 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 Armament, and Chemical Logistics Activity, ATTN: AMSMC-DSM, Rock Island, IL 61299-6000. Include a statement describing the capability and workload situation of your organization as to whether you are capable of reworking/demilitarizing the item."

5.87.8.1.4.3 Pre-embarkation inspection.

Data Module Type: Procedural Information Code: 310N

Pre-embarkation inspection procedures for material in units alerted for overseas movement shall be prepared, if applicable, and shall be as specified by the acquiring activity.



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5.87.8.1.4.4 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. Procedures shall indicate that inspection will be performed with the item in its normally installed position or condition, considering accessibility and visibility of the item being inspected. The purpose of the inspection (to determine if the item is damaged, deteriorated, or incomplete to the extent that it should be replaced or repaired) shall be stated. Procedures 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 shall be corrected.

5.87.8.1.4.5 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.

5.87.8.1.5 Testing.

Data Module Type: Procedural Information Code: 340C

a. Instructions shall be prepared, as applicable, to verify serviceability by measuring the mechanical, pneumatic, hydraulic, electrical, or electronic characteristics of components, assemblies, and subassemblies and comparing those characteristics with prescribed standards before installation in the end item.
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 5.87.8.1.4) 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 5.87.8.1.17) 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 5.87.8.1.14), refinishing, and marking (refer to 5.87.8.1.18) 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 which require replacement, the type of material



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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 contact 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."

5.87.8.1.6 Servicing.

Data Module Type: Procedural Information Code: 200A

a. Instructions shall be prepared for replenishment of fuel; oil; hydraulic or 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 by military and federal standard nomenclature, part number (MIL-STD), 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.

5.87.8.1.7 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.

5.87.8.1.8 Align.

Data Module Type: Procedural Information Code: 272A

Detailed instructions shall be prepared for alignment procedures to adjust specified variable elements of an item to bring about optimum or desired performance.

5.87.8.1.9 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 shall be prepared. It



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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. The calibration procedures contained in other publications may be included in the task, when approved by the acquiring activity.

5.87.8.1.10 Removal procedure.

Data Module Type: Procedural Information Code: 520A

Instructions to take a sub-component off an asset to allow repair or replacement of that sub-component, or to facilitate other maintenance shall be prepared.

a. Instructions shall be prepared in the logical removal sequence prescribed by the FGC. Illustrations shall be used to support and clarify the text. 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 which shall 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.

5.87.8.1.11 Install.

Data Module Type: Procedural Information Code: 720A

Instructions shall be prepared for the placing, positioning, or otherwise locating a component or sub-component to make it part of a higher level end item. Installation can be to install a new asset for the first time or reinstall an asset previously removed. The maintenance level allowed to perform an installation is determined by the third position in the SMR code. Illustrations shall be used to support and clarify the text.

a. Instructions shall be prepared for painting, refinishing, and marking the item prior to its installation in the next higher assembly of the equipment.
b. Inspection procedures 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. Peculiar instructions shall be prepared for lock wiring, installing cotter pins, use of sealing compounds, lubricants, or corrosion prevention compounds and similar operations with applicable references to the expendable and durable items list.
e. Information shall be prepared for shelf-life items, mandatory replacement parts, etc.
f. Instructions shall be prepared for pressurizing and charging with gas, including all safety requirements.

5.87.8.1.12 Replace.

Data Module Type: Procedural Information Code: 685C



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Instructions shall be prepared to install a serviceable component in its place in exchange of one that is unserviceable or a required time change asset at all maintenance levels authorized by the MAC.

5.87.8.1.13 Repair.

Data module type: Procedural Information code: 685A

Instructions shall be prepared for repair actions required to restore an item to a completely serviceable or fully mission capable status. Repair instructions shall be developed for all maintenance levels allowed full repair by the MAC.

5.87.8.1.14 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 55-1500-345-23, TM 1-1500-204-23, SB 11-573,TB 43-0209, 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.

5.87.8.1.15 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.

5.87.8.1.16 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.

5.87.8.1.17 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 here.

5.87.8.1.18 Mark.

Data Module Type: Procedural Information Code: 067D

a. For non munitions, 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 munitions not covered in a separate ammunitions data module, the following information shall be prepared as a minimum:

    (1) Any special sequence of action necessary to protect the ammunition.



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(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.

5.87.8.1.19 Pack procedure.

Data Module Type: Procedural Information Code: 713A

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.

5.87.8.1.20 Unpacking.

Data Module Type: Procedural Information Code: 840B

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.

5.87.8.1.21 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.

5.87.8.1.22 Assembly and preparation for use.

Data Module Type: Procedural Information Code: 710B

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.

5.87.8.1.23 Assemble procedure.

Data Module Type: Procedural Information Code: 710A

a. Step-by-step procedures shall be prepared for assembling items disassembled or removed that make up the components, assemblies, or subassemblies. Illustrations shall be used to support and clarify the text.
b. Instructions shall be prepared for assembling precision-matched or mated parts marked during disassembly.
c. 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.
d. 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. Torque values shall be given for all structural attaching hardware, fluid couplings (fuel, oil, hydraulic, pneumatic, etc.), and connections. Torque values shall



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include torque correction factors when crowfoot extensions, thread lubricants, and cadmium-plated screws or nuts are used. Torque values identified in the tasks shall 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).

e. Instructions such as "reverse the disassembly procedure," shall not be used.
f. ESD standards, ESD sensitive items along with the protective and control measures to be taken, and CPC procedures shall be identified.

5.87.8.1.24 Disassembly procedure.

Data Module Type: Procedural Information Code: 530A

Instructions shall be prepared for disassembly of components, assemblies, or subassemblies to the extent specified by the MAC and SMR coded items. Illustrations shall be used to support and clarify the text. 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.

5.87.8.1.25 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

Cleaning procedures, methods, special equipment, and materials that are required 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.



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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, relief tube, power plant, and armament exhaust deposits, or other items or material as necessary.

5.87.8.1.26 Non-Destructive Testing Inspection (NDTI).

Data Module Type: Procedural Information Code: 350B

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 NDTI 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 NDTI procedures. If a part requires a special process, this procedure must be contained within the NDTI procedure for that part.
d. Cleaning requirements before, during, and after NDTI 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 NDTI procedure.
e. The following requirements apply to **aircraft NDTI TMs only.**

(1) Instructions for use of visible dye penetrants shall not be included as part of NDTI 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 NDTI document referenced in the NDTI procedures. The technical provisions of this TM shall be followed. Individual NDTI procedures shall be specified for each part requiring NDTI. 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.

5.87.8.1.27 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 containing removal and installation instructions.
c. Instructions shall be prepared for testing radio interference suppression component

5.87.8.1.28 Placing in service.

Data Module Type: Procedural Information Code: 870P



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Instructions shall be prepared for actions not previously provided in a service upon receipt data module 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.

5.87.8.1.29 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.

5.87.8.1.29.1 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.

5.87.8.1.29.2 Jacking.

Data module type: Procedural Information Code: 172A

Instructions shall be prepared to mechanically raise or lift a vehicle to facilitate maintenance on the vehicle.

5.87.8.1.29.3 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.

5.87.8.1.29.4 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.

5.87.8.1.29.5 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.

5.87.8.1.29.6 Hoisting.

Data module type: Procedural Information Code: 171B

Instructions shall be prepared to allow a vehicle to be raised by cables or ropes through attaching points.



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5.87.8.1.29.7 Sling loading.

Data module type: Procedural Information Code: 178B

Instructions shall be prepared to place a sling around a vehicle to allow it to be raised.

5.87.8.1.29.8 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).

5.87.8.1.30 Preservation, packaging, and marking **(DMWR/NMWR only)**.

Data Module Type: Procedural Information Code: 810H

The following instructions shall be prepared.

5.87.8.1.30.1 Packaging information.

The packaging requirements for all components and end items under maintenance shall be requested from the items' source of supply, packaging management activity during the document's initial development and any revisions. The following packaging information shall be included verbatim in the DMWR/NMWR:

"PACKAGING

Military preservation, Level A packing, and marking shall be accomplished in accordance with the specific packaging instructions contained in Data Module (*insert data module code*).

MARKING FOR SHIPMENT AND STORAGE

a. 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.
b. 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) (i.e., 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



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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 two 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 be shall never be reused. Always use new barrier material, evacuate air from the barrier bag, and conduct a snap test after two hours on each bag to ensure seal is holding. All components of the wood box/crate shall 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-774.

CONTAINER REPAIR

Each long life metal reusable container will be inspected and reconditioned in accordance with TB 9-289, TM 55-8100-200-24, 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 five years or older. It also includes a leak test after reconditioning, inspection, and replacement of unserviceable wood



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skids, and touch up or total stripping and refinishing of the container surfaces with CARC paint."

5.87.8.1.30.2 Special instructions.

Instructions shall be prepared for any special or unique preservation, packaging, or marking instructions that apply to the equipment. These instructions shall include warnings, cautions, or references concerning ESD, nuclear material, hazardous substances, special marking instructions, or any other instructions required that are not covered in the standard packaging and preservation information.

5.87.8.1.31 Preparation for storage or shipment.

Data Module Type: Procedural Information Code: 810C

As applicable, the following instructions shall be prepared.

a. Security procedures and special transportation requirements for sensitive items (security, terrorists, etc.).
b. Special preservation, packaging, packing, marking, ESD protective and control measures, and shipping instructions, including use of special design reusable containers.
c. Instructions on special use of corrosion-preventive compounds, moisture barriers, and desiccant materials.
d. Instructions for applying special identifying, shipping, and cautionary markings to shipping containers; including 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. Procedures for proper handling, blocking, and bracing of basic load ammunition when being transported in trucks and other tactical vehicles.
g. (**Conventional and chemical ammunition only**) Basic load storage, quantity-distance class, storage compatibility groupings, storage temperatures, stacking limits, and other pertinent storage requirements.
h. For aviation ground support equipment, a reference to TM 1-1500-204-23 for general technical information for preparation for storage or shipment.

5.87.8.1.32 Procedures to activate ammunition.

Data Module Type: Procedural Information Code: 120G

Procedures shall be prepared for activation of ammunition, mines, etc.

5.87.8.1.33 Load.

Data module type: Procedural Information Code: 831A (vehicle)
725A (ammo)

Instructions for placing assets onto a transportation medium (e.g., pallet, truck, container) or munitions 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., pallet, truck, container).
b. For munitions, the act of placing munitions onto a vehicle or aircraft.



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5.87.8.1.34 Unload.

Data module type: Procedural Information Code: 841A (vehicle)
525A (ammo)

Instructions for removing assets from a transportation medium (e.g., pallet, truck, container) or munitions 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., pallet, truck, container).
b. For munitions, the act of removing munitions from a vehicle or aircraft.

5.87.8.1.35 Software maintenance.

Data module type: Procedural Information Code: 550A (unload SW)
706A (upgrade)
750G (load SW)

Instructions for software maintenance tasks (e.g., installing, un-installing, interface setup, etc.) shall be prepared as required to support the specific equipment.

5.87.8.2 Project decisions.

5.87.8.2.1 Cleaning information codes.

The project shall determine the information codes used for cleaning procedure data modules.

5.87.8.2.2 Additional maintenance task.

Additional maintenance task may be developed when the specific type of maintenance tasks are not covered as described. If additional maintenance tasks are used, proponent shall submit to LOGSA the requirements for this maintenance task type for possible incorporation within future revisions to this standard.

5.87.9 Follow-on maintenance.

5.87.9.1 Army business rules.

5.87.9.1.1 General.

As applicable, instructions shall be prepared for follow-on maintenance and it shall be the last task in the data module. Follow-on 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. Follow on maintenance may be in a separate referenced procedural data module with and 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 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.

5.87.9.2 Project decisions.

5.87.9.2.1 Follow-on maintenance.

The project shall decide what follow-on maintenance instructions will be prepared.



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5.87.10 General maintenance.

5.87.10.1 Army business rules.

5.87.10.1.1 General.

General maintenance information set shall be prepared as directed by acquiring activity and contain common, general, or standard maintenance procedures applicable to other maintenance information sets contained within the TM/IETP that require the general maintenance procedures to complete the tasks.

5.87.10.2 Project decisions.

5.87.10.2.1 General maintenance instructions.

The project shall decide what general maintenance instructions will be prepared.

5.87.11 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

5.87.11.1 Army business rules.

5.87.11.1.1 General.

Lubrication schedules shall be prepared to present all applications and procedures, lubricants, and lubrication points to completely lubricate equipment.

5.87.11.1.2 Lubrication charts.

a. Lubrication charts shall consist of a main drawing prepared as a three-dimensional diagram, and such enlarged or detailed views as are considered necessary to identify items which 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, shall be used to present lubricant types. In the event a lubricant does not have an abbreviation listed in MIL-HDBK-275, the abbreviation shall be provided by the procuring 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 requirements other than normal.

5.87.11.2 Project decisions.

None.

5.87.12 Facilities **(DMWR/NMWR only)**.

Data Module Type: Descriptive Information Code: 915A



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5.87.12.1 Army business rules.

5.87.12.1.1 General.

Facilities data module (**DMWR/NMWR only**) shall be prepared as directed by acquiring activity. A description of all facilities, such as 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 shall meet. When approved by the acquiring activity, data from these standards may be included in the procedures.

5.87.12.2 Project decisions.

None.

5.87.13 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 consist of the entries described below. The overhaul and retirement schedule may be prepared as a table.

(1) Part name. The name of the part shall be listed. An asterisk (*) shall precede the part name if the part is an indentured 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.

5.87.14 Overhaul Inspection Procedures (OIP) **(DMWRs/NMWRs only)**.

Data Module Type: Procedural Information Code: 310C

5.87.14.1 Army business rules.

5.87.14.1.1 General.

Unless otherwise specified by the acquiring activity, OIP data modules (**DMWRs/NMWRs only**) shall be prepared for items that have parts with specific characteristics, wear limits, specified performance requirements, or fatigue characteristics or tolerances. A separate data



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module shall be provided for each item containing such parts. Within each data module, a separate OIP shall be provided for each part of the item that requires a critical inspection.

5.87.14.1.2 Scope.

OIP shall contain the characteristics being inspected for, inspection methods, and the acceptance/reject criteria that shall be met. For characteristics having a major quality assurance effect, the acronym "QA" shall be placed immediately preceding the characteristic to which it applies. 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. A reference letter may be included in the OIP to locate the critical inspection characteristics of the parts on the illustrations. The OIPs may be contained in a table or a list. References to these OIP data modules shall be included within the applicable maintenance procedural step (i.e., disassembly, reassembly, testing, etc.) or preshop analysis procedural step where they apply.

5.87.14.2 Project decisions.

5.87.14.2.1 Overhaul Inspection Procedures (OIP) data modules.

The project shall determine if and when OIP data modules shall be prepared.

5.87.15 Depot mobilization requirements **(DMWR/NMWR only)**.

Data Module Type: Descriptive Information Code: 800K

5.87.15.1 Army business rules.

5.87.15.1.1 General.

When specified and provided by the acquiring activity, the modifications, deletions, or additions to the preshop analysis or overhaul procedures required during mobilization shall be included in this information set. The following data shall be included.

5.87.15.1.2 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 followed by the action to be taken."

5.87.15.1.3 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 in 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.



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5.87.15.2 Project decisions.

5.87.15.2.1 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.

5.87.16 Quality Assurance (QA) requirements **(DMWR/NMWR only)**.

Data Module Type: Descriptive Information Code: 315A

5.87.16.1 Army business rules.

5.87.16.1.1 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."

5.87.16.1.2 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.

5.87.16.1.3 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.

5.87.16.1.4 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.

5.87.16.1.5 Quality program.

Any requirements for a quality program shall be listed.

5.87.16.1.6 In-process inspections.

The following statement shall be included.

"IN-PROCESS INSPECTIONS

In-process quality assurance 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, and they are the minimum inspections required.



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Additional quality assurance inspections may be established by the depot or the commodity manager."

5.87.16.1.7 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."

5.87.16.1.8 First article inspection.

When applicable, first article inspection/test shall be prepared for the DMWR/NMWR in accordance with ISO 9000 Series standards or equivalent.

5.87.16.2 Project decisions.

None.

5.87.17 Illustrated list of manufactured items **(Field level or above only)**.

Data Module Type: Descriptive Information Code: 670E

5.87.17.1 Army business rules.

5.87.17.1.1 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.

5.87.17.1.2 Introduction for illustrated list of manufactured items data module.

The following introduction (text below within the quotation marks) shall be prepared and included verbatim.

"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



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All instructions needed by maintenance personnel to manufacture the item are included on the illustrations. (When applicable, a reference to the associated IPD 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."

5.87.17.1.3 Index of manufactured items.

An index of part numbers or drawing numbers shall be prepared which lists part numbers and/or drawing numbers, in alphanumeric order, along with the name of the part for all items illustrated in this data module. If applicable, the illustration figure number containing the manufacturing data shall be included.

5.87.17.1.4 Illustrations of manufactured items.

The following information shall be prepared:

a. As required, illustrations shall be prepared which contain sufficient views to portray all features of the item.
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.

5.87.17.2 Project decisions.

None.

5.87.18 Torque limits **(Field/AMC level or above only)**.

Data Module Type: Procedural Information Code: 711B

5.87.18.1 Army business rules.

5.87.18.1.1 General.

This data module shall be prepared as directed by acquiring activity using information prepared to provide applicable torque values (expressed in lb-ft or lb-in. terms), data as to bolt grade markings and their proper identification, and specific torque sequencing requirements.

5.87.18.1.2 Introduction.

Information shall be prepared to include the scope or how to use the torque limits data module.

5.87.18.1.3 Torque instructions.

Specific instructions such as torque limits for dry and wet fasteners, fastener sizes and thread patterns, etc., shall be prepared.



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5.87.18.2 Project decisions.

None.

5.87.19 Ammunition maintenance.

Data Module Type: Procedural Information Code: 200K

5.87.19.1 Army business rules.

5.87.19.1.1 General.

This information set shall be prepared as directed by acquiring activity and reference or contain the following.

5.87.19.1.2 Care and handling.

All procedures required for care and handling of ammunition, including hazard distances, storage, special requirements, prevention of deterioration due to rough handling, exposure to adverse weather conditions or other hazards. Visual inspection criteria shall be prepared to determine item serviceability.

5.87.19.1.3 Defective.

Procedures shall be prepared for disposition of defective ammunition.

5.87.19.1.4 Cleaning and painting.

Use of cleaning materials and paint authorized for use in the specified maintenance operations shall be specified.

5.87.19.2 Project decisions.

None.

5.87.20 Ammunition marking.

Data Module Type: Procedural Information Code: 067C

5.87.20.1 Army business rules.

5.87.20.1.1 General.

Ammunition marking information data module shall be prepared as directed by acquiring activity and shall provide applicable information on ammunition marking, classification, identification, care and handling, preservation, transportation, authorized rounds, preparation for firing, fuses, and packing. Reusable original packaging and containers shall be identified for return or temporary storage of ammunition in its original configuration. Information on classifying, identifying, caring for, handling, etc., non-ammunition Class V items shall be prepared, when applicable. Individual paragraphs shall be prepared for each ammunition type/classification.

5.87.20.2 Project decisions.

None.

5.87.21 Foreign ammunition (NATO).

Data Module Type: Procedural Information Code: 011B



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5.87.21.1 Army business rules.

5.87.21.1.1 General.

Foreign ammunition (NATO) data module(s) to describe foreign ammunition shall be prepared when applicable.

5.87.21.2 Project decisions.

None.

5.87.22 Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) (**DMWR/NMWR only**).

5.87.22.1 Army business rules.

5.87.22.1.1 General.

Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) information sets shall be prepared using the data module types and information codes specified in the corresponding content selection matrix in A.5.

5.87.22.1.2 Front matter.

Refer to 5.128 for front matter content requirements.

5.87.22.1.3 Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) Chapter 1 – Introduction (General information and scope).

Data Module Type: Descriptive Information Code: 018A

The M/DCCA introduction shall consist of the following information as required:

5.87.22.1.3.1 Scope.

The scope shall be a brief narrative portraying the purpose of the DMWR. This paragraph shall identify the ammunition to be worked on and the work that will be accomplished.

5.87.22.1.3.2 Forms, records, and reports.

All forms, records, and reports that are required during the performance of depot maintenance shall be referenced. Instructions shall be provided for their use and disposition as provided by the contracting activity.

5.87.22.1.3.3 Deviations, waivers, and exceptions.

Requests for deviations, waivers, or exceptions shall be obtained from the publication proponent agency.

5.87.22.1.3.4 Corrosion Prevention and Control (CPC).

The CPC information provided shall contain numbered subparagraphs similar to the following:

> "Corrosion Prevention and Control (CPC) of material is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements made to prevent the problem in future items.
>
> While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.



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If a corrosion problem is identified, it shall be reported to the proponent agency."

5.87.22.1.3.5 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.

5.87.22.1.3.6 Disposition guidance.

Disposition guidance for serviceable and unserviceable components and materials shall be included as a part of each operation description, and also will address removal of hazardous materials or components and inspection of salvaged materials prior to transfer to Defense Reutilization Marketing Office (DRMO).

5.87.22.1.3.7 Safety requirements.

The following statement shall be included:

"Safety requirements shall be complied with as prescribed by appropriate service regulations."

5.87.22.1.3.8 Protection against Pentachlorophenol (PENTA)-treated materials.

Requirements for handling of ammunition, requirements for wearing of suitable protective clothing, and precautions when handling PENTA-treated packing materials and pallets shall be included. Reference shall be made to Appendix F for additional data on personal hygiene requirements, working PENTA-treated wood, and disposition of contaminated clothing.

5.87.22.1.3.9 Protection against specific hazards.

Specific hazards shall be listed in each applicable operation for the ammunition and materials requiring protection against the specific hazards.

5.87.22.1.3.10 Environmental regulation compliance.

Environmental regulations implemented by federal, state, and local governments, shall be addressed

5.87.22.1.3.11 Resource conservation and recovery regulations.

The provisions of the Resource Conservation and Recovery Act (PL 89-272), as amended by (PL 91-512), (PL 93-611) and (PL 94-58), shall be addressed.

5.87.22.1.3.12 Tabulated data.

Reference shall be made to Appendix D for the tabulated data.

5.87.22.1.4 Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) Chapter 2 – Operational requirements.

Data Module Type: Descriptive Information Code: 130E

Chapter 2 shall contain the specific operational steps, including safety warnings, caution, notes, and inspections and requirements for special safety, equipment, material, and facilities. The chapter may contain a flowchart for each specific operation, but it is not mandatory.

5.87.22.1.5 Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) Chapter 3 – Quality acceptance requirements.

Data Module Type: Descriptive Information Code: 315A



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This chapter shall identify acceptance requirements including ballistic test requirements (BTR), product defect criteria, acceptable quality levels (AQL), or site defect criteria identified in the operational steps to include defect classification or to incorporate appropriate statistical process control (SPC) statements for performing activities.

5.87.22.1.6 List of terms.

Data Module Type: Descriptive Information Code: 006A

All quality assurance terms used in the DMWR shall be listed and defined.

5.87.22.1.7 Maintenance/Demilitarization of Conventional and Chemical Ammunition (M/DCCA) appendices.

Appendixes shall be added to a DMWR as applicable for purposes of illustration, application, and general information. Appendix identification shall be alphabetical throughout the document in the order of reference in the text. Each appendix shall begin on a right-hand page. Appendix pages shall be consecutively numbered. Appendixes shall immediately follow the last figure of the DMWR.

5.87.22.1.7.1 Appendix A. References.

Data Module Type: Descriptive Information Code: 017B

This appendix shall consist of all publications referenced in the DMWR (except military specifications and drawings which are listed in Appendix D). The publications shall be listed in groups by publication type. If nongovernmental, the source shall be provided. The complete name and number of each publication shall be used.

5.87.22.1.7.2 Appendix B. Consumable materials.

Data Module Type: Descriptive Information Code: 101B

This appendix shall consist of a list in tabular format and shall contain as a minimum this data: item number, NSN, federal item name and description if needed, part number, CAGEC, and unit of issue.

5.87.22.1.7.3 Appendix C. Equipment and special facilities.

Data Module Type: Descriptive Information Code: 105B

Appendix C shall consist of a list of equipment and special facilities required to perform the operations described in the DMWR.

5.87.22.1.7.4 Appendix D. Tabulated data, military specifications, and drawings.

Data Module Type: Descriptive Information Code: 00VA

Appendix D shall consist of a list of tabulated data extracted from Army Data Sheets, and/or major specifications and drawings applicable to the DMWR operations.

5.87.22.1.7.5 Appendix E. Approved intraplant transfer equipment.

Data Module Type: Descriptive Information Code: 104B

This appendix lists suggested or commonly available equipment. If the DMWR operations require no intraplant Ammunition Peculiar Equipment (APE), this appendix should be omitted.



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5.87.22.1.7.6 Appendix F. Pentachlorophenol (PENTA)-treated packing materials.

Data Module Type: Descriptive Information Code: 820B

When specified by the contracting activity, this appendix shall be used to include the latest requirements in all DMWRs.

5.87.22.1.7.7 Appendix G. Environmental requirements.

Data Module Type: Descriptive Information Code: 030B

This appendix shall be used to include the latest requirements. As a minimum, this appendix shall include air, noise, and emission problems and controls as applicable.

5.87.22.1.7.8 Appendix H. Hazard analysis.

Data Module Type: Descriptive Information Code: 012B

This appendix shall contain a hazard analysis updated to include the latest requirements. Potential hazards which may result in injury or death with appropriate countermeasures shall be identified.

5.87.22.1.7.9 Other appendices.

Data Module Type: Descriptive Information Code: (unspecified)

When specified by the contracting activity, other appendixes shall be added to the DMWR.

5.87.22.1.8 Authentication page.

Data Module Type: Descriptive Information Code: 023C

An authentication page shall be included after the last appendix of the DMWR if produced as a stand-alone TM/IETP.

5.87.22.2 Project decisions.

5.87.22.2.1 Stand alone.

Maintenance/Demilitarization of Conventional and Chemical Ammunition information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.87.22.2.2 PENTA-treated packaging.

The project shall determine the use of the PENTA-treated packing materials appendix.

5.87.22.2.3 Additional appendices.

The project shall determine the requirements for other appendices, if they exist.

5.87.22.2.4 Appendix E. Approved intraplant transfer equipment.

The project shall decide on the need for Appendix E (Intraplant transfer equipment).

5.87.23 Preventive maintenance checklist.

Data Module Type: Checklist Information Code: 200J



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5.87.23.1 Army business rules.

5.87.23.1.1 General.

Daily preventive maintenance checklist information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.87.23.1.2 Scope.

The checklist shall consist of all before, during, and after operation interval checks and service procedures contained in the validated and verified PMCS table in the associated operator's manual.

5.87.23.1.3 Item numbers.

Item numbers in the checklist shall be the same as those assigned to the procedures in the operator's PMCS table.

5.87.23.1.4 Checks and services procedures.

The checks and services procedures in the checklist shall be presented in the same sequence and include the same crewmember headings, if any, as those in the associated operator's PMCS table. Appropriate interval headings shall precede each group of procedures.

5.87.23.1.5 Type size.

Type size shall not be smaller than 8 point for the vertical pocket manual format.

5.87.23.1.6 Technical content.

The checklist shall consist of all before, during, and after operation interval checks and service procedures contained in the validated and verified PMCS table in the associated operator's information set.

5.87.23.1.7 Item numbers.

Item numbers in the checklist shall be the same as those assigned to the procedures in the operator's PMCS table.

5.87.23.1.8 Sequence.

The checks and services procedures in the checklist shall be presented in the same sequence and include the same crewmember headings, if any, as those in the associated operator's PMCS table. Appropriate interval headings shall precede each group of procedures.

5.87.23.1.9 Not Mission Capable (NMC) faults.

Any check that could reveal an NMC fault shall be identified by placing an asterisk by that item number. Each page containing an asterisk shall have a note explaining its meaning and instructing the operator to report the NMC fault using the appropriate forms. The note shall appear at the bottom of the page.

5.87.23.1.10 Warnings and cautions.

All warnings and cautions applicable to the checks and services procedures extracted from the PMCS table in the associated operator's manual shall be included in the checklist in their entirety.



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5.87.23.2 Project decisions.

5.87.23.2.1 Stand alone.

Daily preventive maintenance checklist information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.88 S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation.

5.88.1 Army business rules.

5.88.1.1 Scope.

This section contains content requirements for the following information sets:

a. Troubleshooting index (refer to 5.88.4)
b. Preshop analysis (refer to 5.88.5)
c. Component checklist (refer to 5.88.6)
d. Operational checkout (refer to 5.88.7)
e. Troubleshooting (refer to 5.88.8)

5.88.1.2 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.

5.88.1.3 Troubleshooting scope.

Troubleshooting instructions shall cover all items comprising the weapon system/equipment, such as assemblies, subassemblies, 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 LMI, 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

5.88.1.4 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



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authorized maintenance level in accordance with the LMI, MAC, or Maintenance Plan 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.

5.88.1.5 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.

5.88.1.6 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.

5.88.1.7 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.

5.88.1.8 Semi-automatic or automatic testing and troubleshooting.

Many high performance systems have been designed to accept the use of semi-automatic/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.

5.88.1.9 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.



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5.88.1.10 Sensor derived failures.

Sensors, installed at critical points shall be used to detect discrepancies in system operation.

5.88.1.11 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.

5.88.1.12 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.

5.88.1.13 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.

5.88.1.14 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.

5.88.1.15 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.



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5.88.1.16 Integrated systems requiring the use of system peculiar test sets.

Testing and troubleshooting procedures shall include identical parameters as those in 5.88.1.15 with the additional requirement for special cables or support equipment that may be required.

5.88.1.17 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.

5.88.1.18 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



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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.

5.88.1.19 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**).

5.88.1.20 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. Troubleshooting index
b. Operational checkout
c. Troubleshooting
d. Diagnostic (**IETP only**).

5.88.1.21 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. Troubleshooting index
b. Preshop analysis
c. Component checklist
d. Operational checkout
e. Troubleshooting
f. Diagnostic (**IETP only**).



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5.88.1.22 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.

5.88.1.23 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 or maintenance plan.

5.88.1.24 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.

5.88.1.25 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.

5.88.2 Project decisions.

None

5.88.3 Troubleshooting introduction.

Data Module Type: Descriptive Information Code: 018C

5.88.3.1 Army business rules.

5.88.3.1.1 General.

A single descriptive data module shall be used.

5.88.3.1.2 Scope.

This work package 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.

5.88.3.2 Project decisions.

None.



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5.88.4 Troubleshooting index.

5.88.4.1 Army business rules.

5.88.4.1.1 General.

A troubleshooting index data module shall be prepared as directed by the acquiring activity and consist of either a malfunction index, a symptom index, or a system/subsystem index.

5.88.4.1.2 Malfunction index.

Data Module Type: Descriptive Information Code: 410F

When all probable faults have been determined and described, prepare a malfunction index data module using the exact description of the fault as was used in the troubleshooting procedures. A single descriptive data module shall be used. Group symptoms to common system areas in the malfunction index and in the troubleshooting procedures.

a. List all known malfunctions in alphabetical order by malfunction or by fault message word and reference this information to the applicable testing and troubleshooting data module or the required corrective action.
b. For complex systems, list malfunctions by subsystem categories, if necessary, and use codes that help identify specific items. Subsystem categories shall be listed in alphabetical order or by code.
c. Catalog malfunctions by method of detection, if this aids usability.
d. Fault symptom descriptions (titles) shall be standardized between a malfunction index data modules and troubleshooting procedures data modules.

5.88.4.1.3 Symptom index.

Data Module Type: Descriptive Information Code: 410B

When all probable faults have been determined and described, prepare a symptom index data module using the exact symptom as was used in the troubleshooting procedures. A single descriptive data module shall be used. Group symptoms to common system areas in the symptom index and in the troubleshooting procedures.

a. List all fault symptoms in alphabetical order by symptom or by built-in test code and 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, if necessary, and use codes that help identify specific items. Subsystem categories shall be listed in alphabetical order or by code.
c. Catalog symptoms by method of detection, if this aids usability.
d. Fault symptom descriptions (titles) shall be standardized between a symptom index data modules and troubleshooting procedures data modules.

5.88.4.1.4 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.



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5.88.4.1.5 System/subsystem index.

Data Module Type: Descriptive Information Code: 410C

This shall consist of a list of specific systems, subsystems, assemblies and components requiring troubleshooting, referenced to the applicable testing and troubleshooting data module for required corrective action. A single descriptive data module shall be used.

5.88.4.2 Project decisions.

5.88.4.2.1 Troubleshooting index.

The project shall decide whether to prepare a malfunction index, a symptom index, or a system/subsystem index.

5.88.5 Preshop analysis **(DMWR/NMWR only)**.

Data Module Type: Procedural Information Code: 341C

5.88.5.1 Army business rules.

5.88.5.1.1 General.

Preshop analysis information set (**DMWR/NMWR only**) shall apply when data indicates that an inspection or test is more effective in determining useful life of a system, subsystem, or component than a mandatory disassembly.

5.88.5.1.2 Scope.

The purpose and coverage of the preshop analysis shall be stated.

5.88.5.1.3 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.

5.88.5.1.4 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



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acquiring activity, an electronic checklist shall be provided in lieu of the narrative or printable checklist.

5.88.5.1.5 Purpose and coverage of preshop analysis.

The purpose and coverage of the preshop analysis shall be stated.

a. 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 done. 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.
b. Checklist. The checklist shall include the following data.
   (1) Cover sheet/screen. The cover sheet/screen 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 person doing the analysis; and date.
   (2) Introduction. When necessary, the table of tests and inspections shall be preceded by a brief explanation of its use.
   (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 data module where the procedures or actions are provided shall be included in the checklist.

5.88.5.2 Project decisions.

5.88.5.2.1 Preshop analysis format.

The project shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist.

5.88.6 Component checklist **(DMWR/NMWR only)**.

Data Module Type: Descriptive Information Code: 341B

5.88.6.1 Army business rules.

5.88.6.1.1 General.

A component checklist information set shall be prepared when required to support the preshop analysis procedures.

5.88.6.1.2 Introduction.

When necessary, the checklist shall be preceded by a brief explanation of its use (introduction).

5.88.6.1.3 Component checklist.

The component checklist shall contain the following data, as applicable.



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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

5.88.6.2 Project decisions.

5.88.6.2.1 Introduction.

The project shall determine when a component checklist introduction is required.

5.88.7 Operational checkout.

5.88.7.1 Army business rules.

5.88.7.1.1 General.

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.

5.88.7.1.2 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.

5.88.7.1.3 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.

5.88.7.1.4 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.



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5.88.7.1.5 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.

5.88.7.1.5.1 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.

5.88.7.1.5.2 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.

5.88.7.1.5.3 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.

5.88.7.1.6 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.

5.88.7.2 Project decisions.

5.88.7.2.1 Introduction.

The project shall determine if and when an introduction to operational checkout is required.

5.88.7.2.2 Method.

The project shall determine the method of operational checkout procedures.



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5.88.8 Troubleshooting.

5.88.8.1 Army business rules.

5.88.8.1.1 General.

Troubleshooting procedures for detecting, isolating, and correcting aircraft, aircraft systems or other types of weapon system, and their subsystems, and equipment failures and malfunctions shall be developed. Troubleshooting for **DMWRs/NMWRs** shall be developed as specified by acquiring activity. Data modules will relate either to a specific symptom or to a system, assembly, or component.

A single descriptive data module shall be used to contain the introduction and general procedures for each troubleshooting procedure.

5.88.8.1.2 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.

5.88.8.1.3 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.

5.88.8.1.4 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.

5.88.8.1.5 Graphic troubleshooting tree.

A graphic troubleshooting tree shall not be used in IETP.

5.88.8.1.6 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.

5.88.8.1.6.1 Troubleshooting procedure.

Data Module Type: Fault Information Code: 421B through 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" response is



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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.

**NOTE**

Multiple information codes are available to the project (422B through 428B) to allow for multiple different troubleshooting procedures to be prepared for the same end item if necessary.

5.88.8.1.6.2 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.

5.88.8.1.6.2.1 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.

5.88.8.1.6.2.2 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.



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5.88.8.1.6.2.3 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.

5.88.8.1.6.2.4 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.

5.88.8.1.6.2.5 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.

5.88.8.1.6.2.5.1 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.

5.88.8.1.6.2.5.2 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.

5.88.8.1.6.2.5.3 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



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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.

5.88.8.1.6.2.5.4 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).

5.88.8.1.6.2.6 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.

5.88.8.1.7 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.

5.88.8.1.8 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.

5.88.8.2 Project decisions.

5.88.8.2.1 Introduction.

The project shall determine if and when troubleshooting procedures require an introduction.

5.88.8.2.2 Troubleshooting type.

The project shall determine which trouble shooting type to use for each troubleshooting procedure required.

5.88.8.2.3 Use of integrated system troubleshooting procedures.

The project shall determine if and when integrated system operational checkout and troubleshooting procedures shall be developed.



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5.89 S1000D Chapter 5.2.1.3.3 – Common information sets – Non-destructive testing.

The information referenced in S1000D Chapter 5.2.1.3.3 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 LOGSA to ensure consistent implementation across the Army.

5.90 S1000D Chapter 5.2.1.3.4 – Common information sets – Corrosion control.

The information referenced in S1000D Chapter 5.2.1.3.4 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 LOGSA to ensure consistent implementation across the Army.

5.91 S1000D Chapter 5.2.1.3.5 – Common information sets – Storage.

The information referenced in S1000D Chapter 5.2.1.3.5 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 LOGSA to ensure consistent implementation across the Army.

5.92 S1000D Chapter 5.2.1.4 – Common information sets – Wiring data.

Data Module Type: Descriptive Information Code: 051A

5.92.1 Army business rules.

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.

5.92.1.3 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.

5.92.1.4 Wiring diagrams.

Wiring diagrams shall be prepared for all electrical and electronic systems and circuits.

5.92.1.5 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.



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5.92.2 Project decisions.

5.92.2.1 Data module size.

The amount of wiring information that is prepared in a single data module is a project decision dependent on the complexity and quantity of the wiring information needed.

5.92.2.2 Single or multiple data modules.

The required wiring information for introduction, wire ID, abbreviation, and wiring diagrams may be contained in a single or multiple data modules.

5.92.2.3 Use of the wiring data module.

The project may elect to use the Wiring Data Module. If so, projects are required to coordinate efforts, including related business rules, with LOGSA.

5.93 S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data.

5.93.1 Scope.

This section contains content requirements for the following information sets:

a. IPD introduction (refer to 5.93.4)
b. Repair parts information (refer to 5.93.5)
c. Repair parts for special tools list (refer to 5.93.7)
d. Kit parts list (refer to 5.93.8)
e. Bulk items list (refer to 5.93.9)
f. Special tools list (refer to 5.93.10)
g. Cross reference index (refer to 5.93.11)
h. National stock number index (refer to 5.93.11.1.5)
i. Part number index (refer to 5.93.11.1.6)
j. Reference designator index (refer to 5.93.11.1.7)
k. Components of end item list (refer to 5.93.11.2)
l. Basic issue items list (refer to 5.93.13)
m. Additional authorization list (refer to 5.93.14)
n. Expendable and durable items list (refer to 5.93.15)
o. Mandatory replacement parts (refer to 5.93.16)
p. Critical safety items (refer to 5.93.17)
q. Hand receipt technical manuals (refer to 5.93.18)

5.93.2 Army business rules.

5.93.2.1 General.

Parts lists shall be prepared for weapon systems, major components and applicable support and interface equipment.

5.93.2.2 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.



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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.

5.93.2.3 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.

5.93.2.4 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.

5.93.2.5 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.

5.93.2.6 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).

5.93.2.7 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.

5.93.3 Project decisions.

5.93.3.1 Separate parts manual.

The project shall decide if they will produce a separate parts manual or include parts data within other publications.



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5.93.4 Parts introduction.

Data Module Type: Descriptive Information Code: 018E

5.93.4.1 Army business rules.

5.93.4.1.1 General.

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.

"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 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.



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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, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

**Table I. SMR Code Explanation.**

| **Source Code XX** | **Maintenance Code XX** | | **Recoverability Code 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<br>PB<br>PC<br>PD<br>PE<br>PF<br>PG<br>PH<br>PR<br>PZ | 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.<br><br>**NOTE**<br>Items coded PC are subject to deterioration. |
| KD<br>KF | Items with these codes are not to be requested/requisitioned individually. They are |



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| Source Code | Application/Explanation |
|---|---|
| KB | part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit shall be requisitioned and applied. |
| MF-Made at field<br>MH- Made at below depot/sustainment level<br>ML-Made at SRA<br>MD-Made at depot<br>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<br>AH- Assembled by below depot sustainment level<br>AL-Assembled by SRA<br>AD-Assembled by depot<br>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:



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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. |



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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 |
|---|---|
| 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 ASB 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.



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4. 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.

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 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.



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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 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.



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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.

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.

Include 4 only if the parts list has a reference designator index.

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*."

5.93.4.2 Project decisions.

5.93.4.2.1 Parts list illustration.

When specified by the acquiring activity, an indexed parts list illustration and legend shall be added to the end of the introduction. Complex weapon systems have numerous repair parts lists associated to the equipment and the illustration and legend assists in locating the repair parts information. The indexed parts list illustration shall provide an exploded view of the equipment with index numbers pointing to the major functional groups. The illustration shall have a legend that defines the item number, major functional group figure title and figure number.

5.93.5 Repair parts information.

Data Module Type: IPD Information Code: 607E

5.93.5.1 Army business rules.

5.93.5.1.1 General.

A parts list data module shall consist of one functional group code.

5.93.5.1.2 Scope.

The repair parts lists shall have a figure and a list of repair part items.



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5.93.5.1.3 Repair parts figure title.

When available, figure titles shall be taken from provisioning documentation. The parts list figure title, the functional group title 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.

5.93.5.1.4 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) Functional group header. The functional group header shall precede the first repair part item in the description column. The header shall consist of the functional group number and title appearing on the top line(s). The next line(s) below shall include the figure number and the figure title.
    (2) 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.
    (3) 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.
    (4) 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.
    (5) 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



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item is used on all models or when only one configuration is covered by the parts list, serial number shall not be shown.

(6) 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 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 a V (variable) when the exact quantity may vary.

(b) Option 1 (parts). Option 1 kit repair parts shall be listed with their applicable figure 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. The quantity (in parentheses), figure number, and item number shall follow the repair part 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.



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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.

5.93.5.1.5 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 functional group titled BASIC ISSUE ITEMS (REPAIR PARTS). Items listed in functional and sub functional groups shall be listed and identified with the same basic columnar data required for the end item repair parts. BII shall be supported by illustrations.

5.93.5.1.6 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.

5.93.5.2 Project decisions.

5.93.5.2.1 Optional columns.

The project shall decide on the use of the following repair part list optional columns:

a. Unit of Measure. The unit of measure for the item may be included.
b. Unit of Issue. The unit of issue for the item may be included.
c. Reference Designator. The reference designator for the item may be included.
d. Next Higher Assembly. Information on the next higher assembly may be included.
e. Parts Breakdown Reference. A reference to parts breakdown for the item may be included.

5.93.6 Illustrations.

5.93.6.1 Army business rules.

5.93.6.1.1 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



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(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) having only one FGC shall have the same item number. If a figure has two or more FGCs/assemblies, only the identical parts with identical SMR codes within each FGC/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 and UOC column and be followed by the statement "SEE FIG ## FOR BREAKDOWN."

5.93.6.2 Project decisions.

None.

5.93.7 Repair parts for special tools.

Data Module Type: IPD Information Code: 607B

5.93.7.1 Army business rules.

5.93.7.1.1 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.

5.93.7.1.2 Special tools repair parts items list.

The repair parts items list requirements shall be used except as specified below:

5.93.7.1.3 Functional group header.

The functional group header shall precede the first special tools repair part item in the DESCRIPTION AND USABLE ON CODE (UOC) column. The functional group number and title shall be "SPECIAL TOOLS (REPAIR PARTS)" appearing on the top line(s). The next line(s) below shall be the figure number and the figure title.

5.93.7.2 Project decisions.

None.

5.93.8 Kit parts list.

Data Module Type: IPD Information Code: 607C



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5.93.8.1 Army business rules.

5.93.8.1.1 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 functional group.

5.93.8.1.2 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. Functional group header. The functional group header shall precede the first bulk item in the DESCRIPTION AND USABLE ON CODE (UOC) column. The functional group number and title shall be "REPAIR KITS" appearing on the top line(s). The next line(s) below shall be the figure number and the figure title.
b. Kit part item group. Parts in the kit group, in the DESCRIPTION AND USABLE ON CODE (UOC) 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 (in parentheses), the figure number, 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.

5.93.8.2 Project decisions.

None.

5.93.9 Bulk items.

Data Module Type: IPD Information Code: 603B

5.93.9.1 Army business rules.

5.93.9.1.1 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.

5.93.9.1.2 Bulk items list.

Items in the bulk items list shall be listed alphabetically by item name in the DESCRIPTION AND USABLE ON CODE (UOC) column. The requirements defined for repair parts lists shall be used except as specified below:

a. ITEM column. Numbers in the ITEM column of bulk material list apply to the FIG. BULK only and shall not be associated with item numbers (callouts appearing on the illustrations/figures).
b. Functional group header. The functional group header shall precede the first bulk item in the DESCRIPTION AND USABLE ON CODE (UOC) column. The functional group number and title shall be "BULK MATERIAL" appearing on the top line(s). The next line(s) below shall be the figure number and the figure title and titled "FIG. BULK."



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5.93.9.2 Project decisions.

None.

5.93.10 Special tools list.

Data Module Type: IPD Information Code: 604B

5.93.10.1 Army business rules.

5.93.10.1.1 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.

5.93.10.1.2 Special tools list.

The special tools list requirements described for repair parts lists shall be used except as specified below:

a. Item number column. The ITEM NO. column shall be left blank.
b. Functional group header. The functional group header shall precede the first bulk item in the DESCRIPTION AND USABLE ON CODE (UOC) column. The functional group number and title shall be "SPECIAL TOOLS" appearing on the top line(s). The next line(s) below shall be the figure number and the figure title.
c. 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.
d. Basis of Issue (BOI). The BOI shall be placed on the last line under the item description, in the DESCRIPTION AND USABLE ON CODE (UOC) 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.
e. Quantity column. The QTY column shall be left blank.
f. Components list. Components of special tool sets and kits, in the DESCRIPTION AND USABLE ON CODE (UOC) column, shall be listed in figure and item number sequence. The component shall be indented two positions and listed by item name, the figure number, and the item numbers. Quantities of components shall be included in BOI statement.

5.93.10.2 Project decisions.

None.

5.93.11 Cross-reference indices.

5.93.11.1 Army business rules.

5.93.11.1.1 General.

Printed Illustrated Parts Data Publication (IPDPs) shall not include a single IPDP-cross reference table.



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5.93.11.1.2 Preparation.

If required, cross reference table shall be auto generated as a descriptive data module at time of authoring.

5.93.11.1.3 Bulk figure reference.

When entries in either the NSN or part number index reference bulk material, the word "BULK" shall appear in the FIG. column. The numbers in the ITEM No. column shall refer to the item number list in the bulk figure located in the bulk functional group list and shall not refer to item numbers on an illustration.

5.93.11.1.4 Sets and kits.

Part numbers for sets/kits shall be cross-referenced to NSN, figure, and item number for the set/kit. When Option 1 is selected, the ITEM column shall either be left blank or list an alphabetical character (e.g., "K" for KIT, "S" for SET, etc.). When Option 2 is selected, the FIG. column shall list the word KITS or SETS, as applicable.

5.93.11.1.5 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 figure number and item number. The NSN line entry shall identify the first figure number and 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 figure number 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.

5.93.11.1.6 Part number index.

Data Module Type: Descriptive Information Code: 942B

The index shall be in ascending numeric sequence by part number. Each line entry shall list each part numbers assigned to applicable repair part or special tool items figure number and item number. The part number line entry shall identify the first figure number 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 figure number 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.

5.93.11.1.7 Reference designator index.

Data Module Type: Descriptive Information Code: 942C

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 figure number and item number. The reference designator line entry shall identify the first figure number 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 figure number 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.



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5.93.11.2 Project decisions.

5.93.11.2.1 Cross reference index.

Data Module Type: Descriptive Information Code: 942D

The project may decide to prepare a single Illustrated Parts Data Publication (IPDP) cross reference table with the IPDP in lieu of separate NSN, part number, and reference designator indices.

5.93.12 Components of End Item (COEI) list.

Data Module Type: Descriptive Information Code: 105D

5.93.12.1 Army business rules.

5.93.12.1.1 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).

5.93.12.1.2 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) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

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).



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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."

5.93.12.1.3 Components of End Item (COEI) 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). 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 part number shall be located below the item. The CAGEC shall follow the



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part number and in parentheses. The stowage location of COEI shall also be included 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, there shall be a break in the text of the list and a new heading 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.

5.93.12.1.4 Method B illustration.

The element **<symbol>** shall be used to include illustrations when using Method B.

5.93.12.2 Project decisions.

5.93.12.2.1 Components of End Item (COEI) method.

The project shall determine use of Method A or Method B for presenting COEI data.

5.93.13 Basic Issue Items (BII) list.

Data Module Type: Descriptive Information Code: 105C

5.93.13.1 Army business rules.

5.93.13.1.1 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 there are numerous items, the illustrations may be included within the tabular listing for better usability (Method B).

5.93.13.1.2 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.



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Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

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:

| 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 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:

| 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."



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5.93.13.1.3 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

5.93.13.2 Project decisions.

5.93.13.2.1 Basic Issue Items (BII) method.

The project shall determine use of Method A or Method B for presenting BII data.

5.93.14 Additional Authorization List (AAL) **(operator only)**.

Data Module Type: Descriptive Information Code: 104C

5.93.14.1 Army business rules.

5.93.14.1.1 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).

5.93.14.1.2 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) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (2) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

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:

| Code | Used on |
|---|---|
| XXX | Model XXX |



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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 National Stock Number shown in column (1).

Column (5) Qty Recm. Indicates the quantity recommended."

5.93.14.1.3 Additional Authorization List (AAL).

A tabular list of all additional authorized items shall be prepared. The entries and subsequent information for this list shall be the same as the COEI and BII lists except the ILLUS NUMBER entry required for the COEI and BII lists shall not apply since there are no illustrations used, and the QTY entry shall be QTY RECM (quantity recommended). The items shall be listed alphabetically.

5.93.14.2 Project decisions.

None.

5.93.15 Expendable and durable items list.

Data Module Type: Descriptive Information Code: 070D

5.93.15.1 Army business rules.

5.93.15.1.1 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.

5.93.15.1.2 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 TASMG, D = Depot).

National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.



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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."

5.93.15.1.3 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

5.93.15.1.4 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.

5.93.15.2 Project decisions.

None.

5.93.16 Mandatory replacement parts **(Field/Aviation Maintenance Company (AMC) level or above only)**.

Data Module Type: Descriptive Information Code: 075D

5.93.16.1 Army business rules.

5.93.16.1.1 General.

The mandatory replacement parts table is not required but shall be used if directed by the acquiring activity. If the acquiring activity elects not to require the preparation of mandatory replacement parts tables, authors shall use a writing style that implies when mandatory replacement parts are part of a step (i.e., "remove and discard o-ring").

5.93.16.1.2 Scope.

If directed by the acquiring activity, the mandatory replacement parts data module shall be prepared and shall list all mandatory replacement parts referenced in the task preliminary requirements and procedures. **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.



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5.93.16.1.3 Introduction.

Mandatory replacement parts data module shall include an introduction.

5.93.16.1.4 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 Stock Number (NSN)"
d. nomenclature "Nomenclature"
e. quantity "Qty."

Items shall be listed in alphanumeric order by part number

5.93.16.2 Project decisions.

5.93.16.2.1 Mandatory replacement parts format.

The project shall determine if mandatory replacement parts tables shall be prepared, or if procedural step writing style will indicate the needed information.

5.93.17 Critical Safety Items (CSIs) (Flight Safety Critical Aircraft Parts (FSCAPs)).

Data Module Type: Descriptive Information Code: 075E

5.93.17.1 Army business rules.

5.93.17.1.1 General.

When specified by the acquiring activity, the CSI (FSCAP) data module shall be developed.

5.93.17.1.2 Critical Safety Items (CSIs) (Flight Safety Critical Aircraft Parts (FSCAPs)).

As applicable, the CSI (FSCAP) data module shall include a tabular listing provided by the acquiring activity. Each CSI (FSCAP) 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.

5.93.17.1.3 Critical Safety Items (CSIs) (Flight Safety Critical Aircraft Parts (FSCAPs)) for aviation.

A CSI (FSCAP) data module shall be prepared on any aviation system that contains a CSI (FSCAP). All CSIs (FSCAPs) shall be listed by their nomenclature, part number, CAGEC, and critical characteristic.

5.93.17.2 Project decisions.

None.

5.93.18 Hand Receipt (HR) technical manuals.

5.93.18.1 Army business rules.

5.93.18.1.1 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.



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Hand receipt data shall consist of the following content.

5.93.18.1.2 Section I. Introduction.

Data Module Type: Descriptive Information Code: 018A

TM hand receipt Section I, Introduction, shall consist, as a minimum, of the following paragraphs:

a. SCOPE - describes the scope and purpose of the HR.
b. GENERAL - explains 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) includes 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 - provides the authorization documents for COEI, BII, and AAL.

Additional paragraphs addressing other introductory information may be added as appropriate.

5.93.18.1.3 Section II, Hand receipt.

Data Module Type: Descriptive Information Code: 023D

The hand receipt DA Forms 2062 shall consist of COEI, BII, and AAL contents extracted from the applicable validated and verified operator's manual.

5.93.18.1.3.1 Overprinted DA Form 2062.

TM hand receipt publications shall include overprinted DA Forms 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 should 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). Content guidance for TM hand receipts is detailed in the following paragraphs:

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, should 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 should include the applicable title (i.e., COEI, BII, or AAL) followed by a dash and the word "Continued").
c. Sufficient space (8 lines minimum) should 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, add a blank continuation sheet.
d. When a title header (e.g., COEI, BII, or AAL) has an applicable listing in the operator technical manual, the TM hand receipt should consist of the title header followed by the line item entry for NSN; brief item description (which shall include CAGEC and part number (PN), in that order); the accounting requirements code; the physical security/pilferage code; unit of issue information; and quantity authorized.



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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."

5.93.18.1.3.2 Current as of date.

The statement "Current as of" should be shown at the bottom of each DA Form 2062. The cited date should be the publication date of the current operator's manual/change from which the TM hand receipt data was extracted.

5.93.18.2 Project decisions.

5.93.18.2.1 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.

5.94 S1000D Chapter 5.2.1.6 – Common information sets – Maintenance planning information.

5.94.1 Maintenance Allocation Chart (MAC) introduction.

Data Module Type: Descriptive Information Code: 018D

5.94.1.1 Army business rules.

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 maintenance and repair functions.

The MAC (immediately following this 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 levels, which 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



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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 function 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 tasks are limited to and defined as follows:

1. Inspect. A function 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. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those



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characteristics with prescribed standards, e.g., load testing of lift devices or hydrostatic testing of pressure hoses.

3. Service. Operations required periodically to keep an item in proper operating condition such as replenishing fuel, lubricants, chemical fluids, or gases.
4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. 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. The act of taking a sub-component off an asset to allow repair or replacement of that sub-component, or to facilitate other maintenance.
8. Install. The act of placing, positioning, or otherwise locating a component or sub-component to make it part of a higher level end item. Install can be to install a new asset for the first time or reinstall an asset previously removed. The maintenance level/class allowed to perform an installation is determined by the third position in the SMR code.
9. Replace. To install a serviceable component in place of one that is unserviceable or a required time change asset. "Replace" is authorized by the MAC and the assigned maintenance class is shown as the third position code of the SMR code.
10. Repair. The application of maintenance actions, including fault location/troubleshooting, removal, installation, disassembly, assembly, or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in the item.
11. Paint. This is a function to prepare and apply coats of paint. When used with munitions, the paint is applied so the ammunition can be identified and protected.

**NOTE**

The following definitions are applicable to the "repair" maintenance task:

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.



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12. Overhaul. This is the maintenance effort (service/action) prescribed 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. This consists of those services/actions necessary 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. The act of applying a material (e.g., oil or grease) to reduce friction and allow a component to operate in a more efficient manner.
15. Mark. The process of restoring obliterated identification on an asset.
16. Pack. To place an item into a container for either storage or shipment after service and other maintenance operations have been completed.
17. Unpack. The act or removing an asset from a storage or shipping container in preparation to perform further maintenance (e.g., repair or install).
18. Preserve. The action required to treat systems and equipment whether installed or stored, to ensure a serviceable condition.
19. Prepare for use. Those steps required to make an asset ready for other maintenance (e.g., remove preservatives, lubricate, etc.).
20. Assemble. The step-by-step instructions to join the component pieces of an asset together to make a complete serviceable asset.
21. Disassemble. The step-by-step breakdown (taking apart) of 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.
23. Non-destructive 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 work package.



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26. Towing. The 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. The 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 or shipment. Step-by-step instructions for preparing the equipment for placement into administrative storage or for special transportation requirements.
35. Arm. Detailed instructions on activating munitions prior to use.
36. Load. This may be one of two 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.
37. Unload. This may be one of two 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.
38. Software maintenance. Step-by-step instructions for software maintenance (e.g., installing, un-installing, etc.).

**Explanation of Columns in the MAC**



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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 function listed in column (3), by indicating work time required in the appropriate sub-column. This work time figure represents the active time required to perform that maintenance task at the indicated level/class of maintenance. If the number or complexity of the tasks within the listed maintenance task varies at different maintenance classes, appropriate work time figures are to be shown for each class.

The work time figure represents the average time required to perform the prescribed task (assembly, subassembly, component, module, end item, or system) on the item under typical operating conditions for that maintenance level/class. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance tasks authorized in the MAC. 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 REMARKS 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 (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and 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.



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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 Project decisions.

None.

5.94.2 Maintenance Allocation Chart (MAC) Introduction (**for Army aviation**).

Data Module Type: Descriptive Information Code: 018D

5.94.2.1 Army business rules.

5.94.2.1.1 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:



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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 AVCRAD/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 function 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**



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Maintenance tasks are limited to and defined as follows:

1. Inspect. A function 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. 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.
3. Service. Operations required periodically to keep an item in proper operating condition such as replenishing fuel, lubricants, chemical fluids, or gases.
4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. 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. The act of taking a sub-component off an asset to allow repair or replacement of that sub component, or to facilitate other maintenance.
8. Install. The act of placing, positioning, or otherwise locating a component or sub-component to make it part of a higher level end item. Install can be to install a new asset for the first time or reinstall an asset previously removed. The maintenance class allowed to perform an installation is determined by the third position in the SMR code.
9. Replace. To install a serviceable component in place of one that is unserviceable or a required time change asset. "Replace" is authorized by the MAC and the assigned maintenance class is shown as the third position code of the SMR code.
10. Repair. The application of maintenance actions, including fault location/troubleshooting, removal, installation, disassembly, assembly, or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in the item.
11. Paint. This is a function to prepare and apply coats of paint. When used with munitions, the paint is applied so the ammunition can be identified and protected.

**NOTE**

The following definitions are applicable to the "repair" maintenance task:

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).



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Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

12. Overhaul. This is the maintenance effort (service/action) prescribed 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. This consists of those services/actions necessary 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. The act of applying a material (e.g., oil or grease) to reduce friction and allow a component to operate in a more efficient manner.
15. Mark. The process of restoring obliterated identification on an asset.
16. Pack. To place an item into a container for either storage or shipment after service and other maintenance operations have been completed.
17. Unpack. The act or removing an asset from a storage or shipping container in preparation to perform further maintenance (e.g., repair or install).
18. Preserve. The action required to treat systems and equipment whether installed or stored, to ensure a serviceable condition.
19. Prepare for use. Those steps required to make an asset ready for other maintenance (e.g., remove preservatives, lubricate, etc).
20. Assemble. The step-by-step instructions to join the component pieces of an asset together to make a complete serviceable asset.
21. Disassemble. The step-by-step breakdown (taking apart) of 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.
23. Non destructive 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 work package.



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26. Towing. The 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. The 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 or shipment. Those procedures necessary to prepare an item to be stored for an extended period or shipped.
35. Arm. Detailed instructions on activating munitions prior to use.
36. Load. This may be one of two 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.
37. Unload. This may be one of two 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.
38. Software maintenance. Step-by-step instructions for software maintenance (e.g., installing, un-installing, etc.).

**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).



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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 above).

Column (4) Maintenance Level. Column (4) specifies each level/class of maintenance authorized to perform each function listed in column (3), by indicating work time required in the appropriate sub-column. This work time figure represents the active time required to perform that maintenance task at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance task varies at different maintenance levels/classes, appropriate work time figures are to be shown for each level/class.

The man-hours represents the average time required to perform the prescribed task (assembly, subassembly, component, module, end item, or system) on the item under typical operating conditions for that maintenance level. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance tasks authorized in the MAC. The symbol designations for the maintenance levels/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 (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function.

Column (6) Remarks Code. When applicable, Column (6) contains a letter code, in alphabetical order, which is keyed to the remarks.

**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**



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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."

5.94.2.2 Project decisions.

None.

5.94.3 Maintenance Allocation Chart (MAC).

Data Module Type: Schedule Information Code: 916A (MAC)
916B (Aviation MAC)

5.94.3.1 Army business rules.

5.94.3.1.1 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 maintenance planning schema and the **`<mainAllocation>`** branch.

5.94.3.1.2 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.

5.94.3.1.3 Maintenance Allocation Chart (MAC) entries.

a. The basic entries in the MAC shall be a list of functional groups applicable to the end item which require maintenance. The term functional group applies to reparable assemblies and subassemblies, i.e., spares (any repairable component required for the maintenance or repair of an end item), but not to repair parts (any consumable, non-repairable component required for the maintenance or repair of an end item). The end item group shall be numbered "00," or its equivalent "AA."
b. Entries shall be item names (a basic name and a noun word or phrase modifier, e.g., transformer, pulse, low power) and, where applicable, type designators, without stock or part numbers (P/Ns) if possible, in order to minimize need for subsequent change; however, entries shall contain positive identification. Parts that are not subject to maintenance shall not be listed in the MAC.
c. All item names of MAC functional groups shall be official nomenclature in accordance with the parts list nomenclature or other source as specified by the acquiring activity. Reverse word order shall be used in the MAC.
d. The maintenance code entered in the third position of the SMR code in the parts list shall be used to identify the lowest category of maintenance that is authorized to remove, replace, and use the spare or repair parts.
e. If the maintenance function is a replace function only for a repair part, the repair part shall not be listed in the MAC, unless not listing the repair part would result in omission of the NHA group number; in this case, the part shall be listed in order to list the NHA functional group number.



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f. All items in the MAC shall specify the maintenance level(s) to which a function is authorized.
g. Exception is authorized to ammunition MACs to permit use of maintenance function headings that better describe or identify ammunition peculiar maintenance functions. The headings used and their definitions shall be included in the appropriate ammunition publication(s).

5.94.3.1.4 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 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 5.94.1or 5.94.2 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 work time figure shall appear in the entry for the maintenance level authorized to perform the maintenance listed in the maintenance function. Reference numbers for all required tools and test equipment shall be listed in the Tools and Equipment Reference Code entry of the MAC. These reference numbers shall correspond to the appropriate tools/test equipment listed in the tools and test equipment table.
e. Reference letters for applicable remarks be listed in the Remarks Code entry of the MAC. These reference letters shall correspond to the appropriate remarks listed in the remarks table.

5.94.3.1.5 Tools and test equipment requirements.

A tabular list of all tools and test equipment, both special and common, required to maintain the equipment shall be prepared, as applicable. The column headings shall be:

a. Column 1 – "Tools of test equipment reference code"
b. Column 2 – "Maintenance level"
c. Column 3 – "Nomenclature"
d. Column 4 – "National stock number"
e. Column 5 – "Tool number"



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5.94.3.1.6 Common tools.

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 which contains the prescribed common tools shall be listed.

5.94.3.1.7 Remarks.

Remarks pertinent to maintenance functions shall be prepared, as applicable. The column headings shall be:

a. Column 1 – "Remarks code"
b. Column 2 – "Remarks"

5.94.3.2 Project decisions.

5.94.3.2.1 Maintenance Allocation Chart (MAC) nomenclature.

The project shall decide and document the official nomenclature for MAC functional groups.

5.94.3.2.2 Single Maintenance Allocation Chart (MAC) data module.

For IETP implementations, the project shall decide if, and how, the MAC is presented in segmented screen views. If the project decided to present segmented views, the MAC shall also be available to users as a single uninterrupted (scrollable) presentation.

5.95 S1000D Chapter 5.2.1.7 – Common information sets – Mass and balance information.

5.95.1 Weighing and loading.

Data Module Type: Procedural Information Code: 160B

5.95.1.1 Army business rules.

5.95.1.1.1 General.

Weighing and loading data module (**Aviation Support Battalion only**) 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 in the weighing and loading information set:

"WEIGHING AND LOADING ASB

GENERAL INFORMATION

Scope

Description, information, and procedures for aircraft weighing and loading contained here replaces the Chart E (Loading Data and Special Weighing Instructions) placed in the individual aircraft weight and balance files by the aircraft manufacturer. Chart E in the aircraft file will no longer be required."

5.95.1.1.3 Weighing.

Instructions 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) shall be included. 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



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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.

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.

5.95.1.2 Project decisions.

None.

5.96 S1000D Chapter 5.2.1.8 – Common information sets – Recovery information.

The information referenced in S1000D Chapter 5.2.1.8 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 LOGSA to ensure consistent implementation across the Army.

5.97 S1000D Chapter 5.2.1.9 – Common information sets – Equipment information.

5.97.1 Equipment/user fitting instructions **(Field or above only)**.

Data Module Type: Procedural Information Code: 913B

5.97.1.1 Army business rules.

5.97.1.1.1 General.

As applicable, equipment/user fitting instructions for personal use equipment shall be prepared.

5.97.1.2 Project decisions.

5.97.1.2.1 Information codes.

The project shall decide the appropriate information code(s) to be used with Equipment/user fitting instructions content.

5.97.2 Auxiliary equipment maintenance.

5.97.2.1 Army business rules.

5.97.2.1.1 General.

When auxiliary equipment (e.g., MTOE items, etc.) maintenance TMs/IETPs or maintenance requirements cards are not procured for peculiar equipment furnished by the contractor,



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maintenance instructions shall be prepared. Procedural data module(s) shall be used with information codes assigned by the project specific to the maintenance performed.

5.97.2.1.2 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.

5.97.2.2 Project decisions.

5.97.2.2.1 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.

5.97.3 Supplemental data for Commercial Off-The-Shelf (COTS) manuals.

5.97.3.1 Army business rules.

5.97.3.1.1 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.

5.97.3.1.2 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.

5.97.3.1.3 Equipment/model coverage.

Only equipment/models, accessories, and components specified in the contract shall be covered in the supplemental data.

5.97.3.1.4 Content/format selection summary.

The supplemental data should be presented in the following order:

5.97.3.1.4.1 Front matter.

Refer to 5.128.

5.97.3.1.4.2 Destruction of military materiel to prevent enemy use.

Refer to 5.101.3.

5.97.3.1.4.3 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B



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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 5.97.4.

5.97.3.1.4.4 Preventive Maintenance Checks and Services (PMCS).

Refer to 5.87.4.

5.97.3.1.4.5 Maintenance Allocation Chart (MAC).

Refer to 5.94.

5.97.3.1.4.6 Components of End Item (COEI).

Refer to 5.93.12.

5.97.3.1.4.7 Basic Issue Items (BII) list.

Refer to 5.93.13.

5.97.3.1.4.8 Additional Authorization List (AAL).

Refer to 5.93.14.

5.97.3.1.4.9 Expendable supplies and materials list.

Refer to 5.93.15.

5.97.3.1.4.10 Repair parts information.

Data Module Type: IPD Information Code: 607E

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 5.93.5.

5.97.3.1.4.11 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.

5.97.3.1.4.12 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.

5.97.3.1.4.13 Copyright.

Data Module Type: Descriptive Information Code: 021A



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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.

5.97.3.2 Project decisions.

5.97.3.2.1 Determination of supplemental data.

The project shall determine if and what COTS supplemental data is required for COTS manuals.

5.97.3.2.2 Identifying Technical Publication Sheet.

The project shall determine if the contractor shall prepare an Identifying Technical Publication Sheet.

5.97.3.2.3 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.

5.97.3.2.4 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.

5.97.4 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

Lubrication instructions contain lubrication procedures. Lubrication Orders (LOs) are separate manuals containing only lubrication instruction procedures in card format (refer to 5.97.4.1.2) 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.

5.97.4.1 Army business rules.

5.97.4.1.1 Lubrication Order (LO) card types.

The LO cards shall be either single-fold or flat.

a. Single-fold card. LOs requiring no more than a single card shall be printed in a single-fold card style and shall be folded at the center. Single-fold LOs shall have no lettering, leader lines, or critical portions of illustrations closer than 1/4 inch from either side of the fold.
b. Flat card. Flat cards shall be used for LOs with more than one card. Flat card LOs shall not be folded.

5.97.4.1.2 Lubrication Order (LO) card sizes.

Unless otherwise specified by the contracting activity, the sizes, in inches shall be as shown below:



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**TABLE XXXIX. LO Card Sizes.**

| LO Card | Size of LO (Flat) | LO Image Size | Size of LO (Single-fold) |
|---|---|---|---|
| A | 4 1/4 x 8 1/2 | 3 1/4 x 7 1/2 | N/A |
| B | 8 1/2 x 8 1/2 | 7 1/2 x 7 1/2 | 4 1/4 x 8 1/2 |
| C[1] | 6 1/2 x 9 1/2 | 5 5/16 x 8 3/4 | N/A |
| D | 8 1/2 x 11 | 7 1/4 x 9 3/4 | N/A |
| E | 17 x 11 | 14 x 9 1/2 | 8 1/2 x 11 |

Notes:

1. Use in conjunction with operators log book manual.

5.97.4.1.3 Lubrication Order (LO) number.

The LO number shall appear on the first card in accordance with 5.97.4.1.6. The LO number shall appear at the top of all other cards.

5.97.4.1.4 Lubrication Order (LO) Card numbering.

Unless otherwise specified by the contracting activity, the card number shall be centered at the bottom of the card. Each printed side of a card shall be numbered sequentially. Each side shall reflect the relationship of that side to the total number of printed sides. For example, 1 of 4; 2 of 4; 3 of 4; and 4 of 4. If only one side of a card is printed, it shall be numbered 1 of 1.

5.97.4.1.5 Title page (first card) contents.

The title page shall contain the LO number, a heading, title, NSN, P/N, CAGEC, the end item code, a reference line, reporting errors information, distribution statement/export control warning/destruction notice, and location of the LO statement.

5.97.4.1.6 Heading.

The heading shall consist of the words "LUBRICATION ORDER," date printed, the LO number, and a supersession notice (if applicable).

5.97.4.1.7 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 title for each shall appear separately.

5.97.4.1.8 National Stock Number (NSN), Part Number (P/N), Commercial and Government Entity Code (CAGEC), and End Item Code (EIC).

The applicable NSNs, P/Ns, CAGECs, and EICs for each piece of equipment covered by the LO shall be entered beneath the title(s).

5.97.4.1.9 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.

5.97.4.1.10 Reporting errors.

LO cards shall contain a Reporting Errors and Recommending Improvements Statement.



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5.97.4.1.11 Location of the Lubrication Order (LO) statement.

The following statement shall be included on the title page of the LO:

"Copy of this lubrication order will remain with the equipment at all times; instructions contained herein are mandatory."

5.97.4.1.12 Distribution statement, export control warning, and destruction notice.

A distribution statement, export control warning, and destruction notice shall be placed on the first card in accordance with this standard.

5.97.4.1.13 Other statements/warnings.

The following other statements shall be included in the LO, as applicable:

5.97.4.1.13.1 General statement(s)/Notes.

General statement(s)/notes shall be placed on the first card of the LO that is 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.

5.97.4.1.13.2 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 intervals."

5.97.4.1.13.3 Army Oil Analysis Program (AOAP) sampling interval statement.

Statement similar to the following shall be included:

"Engine oil/transmission oil/hydraulic fluids shall be sampled at (*insert applicable hour/mileage time frame*) as prescribed by *(insert 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 System - Aviation (TAMMS-A)*)."

5.97.4.1.13.4 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 (*insert name of component/equipment*) is not enrolled in the Army Oil Analysis Program. HARDTIME INTERVALS APPLY."

5.97.4.1.13.5 Warranty hardtime statement.

When applicable, the following statement shall be used:



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"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."

5.97.4.1.14 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 LMI or the MAC. Unless otherwise specified by the contracting activity, lubrication procedures shall be based upon the principles of RCM logic.

5.97.4.1.15 Warnings, cautions, and notes.

Warnings, cautions, and notes shall be applied in accordance with this standard.

5.97.4.1.16 Illustrations.

Illustrations shall be used to show the location of grease fittings, and when applicable, shall indicate the number of grease points. A minimum number shall be used.

5.97.4.1.17 Multiple illustrations.

When it is necessary to provide a multiple number of illustrations to show separate component parts, each illustration shall have an individual title.

5.97.4.1.18 Maintenance level.

The lowest level of maintenance authorized to perform the task shown shall be identified. The applicable maintenance level symbol shall be shown in parentheses after the task. Maintenance levels to be used, as applicable, are the following:

**TABLE XL. Maintenance Levels.**

| Symbol | Maintenance Level |
|---|---|
| C | Crew |
| O | Service or Aviation Maintenance Company (AMC) |
| F | Field or Aviation Support Battalion (ASB) |
| H | Below Depot |
| L | SRA or TASMG |
| D | Depot |

5.97.4.1.19 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:



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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 5.97.4.1.29).

5.97.4.1.20 Disassembling and hand packing.

If applicable, disassembling and hand packing instructions shall be provided for medium and high speed antifriction bearings which are sensitive to the amount of lubrication applied and do not have bleed holes or relief valves.

5.97.4.1.21 Cleaning, disassembling, and reassembling.

Cleaning, disassembling, and reassembling instructions required before or after lubrication shall be provided. If instructions are extensive and contained in a technical manual, the technical manual/IETP shall be referenced.

5.97.4.1.22 Washing and natural drying.

If applicable, instructions shall be given for washing and natural drying of finely machined and dirt-sensitive parts before relubricating. Use of compressed air jets or temperatures above 212 degrees Fahrenheit shall not be prescribed.

5.97.4.1.23 Preservative material.

Instructions shall not specify a coating of preservative material, either before or after packing parts that are lubricated with grease; nor shall they specify an application of oil, solvent, or additional grease to a "sealed-for-life" or prepacked antifriction bearing.

5.97.4.1.24 Lubricants and military symbols.

Unless otherwise specified by the contracting 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 printed in separate vertical columns on the inner side of the point names. These columns shall be headed by the words "LUBRICANT" AND "INTERVAL." Those lubrication points which are serviced or lubricated by checking level, replenishing lubricant, or draining and refilling shall be indicated by the lubricant's symbol at the point on the illustration which 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.



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5.97.4.1.25 Lubrication interval symbols.

Unless otherwise specified by the contracting activity, the following lubrication interval symbols shall be used:

**TABLE XLI. 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 |

5.97.4.1.26 Measurements.

Unless otherwise specified by the contracting 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.

5.97.4.1.27 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.

5.97.4.1.28 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 FM 9-207" shall be included as a note.

5.97.4.1.29 Special notes.

5.97.4.1.29.1 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.



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5.97.4.1.29.2 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.

5.97.4.1.29.3 Authentication block.

An authentication block provided by the contracting activity, shall be included in the LO. Distribution information, as applicable, shall be placed below the authentication block.

5.97.4.2 Project decisions.

None.

5.97.5 Army Test, Measurement and Diagnostic Equipment (TMDE).

5.97.5.1 Army business rules.

5.97.5.1.1 General.

Army TMDE information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.97.5.1.2 Paragraph numbering.

Army test, measurement, and diagnostic equipment manuals and IETP paragraphs shall not be numbered by decimals.

5.97.5.1.3 Content and order of presentation.

Unless otherwise specified by the contracting activity, material shall be presented in the following order:

a. Front matter
b. Chapter 1 – Introduction
c. Chapter 2 – Functional Analysis
d. Chapter 3 – Maintenance Requirements
e. Chapter 4 – Calibration
f. Appendixes
g. Rear Matter

5.97.5.1.4 Front matter.

Refer to 5.128 for front matter content requirements.

5.97.5.1.5 Test, Measurement and Diagnostic Equipment (TMDE) Chapter 1 – Introduction.

5.97.5.1.5.1 Section I – Test, Measurement and Diagnostic Equipment (TMDE) introduction (Scope).

Data Module Type: Descriptive Information Code: 018H

This section shall contain, as a minimum, the following statement:

"These instructions are for use by depot/contractor personnel. They apply to the (*insert name of equipment*) and in case of conflict, take precedence over all other documents pertinent to its maintenance and repair."



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5.97.5.1.5.2 Section II – Description (Description and data).

Data Module Type: Descriptive Information Code: 040A

This section shall contain the following paragraphs.

5.97.5.1.5.2.1 Description.

This paragraph shall provide a general description indicating the purpose, use, capabilities, and features of the test equipment.

5.97.5.1.5.2.2 Performance data.

This paragraph shall provide performance data for the equipment. It shall include, as applicable, lists of:

a. Functional characteristics, such as power requirements, sensitivity, and selectivity.
b. Rated output, such as wattage, voltage, horsepower, and gallons per minute.
c. Environmental characteristics, such as ambient temperature, humidity limits, ventilation and air conditioning requirements.

5.97.5.1.5.2.3 Configuration data.

All models and modifications authorized for the TMDE shall be listed. Differences between configurations, models, serial or part number groups, and individual items of equipment, including affected model, part, or serial numbers, shall be described. For equipment with modifications or minor model differences, the major parts affected shall be briefly described and the number groups, or registration numbers, and model numbers shall be included.

5.97.5.1.5.2.4 Equipment, accessories, and publications required.

| | |
|---|---|
| Data Module Type: Descriptive | Information Code: 061B (Support equipment and tools (List of equipment)) |
| Data Module Type: Descriptive | Information Code: 017L (List of publications required, but not supplied) |
| Data Module Type: Descriptive | Information Code: 070D (Expendable and durable items list) |

As applicable, all associated equipment and publications shall be listed to include:

a. Equipment and accessories (special tools, miscellaneous parts) which form a part of, or are supplied with, the test equipment.
b. All equipment and publications required, but not supplied.
c. Consumable/expendable items and the procedures in which these items are used.

5.97.5.1.6 Test, Measurement and Diagnostic Equipment (TMDE) Chapter 2 – Functional analysis.

Data Module Type: Descriptive Information Code: 042B

The structure and organization of this chapter shall parallel the section on troubleshooting (refer to 5.97.5.1.8.4). The functional analysis shall present an overall operational sequence of the equipment and show the functional relationship between major components or units. Functional diagrams shall be used as the primary means of communication for this chapter; the text shall be used only to support the diagrams as necessary for clarity. Functional diagrams shall depict the



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development of each equipment function from input to output, and shall show interconnection of the units. Signal levels, direction of flow, wave forms, etc, shall be included as applicable.

5.97.5.1.7 Test, Measurement and Diagnostic Equipment (TMDE) Chapter 3 – Operating procedures.

5.97.5.1.7.1 Section I – Setup instructions.

Data Module Type: Procedural Information Code: 125B

Site selection, unpacking, assembly, installation instructions, and special tools and requirements for installation inspection and pre-energizing procedures shall be provided in this section. Instructions shall also be given for establishing normal, neutral, zero, center, on-off, or any required positions of each switch, control, or similar item before connecting to power when the equipment is in shutdown status.

5.97.5.1.7.2 Section II – Controls and indicators.

Data Module Type: Descriptive Information Code: 111A

This section shall contain information which is needed by the operator to properly identify, determine the function and use of, connect, operate, and protect the equipment being used. Controls and indicators shall be supported by illustrations which identify and locate all operator controls and indicators.

5.97.5.1.7.3 Section III – Turn-on and turn-off procedures.

Data Module Type: Procedural Information Code: 131H

This section shall contain instructions to place the equipment in operation, to operate the equipment in each mode of operation, to remove the equipment from operation and put it in standby condition, and to remove it from operation and put it in shutdown status. Instructions shall be provided for turning the equipment off during an emergency (fire, hazard to personnel, loss of coolant, normal power, etc.), as applicable.

5.97.5.1.8 Test, Measurement and Diagnostic Equipment (TMDE) Chapter 4 – Maintenance requirements.

5.97.5.1.8.1 Section I – Facilities, equipment, and material standards.

Data Module Type: Descriptive Information Code: 202B

5.97.5.1.8.1.1 Facilities.

The facilities required for maintenance of the test equipment, including special factors such as environment, shall be listed.

5.97.5.1.8.1.2 Material standards.

Unless otherwise specified by the contracting activity, this portion shall state that parts and material used for replacement, repair, or modification shall meet all applicable equipment drawings and specifications.

5.97.5.1.8.1.3 Special support equipment and tools.

Data Module Type: IPD Information Code: 304B



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This portion shall contain the detailed description, instructions, and illustrations for special tools and equipment which are necessary to perform maintenance on the test equipment, including any items which shall be locally fabricated. Specific dimensions and tolerances shall be supplied for tools and fixtures.

5.97.5.1.8.2 Section II – Preventive maintenance.

Data Module Type: Descriptive Information Code: 200E

This section shall contain a tabular listing of all periodic checks, services, and safety precautions, including intervals, necessary to maintain the test equipment in an operable state. References shall be made to applicable equipment LOs (refer to 5.97.4). If no applicable LOs are published, lubrication instructions shall be included in this section, in tabular format, with illustrated locations of lubrication points.

5.97.5.1.8.3 Section III – Pre-operational specifications and self-test procedure.

Data Module Type: Procedural Information Code: 330C

This section shall include information as to required pre-operational specifications applicable to checks and procedures done on the test equipment before actual testing is performed on the UUT. If applicable, instructions on any adapter required for UUT procedures shall be included. Instructions shall be provided in this section for testing the performance of the test equipment in the event of failure of the UUT. Any necessary diagrams shall be included in this section.

5.97.5.1.8.4 Section IV – Troubleshooting procedure.

Data Module Type: Fault Information Code: 421B through 428B

This section shall provide troubleshooting procedures should the test equipment fail to satisfy the requirements of the self-test procedure. An explanation as to how end item and major components function, and how these components interface with the rest of the equipment, shall be provided for the depot technician. Only essential information which the technician shall know to troubleshoot the test equipment properly shall be provided. When specified by the contracting activity, functional block diagrams, test layouts, or schematics referred to and placed in Appendix C shall be used to illustrate the interface between the test equipment and the unit or assembly equipment UUT testing loop.

**NOTE**

Multiple information codes are available to the project (422B through 428B) to allow for multiple different troubleshooting procedures to be prepared for the same end item if necessary.

5.97.5.1.8.5 Section V – Maintenance.

5.97.5.1.8.5.1 Disassembly procedure.

Data Module Type: Procedural Information Code: 530A

Disassembly procedures shall be provided to support troubleshooting, repair, or inspection (riveted, soldered, and welded parts are not normally mentioned in disassembly). Illustrations shall be used to support the procedures. When specified by the contracting activity, engineering drawings shall be referenced for disassembly procedures.



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5.97.5.1.8.5.1.1 Replace.

Data Module Type: Procedural Information Code: 685B

Instructions shall be prepared to install a serviceable component in its place in exchange of one that is unserviceable or a required time change asset at all maintenance levels authorized by the MAC.

5.97.5.1.8.5.1.2 Repair.

Data module type: Procedural Information code: 685C

Instructions shall be prepared for repair actions required to restore an item to a completely serviceable or fully mission capable status. Repair instructions shall be developed for all maintenance levels allowed full repair by the MAC.

5.97.5.1.8.5.2 Assemble procedure.

Data Module Type: Procedural Information Code: 710A

Step-by-step instructions for assembly shall be provided, including in-process and final inspection requirements, if applicable. When specified by the contracting activity, the instructions shall be supported by illustrations and a checklist. When specified by the contracting activity, engineering drawings shall be referenced for assembly procedures.

5.97.5.1.9 Test, Measurement and Diagnostic Equipment (TMDE) Chapter 5 – Calibrate.

Data Module Type: Procedural Information Code: 273A

When previously developed calibration procedures are available, the publications containing the procedures shall be referenced. If no calibration procedures have been developed, they shall be prepared according to the general technical requirements for calibration information and the standard format provided by the contracting activity. The calibration procedures developed shall appear in this chapter. When specified by the contracting activity, engineering source data shall be used verbatim.

5.97.5.1.10 Appendix A – References.

Data Module Type: Descriptive Information Code: 017B

This appendix shall consist of a consolidated listing of all reference material (such as documents, forms, drawings, etc.) in the text and/or necessary for operation and maintenance of the test equipment. The documents shall be listed alphabetically or numerically under each type heading.

5.97.5.1.11 Appendix B – List of parts.

Data Module Type: IPD Information Code: 307A

This appendix shall include all peculiar maintenance items and parts not identified in another equipment publication used at the depot level for the TMDE addressed in the data module. Nomenclature, description, manufacturer's part number, CAGEC, and quantity shall be listed. When specified by the contracting activity, parts lists on engineering drawings shall be referenced. The parts listing shall be prepared in accordance with S1000D and these business rules.

5.97.5.1.12 Appendix C – Unit Under Test (UUT) procedures.

Data Module Type: Procedural Information Code: 320B



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This appendix shall contain contracting activity approved test procedures for UUT using the test equipment. Unless otherwise specified by the contracting activity, these UUT procedures shall not duplicate procedures in other publications, nor those provided elsewhere in the data module. The appendix shall contain a list of all UUTs, or reference a publication containing such a list.

5.97.5.1.13 Other appendixes.

Data Module Type: Descriptive Information Code: (unspecified)

Additional appendixes shall be provided, as appropriate.

5.97.5.1.14 Rear matter.

Refer to 5.128.3.1 for rear matter content requirements

5.97.5.2 Project decisions.

5.97.5.2.1 Stand alone.

Army TMDE information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.98 S1000D Chapter 5.2.1.10 – Common information sets – Weapon loading information.

The information referenced in S1000D Chapter 5.2.1.10 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 LOGSA to ensure consistent implementation across the Army.

5.99 S1000D Chapter 5.2.1.11 – Common information sets – Cargo loading information.

5.99.1 Army business rules.

5.99.1.1 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.

5.99.1.2 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.

5.99.1.3 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.

5.99.2 Project decisions.

None.



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5.100 S1000D Chapter 5.2.1.12 – Common information sets – Stores loading information.

The information referenced in S1000D Chapter 5.2.1.12 is not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements and the business rules documented relative to S1000D Chapter 5.2.1.7 – Common information sets – Mass and balance information.

5.101 S1000D Chapter 5.2.1.13 – Common information sets – Role change information.

5.101.1 Modification Work Orders (MWOs).

5.101.1.1 Army business rules.

5.101.1.1.1 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.

5.101.1.1.2 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

5.101.1.1.3 Paragraph 1 – Purpose, and Paragraph 2 – Introduction (Priority).

Data Module Type: Descriptive Information Code: 018A

5.101.1.1.3.1 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.

5.101.1.1.3.2 Paragraph 2.

Paragraph 2 shall contain one of the following statements as selected and specified by the contracting activity:



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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."

5.101.1.1.4 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

5.101.1.1.4.1 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.

5.101.1.1.4.2 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.

5.101.1.1.4.3 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.

5.101.1.1.5 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.



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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.

5.101.1.1.6 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.

5.101.1.1.7 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.

5.101.1.1.8 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.

5.101.1.1.9 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



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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.

5.101.1.1.10 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.

5.101.1.1.11 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."

5.101.1.1.12 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.

5.101.1.1.13 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

5.101.1.1.13.1 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 738-750 or DA Pamphlet 738-



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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 XLII. Identification data presentation.**

| | Before Modification | After Modification |
|---|---|---|
| Nomenclature | | |
| Model No. | | |
| CAGEC/Part No. | | |
| NSN | | |

5.101.1.1.13.2 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.

5.101.1.1.13.3 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.

5.101.1.1.14 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.

5.101.1.2 Project decisions.

5.101.1.2.1 Abbreviated Modification Work Order (MWO) format.

The project shall determine if the MWO shall be prepared in an abbreviated format.



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5.101.2 Demilitarization of surplus military items.

5.101.2.1 Army business rules.

5.101.2.1.1 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.

5.101.2.1.2 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.

5.101.2.1.3 Foldouts.

Foldout/fold up pages shall not be used in Demilitarization of surplus military items TMs.

5.101.2.1.4 Content.

The technical manual for demilitarization of surplus military items shall consist of the following:

a. Front matter.
b. Chapter 1, Introduction.
c. Chapter 2, Methods of Demilitarization.
d. Chapter 3, Detailed Instructions for Demilitarization.
e. Appendix A, References.
f. Rear Matter

5.101.2.1.5 Front matter.

Refer to 5.128.1 for front matter content requirements.

5.101.2.1.6 Demilitarization of surplus military items Chapter 1 – Introduction.

Data Module Type: Descriptive Information Code: 018A

This chapter shall contain the following paragraphs:

5.101.2.1.6.1 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 the Defense Demilitarization Manual, DODI 4160.21-M-1. DODI 4160.21-M-1, which contains the basic information on demilitarization, shall be used in conjunction with this manual. Where this manual conflicts with DODI 4160.21-M-1, the latter takes precedence. Additional data may be obtained from DODI 4160.21-M, Defense Materiel Disposition Manual."

5.101.2.1.6.2 Authorization.

This paragraph shall contain the following statement:



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"Demilitarization of surplus military materiel shall be limited to that which the National Inventory Control Points (NICP) have identified as requiring demilitarization. Demilitarization of those items which 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."

5.101.2.1.6.3 Certification.

This paragraph shall contain the following statement:

"A certificate reading substantially as quoted below and signed by two qualified Government representatives will be executed and placed in the applicable contract or property disposal file for all items demilitarized.

'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- M-1, TM 750-262."

5.101.2.1.6.4 Reporting demilitarization.

This paragraph shall contain any necessary reporting requirements concerning the accomplishment of demilitarization. If none, this paragraph shall be omitted.

5.101.2.1.6.5 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.

5.101.2.1.7 Demilitarization of surplus military items Chapter 2 – Methods of demilitarization.

Data Module Type: Descriptive Information Code: 997F

This chapter 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. Examples of these methods are crushing, cutting, burning, welding, smelting, shearing, torching, chemical neutralization, or a combination thereof.

5.101.2.1.8 Demilitarization of surplus military items Chapter 3 – Detailed instructions for demilitarization.

Data Module Type: Procedural Information Code: 997G

This chapter 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



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offensive or defensive advantages inherent in the materiel being demilitarized. Illustrations may be used if necessary for clarity.

5.101.2.1.9 Appendix A – References.

Data Module Type: Descriptive Information Code: 017B

This appendix shall list all publications referenced in the manual and required by the user to demilitarize the materiel covered in the manual. The appendix shall have an introduction or scope paragraph to provide a brief statement concerning its use and content. The publications shall be listed in groups by publication types. If the publication is non-Government, the source shall be provided. The complete name of each publication and the publication module code shall be used. When a List Of Applicable Publications (LOAP) is published, this appendix shall reference the LOAP.

5.101.2.1.10 Rear matter.

Refer to 5.128.2.2.1 for rear matter content requirements.

5.101.2.2 Project decisions.

5.101.2.2.1 Stand alone.

The project shall decide if Demilitarization of Surplus Military Items information sets are to be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.101.2.2.2 Page layout.

The project shall determine the page layout (portrait/landscape) and format for printed manuals.

5.101.3 Destruction of equipment to prevent enemy use.

5.101.3.1 Army business rules.

5.101.3.1.1 General requirements.

Destruction of Equipment to Prevent Enemy Use information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.101.3.1.2 Approach.

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.



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5.101.3.1.3 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.

5.101.3.1.4 Destruction manuals for a stock class.

When directed by an AMC stock 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.

5.101.3.1.5 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 5.101.3.1.6.1. The second and any succeeding data modules shall contain specific destruction procedures specified in 5.101.3.1.7.

5.101.3.1.6 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 5.101.3.1.6.5).
d. Any repair parts that may be on the verge of capture shall be destroyed in the same order as the essential material.

5.101.3.1.6.1 Destruction general information.

Data Module Type: Descriptive Information Code: 997D

5.101.3.1.6.2 Scope of manual.

Each destruction general information shall have a scope statement. As a minimum, the scope statement shall contain the following text, entered verbatim.



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"This manual is for the guidance of those whose duty it is to render inoperable or destroy equipment which is in imminent danger of capture by an enemy."

For destruction procedures that will implement any international standards, the following statement 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 the Manual."

"Certain provisions of this technical manual (identify by chapter, 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 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."

5.101.3.1.6.3 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."

5.101.3.1.6.4 Reporting destruction.

A paragraph shall be included that requires any destruction activity be reported through command channels.

5.101.3.1.6.5 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 5.101.3.1.6.7).

5.101.3.1.6.6 Degree of destruction.

The following information shall be included verbatim:

"Methods of Destruction. Choose methods of destruction which 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 shall be destroyed to such a degree as to prevent duplication by, or revealing means of operation or function to the enemy.



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Associated Classified Documents. Any classified documents, notes, instructions, or other written materiel pertaining to function, operation, maintenance, or employment, including drawings or parts lists, shall be destroyed in a manner to render them useless to the enemy."

5.101.3.1.6.7 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 determines component parts to be essential, they should notify the components item manager so they may identify those items for higher priority destruction in any item level destruction procedures manual.

5.101.3.1.7 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.

5.101.3.1.8 Destruction procedures.

Data Module Type: Descriptive Information Code: 997B

The destruction procedures data modules shall contain only destruction procedures. All general or explanatory information shall be contained in the destruction general information. The destruction procedures 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 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 above methods (e.g., where to place explosives or where to apply force with a mechanical device).

5.101.3.1.9 Destruction procedures - Classified equipment.

Data Module Type: Descriptive Information Code: 997C

Special instructions for destruction of classified equipment and documents shall be provided.



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5.101.3.2 Project decisions.

5.101.3.2.1 Stand alone.

Destruction of equipment to prevent enemy use information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication.

5.101.3.2.2 Generic destruction manual.

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.

5.102 S1000D Chapter 5.2.1.14 – Common information sets – Battle damage assessment and repair information.

5.102.1 Army business rules.

5.102.1.1 General.

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.

5.102.1.2 Content.

Content shall be directed to fix-forward battlefield conditions, that is, repairs shall be made as quickly as possible and to the extent necessary to restore or maintain the applicable equipment/system. Unless otherwise specified by the acquiring activity, content and order of presentation shall be as specified. The following statement shall appear at the beginning of each data module in the BDAR information:

| |
|---|
| "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." |

5.102.1.3 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.

5.102.1.4 Battle Damage Assessment and Repair (BDAR) introduction (General information).

Data Module Type: Descriptive Information Code: 018G

5.102.1.4.1 Operating procedures.

This data module shall contain information that is general in nature. It shall inform the user/reader of the purpose and scope of the BDAR information and its relationship to user personnel, other publications, and the end item/system it supports. In addition, this data module shall include definitions, standards, practices, identification of responsibilities, and tasks to be performed.



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5.102.1.4.2 Introduction.

This paragraph shall state the purpose and scope of the BDAR information and how it is applied to the task of BDAR. As a minimum, this paragraph shall contain subparagraphs as follows:

a. Purpose. This subparagraph shall contain an explanation of the purpose of the BDAR.
b. Scope. This subparagraph shall contain information on the scope of the BDAR information.
c. Application. This subparagraph shall contain information on how to apply the BDAR information.
d. Definitions. Any terms used in the BDAR information that are new or peculiar to BDAR shall be defined. These terms shall only apply to BDAR. For manuals with BDAR included in them, these terms not be included in any other listing of terms in the manual.
e. Forms. This paragraph shall contain a reference to FM 4-30.31 for forms required for BDAR.

5.102.1.4.3 Standards and practices.

This paragraph shall contain information pertaining to standards and practices peculiar to combat conditions. It shall include, as a minimum, the paragraph headings, and data (expanded as applicable) as follows:

a. BDAR Characteristics - explanation of the expediency of repair, reason for deviation from standard maintenance practices, need to take greater risks, and other characteristics peculiar to repair under combat conditions.
b. Waiver of precautions - reference to deviations from normal peacetime precautions, and if such deviations are summarized in another portion of the TM, reference shall be made to that portion.
c. Operating characteristics - minimum functional combat capability criteria for the applicable end item/system.
d. Training - explanation/rationale concerning use of BDAR fixes for training and list of all BDAR procedures which 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."

5.102.1.4.4 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.
b. Reports - instructions for completing reports resulting from BDAR fixes.



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5.102.1.4.5 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 and from exposure to bombs, mortars, and artillery fragments and blasts when on the ground. The resulting effects on the metal airframe structure and follow-on effects should the mission be continued, of secondary damage such as cracks, crippling, or buckling and loss or damage to mechanical fasteners shall be given. Structure damage modes shall be defined for the type of materials and structure affected.

5.102.1.5 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 be formatted and shall contain the information in 5.102.1.5.1 through 5.102.1.5.2.

5.102.1.5.1 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.

5.102.1.5.2 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.

5.102.1.6 Repair.

Unless otherwise specified by the contracting activity, these data modules shall provide information for battlefield repair of end items, components, etc. Each repair data module shall comply with the requirements contained in 5.102.1.6.5 through 5.102.1.6.6. The following types of repair data modules shall be included in the BDAR information:

5.102.1.6.1 General repair.

Data Module Type: Procedural Information Code: (unspecified)



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As required, there shall be procedures provided for items that are not necessarily associated with a specific component or subsystem of the end item.

5.102.1.6.2 End item repair.

Data Module Type: Procedural Information Code: (unspecified)

Procedures for repair of the overall end item shall be provided.

5.102.1.6.3 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 correspond to the functional groups as they appear in the MAC and the parts information. The total number of data modules in the BDAR repair information shall be determined by the number of major functional groups applicable to the equipment/system covered by the manual.

5.102.1.6.4 Auxiliary equipment.

Data Module Type: Procedural Information Code: (unspecified)

As required, procedures for repair of battle damage to auxiliary equipment shall be provided.

5.102.1.6.5 Introduction.

This paragraph shall contain subparagraphs as follows:

a. Scope - brief statement that describes the purpose and application of the overall coverage of the data module.
b. Repair procedure index - list of all procedures contained in the chapter, listed in the order in which they appear. Procedures authorized for training and listed in Appendix E of the TM/IETP shall be boxed in.

5.102.1.6.6 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) Personnel/time required - the number of personnel and time required to accomplish the fix shall be listed as follows:

    "1 soldier - 1.0 hrs (express time in decimal point hours to the nearest one-tenth hour)."

    (3) Materials/tools - list of materials and tools (peculiar) needed to make the BDAR fix. Following each item listed shall be a reference (in parenthesis) to that item number and data module. Reference to tools shall reference instructions for tool fabrication



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when applicable. Any other necessary information (such as quantities and sizes) shall be provided.

(4) 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 - more than one method of making the same repair/fix. 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 (b. above) shall contain subparagraphs: Limitations, Personnel/time required, Materials/tools, and Procedural steps. 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."

5.102.1.7 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.

5.102.1.8 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 5.103.1. 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 5.87.17.

5.102.1.9 Expendable and durable items list.

Data Module Type: Descriptive Information Code: 070D

Expendable and durable items required for BDAR information shall be included in the expendable and durable items list for the IETP. BDAR shall not have its own expendable and durable items list.

5.102.1.10 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



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explanation of the purpose and content of the other paragraphs. When applicable, a paragraph shall be dedicated to petroleum, oil, and lubricant (POL) substitutes.

5.102.2 Project decisions.

5.102.2.1 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).

5.103 S1000D Chapter 5.2.1.15 – Common information sets – Illustrated tool and support equipment information.

5.103.1 Tool identification list **(Field/Aviation Maintenance Company (AMC) level or above only)**.

Data Module Type: Descriptive Information Code: 062B

5.103.1.1 Army business rules.

5.103.1.1.1 General.

Tool identification list data module shall be prepared and shall include a list of the tools authorized to the levels of maintenance covered in the narrative portion of the TM/IETP and as referenced by the preliminary requirements. For **DMWRs/NMWRs**, a list of all special tools and test, measurement, and diagnostic equipment not contained in lower level technical manuals or in the parts information or IPD, 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.

5.103.1.1.2 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.



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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**)

5.103.1.1.3 Tool identification list.

Applicable information for the Tool identification list shall be prepared and include the following information:

a. Item number
b. Item name or 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.

5.103.1.2 Project decisions.

None

5.104 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 LOGSA to ensure consistent implementation across the Army.

5.105 S1000D Chapter 5.2.1.17 – Common information sets – Material data.

5.105.1 Army business rules.

5.105.1.1 General.

Munition Equipment and Ammunition 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.

5.105.1.2 Front matter.

Refer to 5.128 for front matter content requirements.

5.105.1.3 Introduction.

The introduction paragraph shall be placed on the first page after the table of contents. If the table of contents ends on a left-facing page, the reverse right-facing page shall be blank and the introduction paragraph shall begin on the next left-facing page. The introduction paragraph shall include the following statement:



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"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."

5.105.1.4 Munitions equipment and ammunition data sheets.

Data Module Type: Descriptive Information Code: 030D

Information on data sheets shall contain, as applicable, the following information. NOTE: "(a)" is applicable to ammunition data sheets only; "(e)" is applicable to munitions equipment data sheets only; no code is applicable to both.

a. Photograph or line drawing of the munitions equipment or ammunition item
b. Type classification (a)
c. Use
d. Description
e. Functioning
f. Differences between models
g. Tabulated data
h. Performance (a)
i. Temperature limits (a)
j. Drawings (a)
k. Unit of issue (a)
l. Packing data (a)
m. Shipping and storage data
n. Limitations (a)
o. References (a)
p. Remarks (a)
q. Associated equipment (e)
r. Kits (e)

5.105.1.4.1 Photograph or line drawing of the munitions equipment or ammunition item.

As required by the acquiring activity, a photograph or line drawing of the item shall be included on the data sheet.

5.105.1.4.2 Type classification.

The type classification paragraph shall be the first paragraph of the ammunition data sheet and shall list the type classification of the item.

5.105.1.4.3 Use.

This paragraph shall describe the purpose for which the item is used.

5.105.1.4.4 Description.

The description paragraph shall include the general characteristics, capabilities, and features of the item. Color coding information for ammunition items shall be included, as applicable.

5.105.1.4.5 Functioning.

This paragraph shall include a simple description of how the item functions. The description shall explain what functional affect it has on other components and shall be presented by simple text and illustrations, as appropriate.



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5.105.1.4.6 Differences between models.

This paragraph shall identify differences in configuration or models when more than one model is described. Differences shall be clearly identified.

5.105.1.4.7 Tabulated data.

This paragraph shall provide descriptive data of the item and its components. Ammunition items shall have: model, dimensions, weight, color, type of explosive used, packaging, NSN, and DODAC. Munitions equipment shall have: APE number, unit of issue, installation data, utilities required, and production capacity.

5.105.1.4.8 Performance.

This paragraph shall present information describing the normal use or operation of the item (e.g., chamber pressure, velocity, maximum range, trace, etc.).

5.105.1.4.9 Temperature limits.

This paragraph shall list the firing and storage temperature limits of the item.

5.105.1.4.10 Drawings.

This paragraph shall list all applicable ammunition drawings, by number only of the ammunition end-item, components, and packaging configurations.

5.105.1.4.11 Unit of issue.

This paragraph shall list the smallest quantity of the item authorized for issue.

5.105.1.4.12 Packing data.

This paragraph shall provide the dimensions (length, width, height, and cube) and weight of a full depot pack configuration of the item.

5.105.1.4.13 Shipping and storage data.

For ammunition items, this paragraph shall list all applicable shipping and storage data such as hazard classification and storage compatibility group, United Nations (UN) identification number and shipping name, and Department of Transportation (DOT) class. For munitions equipment it shall list the physical dimensions, weight, and cube of the equipment.

5.105.1.4.14 Limitations.

This paragraph shall list any restriction, warning, or weakness associated with the item.

5.105.1.4.15 References.

This paragraph shall be a list, citing only publication module codes, of all related TMs/IETPs, FMs, and Supply Catalogs (SCs).

5.105.1.4.16 Remarks.

This paragraph shall provide any other information deemed pertinent.

5.105.1.4.17 Associated equipment.

This paragraph shall list any additional APE that is used in conjunction with the described munitions equipment.



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5.105.1.4.18 Kits.

This paragraph shall list any APE accessory equipment not normally supplied with the end item.

5.105.1.5 Appendices.

Ammunition data sheet TMs shall contain appendices as specified by the acquiring activity. Munitions equipment data sheet TMs shall contain the following appendices.

5.105.1.5.1 Appendix A – Deleted items.

Data Module Type: Descriptive Information Code: 003D

This appendix shall appear in all editions subsequent to the first edition. It shall consist of an alphabetical list of all items deleted from this TM/IETP as a result of a technical committee action or Materiel Status Record (MSR). On first editions which contain no deleted items, Appendix A shall contain the following statement:

"Since this is the first edition, there are no deleted items."

5.105.1.5.2 Appendix B – Operational index.

Data Module Type: Descriptive Information Code: 942E

When specified by the acquiring activity, the TM/IETP shall contain an operational appendix. It 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. This appendix may consist of one or more sections.

5.105.1.5.3 Appendix C – Preparation and handling of ammunition peculiar equipment for shipment and storage.

Data Module Type: Descriptive Information Code: 810D

When specified by the acquiring activity, the TM/IETP shall contain a preparation and handling of APE for shipment and storage appendix. It shall contain an introduction (scope and definitions), general requirements (project requirements, levels of protection, and basic requirements), and detailed requirements section, as applicable, and requirements for checking for and removal of explosive contamination.

5.105.1.6 Rear matter.

Refer to 5.128.3 for rear matter requirements.

5.105.2 Project decisions.

5.105.2.1 Stand alone.

Munition Equipment and Ammunition Data Sheets information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.105.2.2 Photographs and line drawings.

The project shall decide about the inclusion of a photograph or line drawing of the item on the data sheet.



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5.106 S1000D Chapter 5.2.1.18 – Common information sets – Common information and data.

5.106.1 Supporting information – General.

5.106.1.1 Army business rules.

5.106.1.1.1 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 5.106.1.1.2)
b. MAC (refer to 5.94)
c. COEI (refer to 5.93.12)
d. BII (refer to 5.93.13)
e. AAL (refer to 5.93.14)
f. Expendable and durable items list (refer to 5.93.15)
g. Tool identification list (refer to 5.103.1)
h. Mandatory replacement parts list (refer to 5.93.16)
i. CSI (FSCAP) (refer to 5.93.17)
j. Support items (refer to 5.106.1.1.3)

Not all of the above listed supporting information is required in all cases. Refer to the business rules for the individual lists for details.

5.106.1.1.2 References.

Data Module Type: Descriptive Information Code: 017B

A LOAP shall be referenced (if it exists).

5.106.1.1.3 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.

5.106.1.1.4 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.

5.106.1.2 Project decisions.

None.



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5.106.2 Warranty Technical Bulletins (WTBs).

5.106.2.1 Army business rules.

5.106.2.1.1 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.

5.106.2.1.2 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.

5.106.2.1.3 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.

5.106.2.1.4 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).

5.106.2.1.5 Front matter.

Refer to 5.128 for front matter content requirements.

5.106.2.1.6 General.

Data Module Type: Descriptive Information Code: 028A

The project shall determine the page layout (portrait/landscape) and format for printed manuals.

5.106.2.1.6.1 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 5.106.2.1.6.3).



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5.106.2.1.6.2 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:

5.106.2.1.6.2.1 Abuse.

The improper use, repair, or handling of warranted items such that the warranty may become void.

5.106.2.1.6.2.2 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.

5.106.2.1.6.2.3 Acquiring command or activity.

An activity which procures the items or materiel for a user.

5.106.2.1.6.2.4 Alterations/Modifications.

Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.

5.106.2.1.6.2.5 Consolidated warranty technical bulletin.

A WTB that covers a multiple number of equipment systems that are not covered by separately numbered TMs.

5.106.2.1.6.2.6 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.

5.106.2.1.6.2.7 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.

5.106.2.1.6.2.8 Failed item.

A part, component, or end item that fails to perform its intended use.

5.106.2.1.6.2.9 False return rate.

The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.



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5.106.2.1.6.2.10 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.

5.106.2.1.6.2.11 Primary damage.

The damage suffered by a part, component, or end item itself upon its failure.

5.106.2.1.6.2.12 Prime contractor.

A party that enters into an agreement directly with the United States to furnish part or all of a weapon system.

5.106.2.1.6.2.13 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.

5.106.2.1.6.2.14 Repair.

To restore an item to serviceable condition without affecting the warranty.

5.106.2.1.6.2.15 Reparable.

An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.

5.106.2.1.6.2.16 Secondary damage.

The damage suffered by an item because of a failure of another item within the same configuration.

5.106.2.1.6.2.17 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.

5.106.2.1.6.2.18 Subcontractor.

Any supplier, distributor, vendor, or firm that furnishes supplies or service to or for a prime contractor or another subcontractor.

5.106.2.1.6.2.19 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.



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5.106.2.1.6.2.20 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.

5.106.2.1.6.2.21 Validation.

The process by which the contractor tests/measures the WTB to assure its accuracy as it pertains to the warranty item(s).

5.106.2.1.6.2.22 Verification.

The process of determining the accuracy and adequacy of the WTB provided by the contractor. This process is performed by the Government/user.

5.106.2.1.6.2.23 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.

5.106.2.1.6.2.24 Warranty claim.

Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.

5.106.2.1.6.2.25 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.

5.106.2.1.6.2.26 Warranty period.

Time during which the warranty is in effect. Normally measured as the maximum number of years, months, days, miles, or hours used.

5.106.2.1.6.2.27 Warranty start date.

The date the warranty is put into effect.

5.106.2.1.6.3 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:



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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

5.106.2.1.6.4 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.

5.106.2.1.6.5 Government responsibilities/identification.

The Major Subordinate Commands (MSCs), 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.



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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. This paragraph shall describe the responsibilities of WARCO pertaining to the specific warranty contract. When responsibilities of the MSC 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*)."

5.106.2.1.6.6 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.



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5.106.2.1.6.7 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.

5.106.2.1.6.8 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.

5.106.2.1.6.9 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 2407/5504, 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.



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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."

5.106.2.1.6.10 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.

5.106.2.1.7 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.

5.106.2.1.8 Rear matter.

Refer to 5.128.3 for rear matter requirements.

5.106.2.2 Project decisions.

None.



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5.107 S1000D Chapter 5.2.1.19 – Common information sets – Training.

5.107.1 Army business rules.

None.

5.107.2 Project decisions.

5.107.2.1 Planning scope and depth.

The project shall determine the planning scope and depth.

5.107.2.2 Training information scope and depth.

The project shall determine the training information scope and depth.

5.108 S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications.

Data Module Type: Descriptive Information Code: 017B

5.108.1 Army business rules.

None.

5.108.2 Project decisions.

5.108.2.1 One or several publication list data modules.

The project shall decide whether to deliver the publications and documents listed in one data module or as separate data modules.

5.108.2.2 Include unpublished publications and documents.

The project shall decide whether or not to include publications and documents that are not published.

5.108.2.3 Include the manufacturer's part no. or reference no.

The project shall decide whether or not to include and present the manufacturer's part no. or reference no.

5.108.2.4 Markup of publication entry as a link.

The project shall decide whether or not to markup publication entries as a links.

5.108.2.5 Use of language.

The project shall decide whether or not to include and present the value of the attribute **`language`** on the element **`<pmEntry>`** in the LOAP.

5.109 S1000D Chapter 5.2.1.21 – Common information sets – Maintenance checklists and inspections.

Refer to 5.87.3.1.2, 5.87.7, 5.87.23, 5.97.3.1.4.4, 5.117, 5.118, and 5.119.

5.110 S1000D Chapter 5.2.2.1 – Air specific information sets – Use of generic information.

The information referenced in S1000D Chapter 5.2.2.1 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



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acquire technical data matching this information set shall coordinate with LOGSA to ensure consistent implementation across the Army.

5.111 S1000D Chapter 5.2.2.3 – Air specific information sets – Cross servicing information.

The information referenced in S1000D Chapter 5.2.2.3 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 LOGSA to ensure consistent implementation across the Army.

5.112 S1000D Chapter 5.2.2.4 – Air specific information sets – Engine maintenance information.

The information referenced in S1000D Chapter 5.2.2.4 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 LOGSA to ensure consistent implementation across the Army.

5.113 S1000D Chapter 5.2.2.5 – Air specific information sets – Power plant build-up information.

The information referenced in S1000D Chapter 5.2.2.5 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 LOGSA to ensure consistent implementation across the Army.

5.114 S1000D Chapter 5.2.2.6 – Air specific information sets – Engine standard practices information.

The information referenced in S1000D Chapter 5.2.2.6 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 LOGSA to ensure consistent implementation across the Army.

5.115 S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information.

5.115.1 Army business rules.

5.115.1.1 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.

5.115.1.2 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>`**).

5.115.1.3 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



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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)

5.115.1.4 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.

5.115.1.5 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).

5.115.1.6 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.

5.115.1.7 Front matter.

Refer to 5.128 for front matter content requirements.

5.115.1.8 Aircraft operator's manual Chapter 1 – Introduction.

Data Module Type: Crew/Operator Information Code: 018A



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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.

5.115.1.8.1 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."

5.115.1.8.2 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."

5.115.1.8.3 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 385-40."

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.



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5.115.1.8.4 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."

5.115.1.8.4.1 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 5.48.1.30).

5.115.1.8.4.2 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.

5.115.1.8.4.3 Additional introductory information.

Any additional introductory information that may be required such as explanatory information for appendices or indices shall be provided, as applicable.

5.115.1.9 Aircraft operator's manual Chapter 2 – Aircraft and systems description and operation.

5.115.1.9.1 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 5.115.1.9.2 through 5.115.1.9.16) shall be developed for the description and operation of the aircraft and each aircraft system.



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5.115.1.9.1.1 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.

5.115.1.9.1.2 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.

5.115.1.9.1.3 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.

5.115.1.9.1.4 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.

5.115.1.9.2 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.

5.115.1.9.2.1 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.

5.115.1.9.2.2 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



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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.

5.115.1.9.2.3 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



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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.

5.115.1.9.2.4 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.

5.115.1.9.2.5 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.

5.115.1.9.2.6 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.

5.115.1.9.2.7 Doors.

All doors to include ramps, hatches, etc., controls for normal and emergency operations, and their sources of power shall be described.

5.115.1.9.2.8 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.

5.115.1.9.2.9 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.

5.115.1.9.2.9.1 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



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workstation of the ground control station shall be described and illustrated as required. Diagrams needed for clarity shall be used.

5.115.1.9.2.10 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.)

5.115.1.9.3 Section II – Emergency equipment.

5.115.1.9.3.1 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 5.115.1.16).

5.115.1.9.3.2 Illustrations.

Illustrations showing locations of emergency equipment or systems shall be shown as needed but only in Chapter 9 (refer to 5.115.1.16).

5.115.1.9.4 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.

5.115.1.9.4.1 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.



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5.115.1.9.5 Section IV – Description (Fuel system).

Data Module Type: Crew/Operator Information Code: 043J

5.115.1.9.5.1 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 5.115.1.9.16). Diagrams of the typical courses of fuel flow, including fuel system control positions for takeoff, cruising, landing, and emergency operation shall be included.

5.115.1.9.5.2 Controls and indicators.

Fuel system controls and indicators shall be described.

5.115.1.9.5.3 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 5.115.1.13) 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.

5.115.1.9.6 Section V – Description (Flight control system).

Data Module Type: Crew/Operator Information Code: 043J

5.115.1.9.6.1 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 5.115.1.9.2 through 5.115.1.9.2.10. 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.

5.115.1.9.6.2 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 5.115.1.10).

5.115.1.9.7 Section VI – Description (Hydraulic and pneumatic systems).

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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.

5.115.1.9.8 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.

5.115.1.9.9 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.

5.115.1.9.10 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 5.115.1.13) 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 5.115.1.9.16).

5.115.1.9.11 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.

5.115.1.9.12 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.



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5.115.1.9.12.1 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.

5.115.1.9.12.2 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.

5.115.1.9.12.3 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.

5.115.1.9.13 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 5.115.1.15) and emergency procedures in Chapter 9 (refer to 5.115.1.16).

5.115.1.9.14 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.

5.115.1.9.15 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.

5.115.1.9.16 Section XV – Description (Servicing, parking, and mooring).

Data Module Type: Crew/Operator Information Code: 043J

5.115.1.9.16.1 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



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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.

5.115.1.9.16.2 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.

5.115.1.9.16.3 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.

5.115.1.9.16.4 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.

5.115.1.9.16.5 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.

5.115.1.9.16.6 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.

5.115.1.9.16.7 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.



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5.115.1.9.16.8 Additional sections.

Additional sections may be added as required by the procuring activity, i.e., Unique Equipment.

5.115.1.10 Aircraft operator's manual Chapter 3 – Avionics.

5.115.1.10.1 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 5.115.1.11).

5.115.1.10.2 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).

5.115.1.10.2.1 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.

5.115.1.10.2.2 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.



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5.115.1.10.2.3 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.

5.115.1.10.2.4 Emergency operations.

When applicable, settings and operations of avionics equipment during emergency operations shall be described.

5.115.1.10.2.5 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.

5.115.1.10.3 Section II – Description (Communications).

Data Module Type: Crew/Operator Information Code: 043J

Information for communications equipment installed in the aircraft shall be developed.

5.115.1.10.4 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)



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g. Instrument landing system
h. Doppler
i. Inertial Navigation System (INS)
j. Autopilot
k. Other

5.115.1.10.5 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.

5.115.1.10.6 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.

5.115.1.11 Aircraft operator's manual Chapter 4 – Mission equipment.

5.115.1.11.1 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 5.115.1.10, 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.

5.115.1.11.2 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.

5.115.1.11.3 Section – Description (Armament control systems).

Data Module Type: Crew/Operator Information Code: 043J

5.115.1.11.3.1 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.



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5.115.1.11.3.2 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.

5.115.1.11.3.3 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.

5.115.1.11.3.4 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.

5.115.1.11.3.5 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.

5.115.1.11.3.6 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.

5.115.1.11.4 Section – 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.

5.115.1.11.5 Section – 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.

5.115.1.11.5.1 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.



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5.115.1.12 Aircraft operator's manual Chapter 5 – Operating limits and restrictions.

5.115.1.12.1 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.

5.115.1.12.2 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.

5.115.1.12.3 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.

5.115.1.12.3.1 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.

5.115.1.12.3.2 Propeller limitations.

Propeller limitations shall be discussed including, but not limited to, reverse pitch and restricted revolutions per minute (rpm).



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5.115.1.12.3.3 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.

5.115.1.12.3.4 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.

5.115.1.12.4 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.

5.115.1.12.5 Section IV – Operating limits – Loading.

Data Module Type: Crew/Operator Information Code: 043D

5.115.1.12.5.1 General.

Loading limits pertaining to the aircraft shall be discussed in detail.

5.115.1.12.5.2 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 5.115.1.13).

5.115.1.12.5.3 Weight limitations.

All minimum/maximum aircraft weight limitations including parking, towing, taxing, 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 5.115.1.9), as necessary.

5.115.1.12.5.4 Turbulence.

Restrictions regarding flying in all levels of turbulence shall be discussed and limitations shall be covered.



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5.115.1.12.5.5 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.

5.115.1.12.6 Section V – Operating limits - Airspeed.

Data Module Type: Crew/Operator Information Code: 043E

5.115.1.12.6.1 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.

5.115.1.12.6.2 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.

5.115.1.12.7 Section VI – Operating limits - Maneuvering.

Data Module Type: Crew/Operator Information Code: 043F

5.115.1.12.7.1 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.

5.115.1.12.7.2 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.



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5.115.1.12.8 Section VII – Operating limits – Environmental.

Data Module Type: Crew/Operator Information Code: 043G

5.115.1.12.8.1 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.

5.115.1.12.8.2 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.

5.115.1.12.8.3 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.

5.115.1.13 Aircraft operator's manual Chapter 6 – Weight/balance and loading.

5.115.1.13.1 Section I – Weight and balance (General).

Data Module Type: Crew/Operator Information Code: 169A

5.115.1.13.1.1 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 5.115.1.13). 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."

5.115.1.13.1.2 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.

5.115.1.13.2 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



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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.

5.115.1.13.3 Section III – Weight and balance – Fluids (Fuel/oil).

Data Module Type: Crew/Operator Information Code: 169B

5.115.1.13.3.1 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.

5.115.1.13.3.2 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.

5.115.1.13.4 Section IV – Weight and balance - Personnel.

Data Module Type: Crew/Operator Information Code: 169C

5.115.1.13.4.1 General.

All essential information and instructions for preparation, loading, and unloading of personnel, including airborne troops shall be provided.

5.115.1.13.4.2 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.

5.115.1.13.4.3 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.



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5.115.1.13.4.4 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.

5.115.1.13.4.5 Personnel moments.

Personnel moments charts for personnel in any position shall be provided.

5.115.1.13.5 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.

5.115.1.13.6 Section VI – Cargo loading.

Data Module Type: Procedural Information Code: 160D

5.115.1.13.6.1 General.

Detailed information on cargo loading shall be provided.

5.115.1.13.6.2 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 tie-down 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.



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5.115.1.13.6.3 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.

5.115.1.13.6.4 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.

5.115.1.13.6.5 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.

5.115.1.13.6.6 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.

5.115.1.13.6.7 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.

5.115.1.13.6.8 Securing loads.

The following items shall be described.

a. Approved restraint criteria including fore, aft, sideward and vertical restraints.



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b. Detailed tie-down instructions shall be provided only for equipment or cargo that is unique to a specific aircraft.

5.115.1.13.6.9 Unloading procedures.

Procedures for unloading the aircraft and stowing associated equipment shall be provided.

5.115.1.13.7 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.

5.115.1.14 Aircraft operator's manual Chapter 7 – Performance data.

5.115.1.14.1 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.



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5.115.1.14.2 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.

5.115.1.14.3 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 (5.13.1.22.8) 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.

5.115.1.14.4 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.

5.115.1.14.5 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



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(highest drag, lowest power/thrust available, highest fuel consumption, etc.). The effects of altering these items shall be discussed in each section, as applicable.

5.115.1.14.6 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.

5.115.1.14.7 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:

$$P \text{ (in. Hg)} = 29.92125(1 - H_p/145{,}442.1)^{5.255376}$$

$$H_p \text{ (ft.)} = 145{,}442.1(1 - P/29.92125)^{.1902632}$$

5.115.1.14.8 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.

5.115.1.14.9 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.

5.115.1.14.10 Definitions.

Definition of terms used including, but not limited to, takeoff speed, takeoff distance, and rotation speed shall be included in abbreviations and terms.

5.115.1.14.11 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).



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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.

5.115.1.14.12 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 22).
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.

5.115.1.14.13 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.

5.115.1.14.13.1 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.



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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."

5.115.1.14.13.2 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. Overlimit operations can decrease performance, cause immediate failure, or failure on a subsequent flight.

5.115.1.14.13.3 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.

5.115.1.14.13.4 Data basis.

This paragraph shall contain a statement similar to the following statements and definitions:



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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.

5.115.1.14.13.5 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.

5.115.1.14.13.6 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.

5.115.1.14.13.7 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.

5.115.1.14.14 Section II and subsequent sections – Performance data.

Data Module Type: Crew/Operator Information Code: 030E

5.115.1.14.14.1 General.

A separate section shall be created for each chart listed in 5.115.1.14.11 or 5.115.1.14.12, 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.



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5.115.1.14.14.2 Rotary wing chart content.

Performance data charts for rotary wing aircraft shall conform to the requirements detailed in the following paragraphs:

5.115.1.14.14.2.1 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.

5.115.1.14.14.2.2 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.

5.115.1.14.14.2.3 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.

5.115.1.14.14.2.4 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.

5.115.1.14.14.2.5 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



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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.

5.115.1.14.14.2.6 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 chances; (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, which ever 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.

5.115.1.14.14.2.7 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.

5.115.1.14.14.2.8 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



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of descent shall also be shown. Desired rate of climb or descent and gross weight shall be used to compute the torque change required.

5.115.1.14.14.2.9 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.

5.115.1.14.14.2.10 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.

5.115.1.14.14.3 Fixed wing chart content.

Performance data charts for fixed wing aircraft shall conform to the requirements in the following paragraphs.

5.115.1.14.14.3.1 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.



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5.115.1.14.14.3.2 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.

5.115.1.14.14.3.3 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.

5.115.1.14.14.3.4 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.

5.115.1.14.14.3.5 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.

5.115.1.14.14.3.6 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.

5.115.1.14.14.3.7 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.

5.115.1.14.14.3.8 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.



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5.115.1.14.14.3.9 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.

5.115.1.14.14.3.10 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.

5.115.1.14.14.3.11 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.

5.115.1.14.14.3.12 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.

5.115.1.14.14.3.13 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



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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.

5.115.1.14.14.3.14 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.

5.115.1.14.14.3.15 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.

5.115.1.14.14.3.16 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.

5.115.1.14.14.3.17 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.



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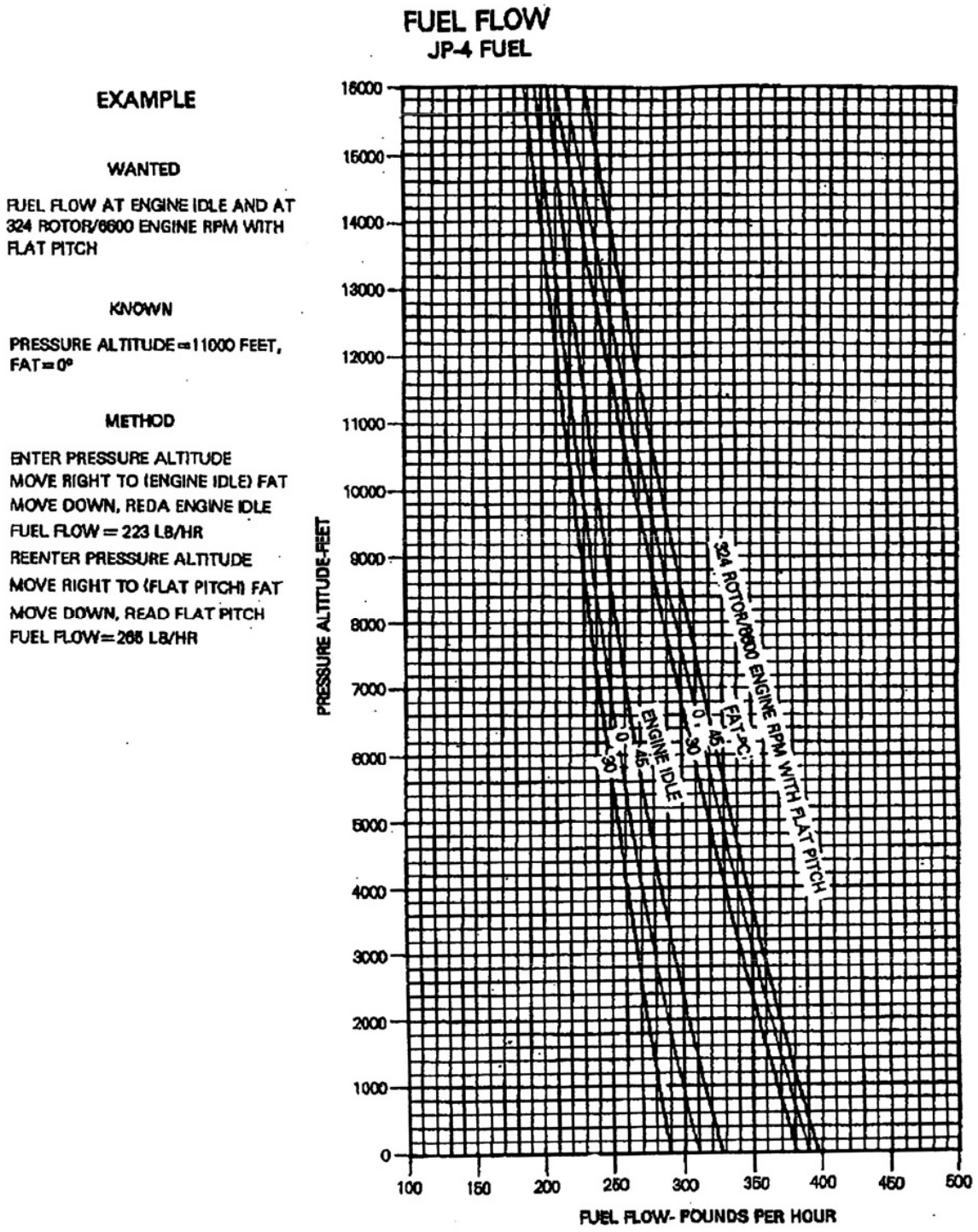


**FIGURE 1. Fuel flow chart.**



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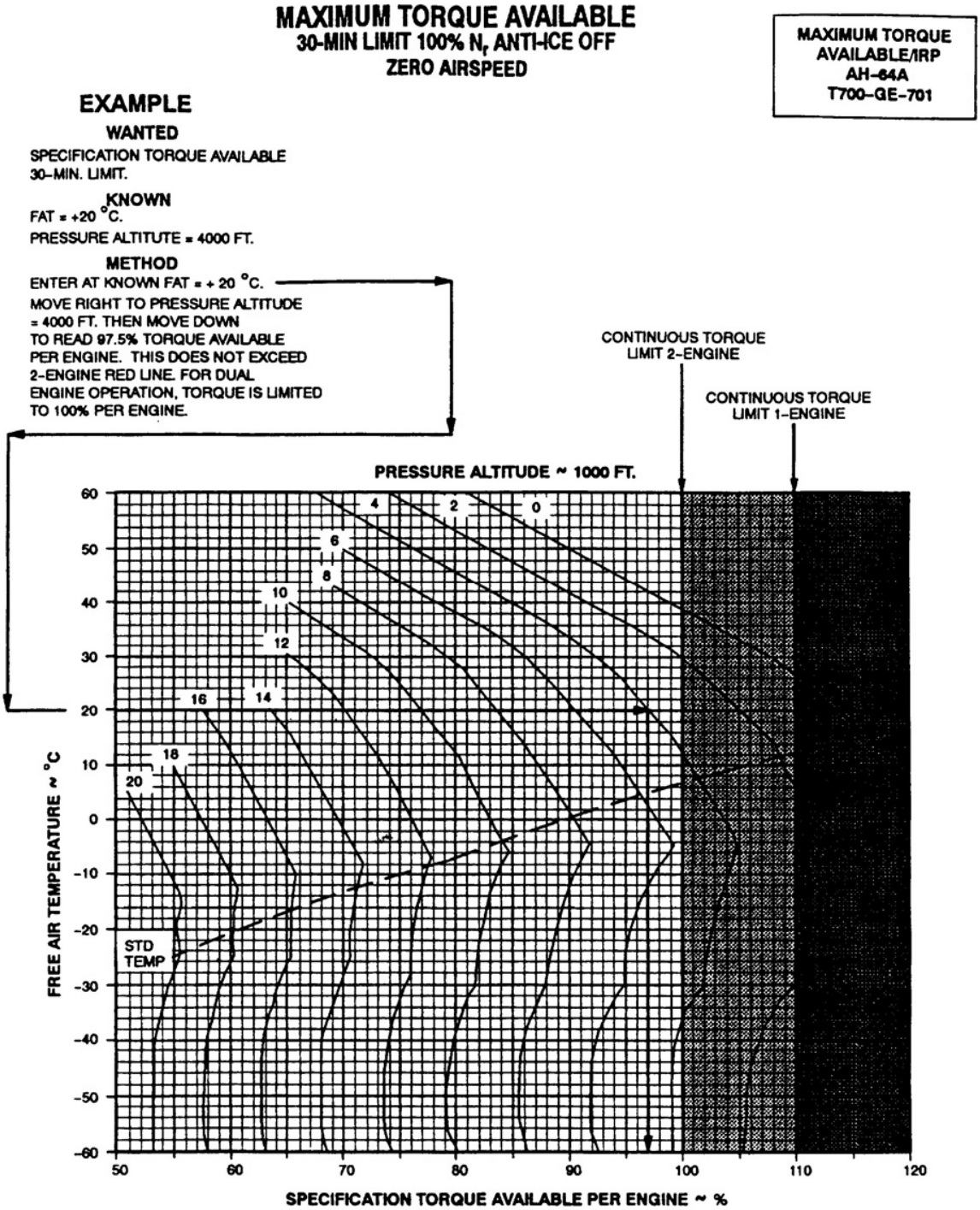


**FIGURE 2. Maximum torque available chart.**



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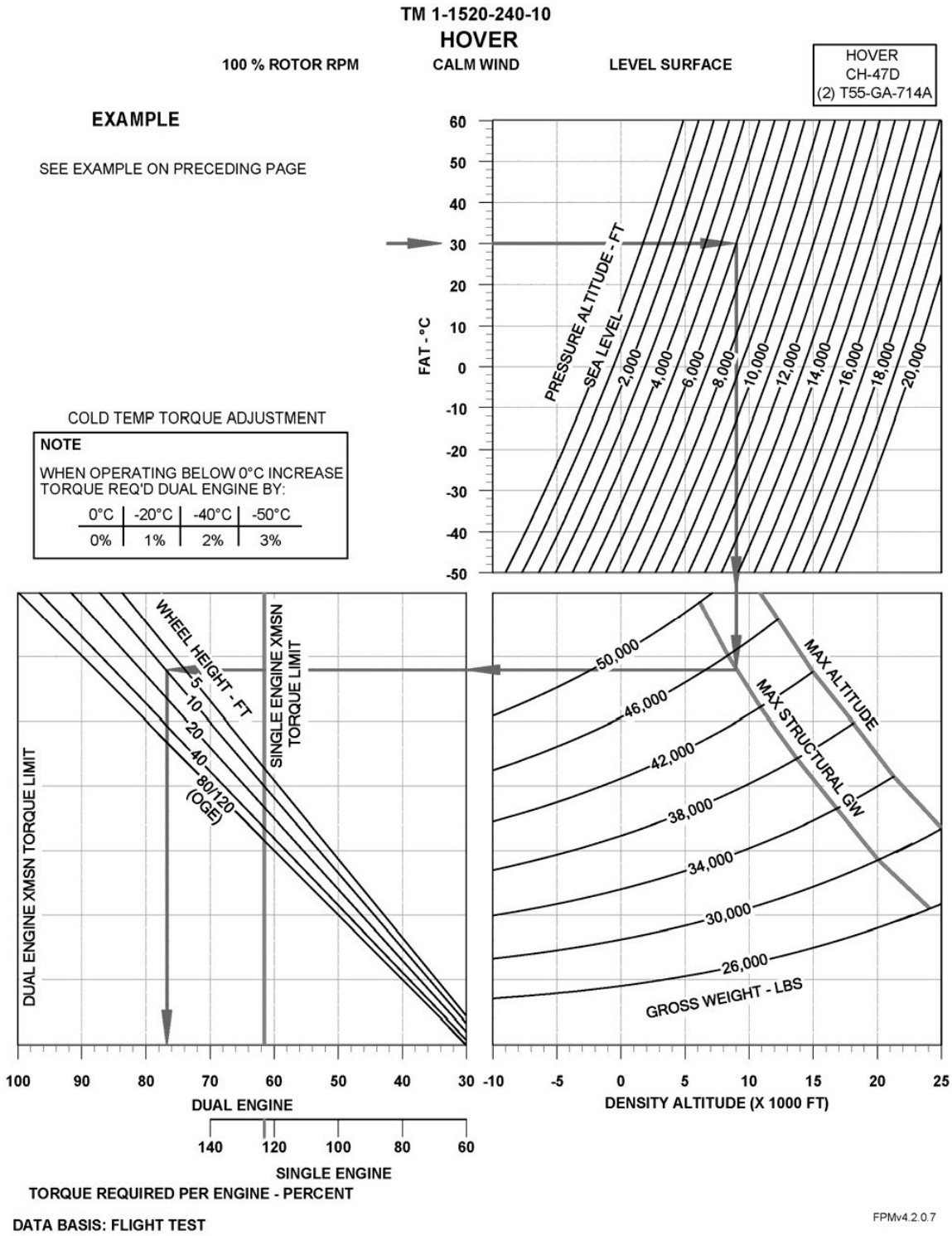


**FIGURE 3. Hover chart.**



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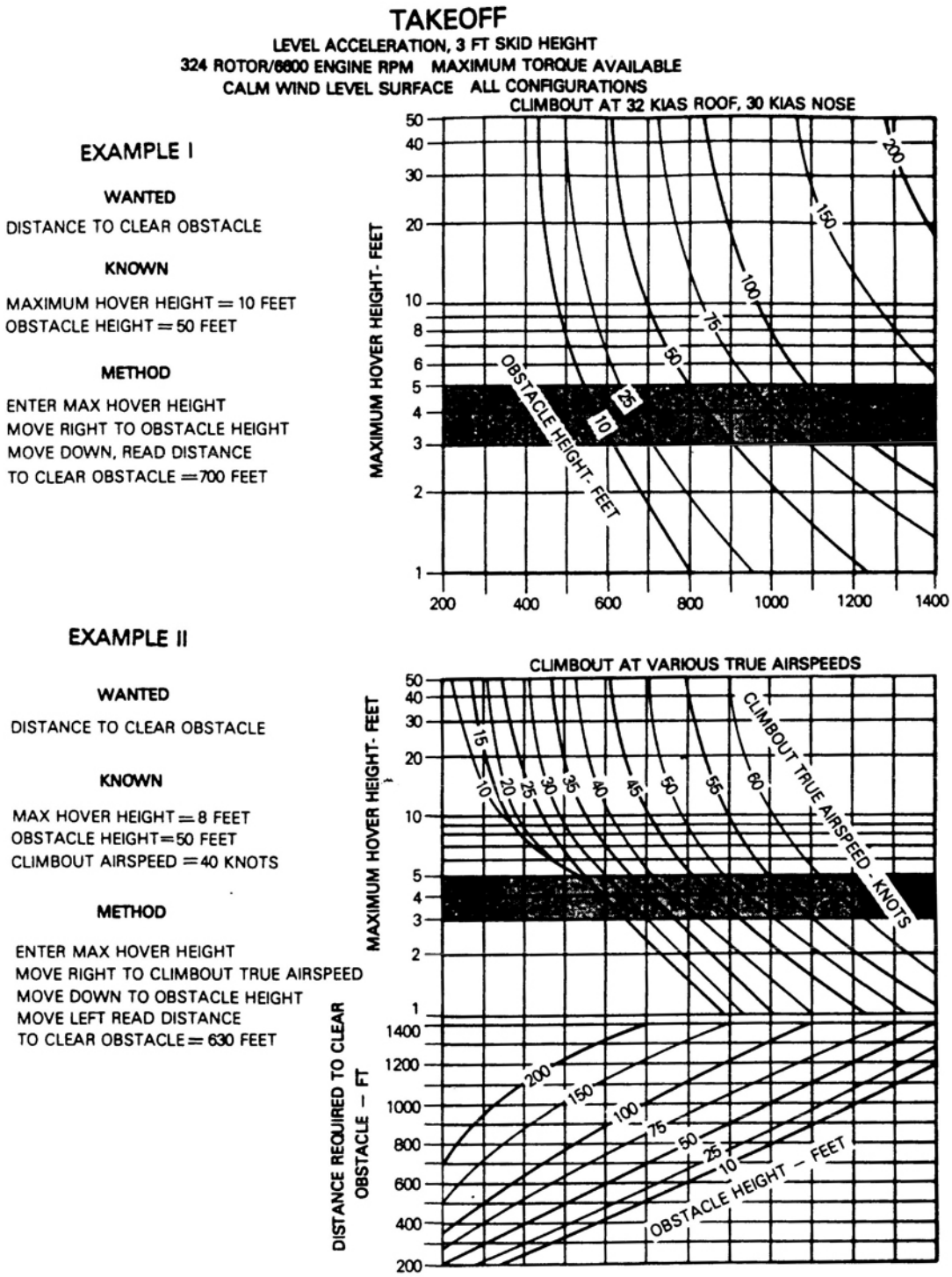


**FIGURE 4. Takeoff chart.**



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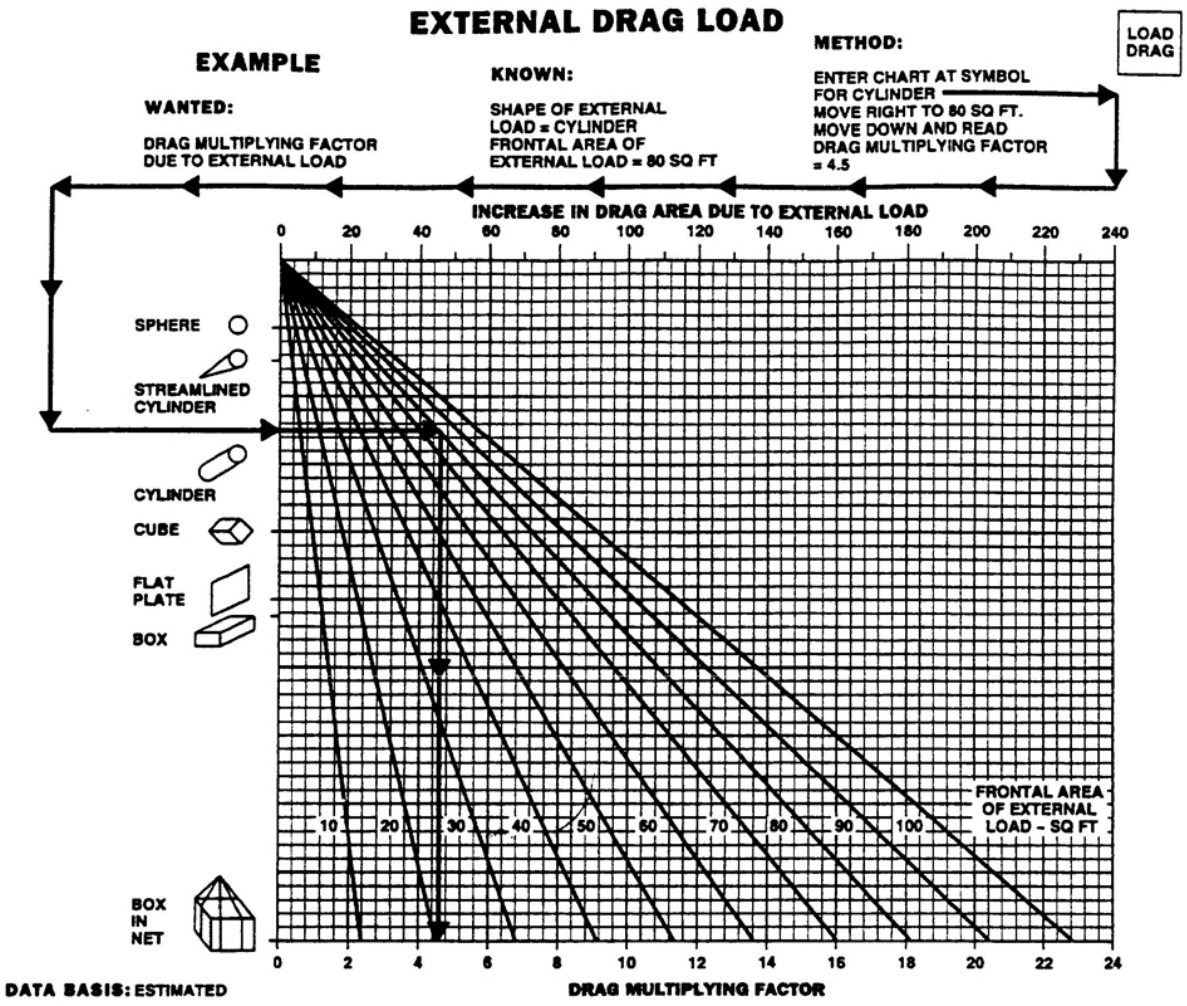


**FIGURE 5. Drag chart.**



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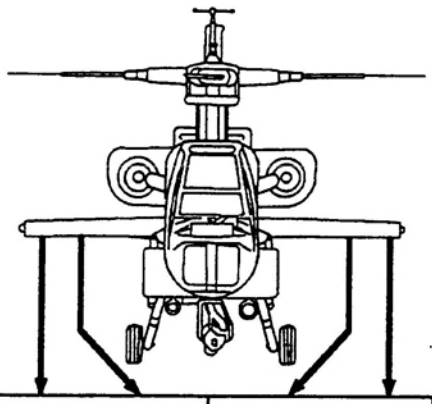

| RIGHT WING STORES | | LEFT WING STORES | | Δ F (SQ. FT.) | MULTIPLYING FACTOR |
|---|---|---|---|---|---|
| OUTBOARD | INBOARD | INBOARD | OUTBOARD | | |
| | | | | -8.0 | -0.8 |
| ▯ | | | ▯ | -6.9 | -0.69 |
| | ▯ | ▯ | | -6.9 | -0.69 |
| ▯ | ▯ | ▯ | ▯ | -5.7 | -0.57 |
| | ⊞ | ⊞ | | -6.1 | -0.61 |
| ⊞ | | | ⊞ | -6.1 | -0.61 |
| | ○ | ○ | | -2.1 | -0.21 |
| ○ | | | ○ | -2.1 | -0.21 |
| ⊞ | ▯ | ▯ | ⊞ | -4.9 | -0.49 |
| ▯ | ⊞ | ⊞ | ▯ | -4.9 | -0.49 |
| ▯ | ○ | ○ | ▯ | -0.9 | -0.09 |
| ○ | ▯ | ▯ | ○ | -0.9 | -0.09 |
| ⊞ | ⊞ | ⊞ | ⊞ | -4.2 | -0.42 |

▯ STORES PYLON (EMPTY)

STORES PYLONS PLUS HELLFIRE MISSILE LAUNCHER (LOADED WITH 4 MISSILES)

⊞ STORES PYLONS PLUS 19 TUBE ROCKET LAUNCHERS (LOADED WITH 19 ROCKETS)

○ STORES PYLONS PLUS EXTERNAL FUEL TANK

CLEAN STATION

**Figure 5. Drag chart - Continued.**



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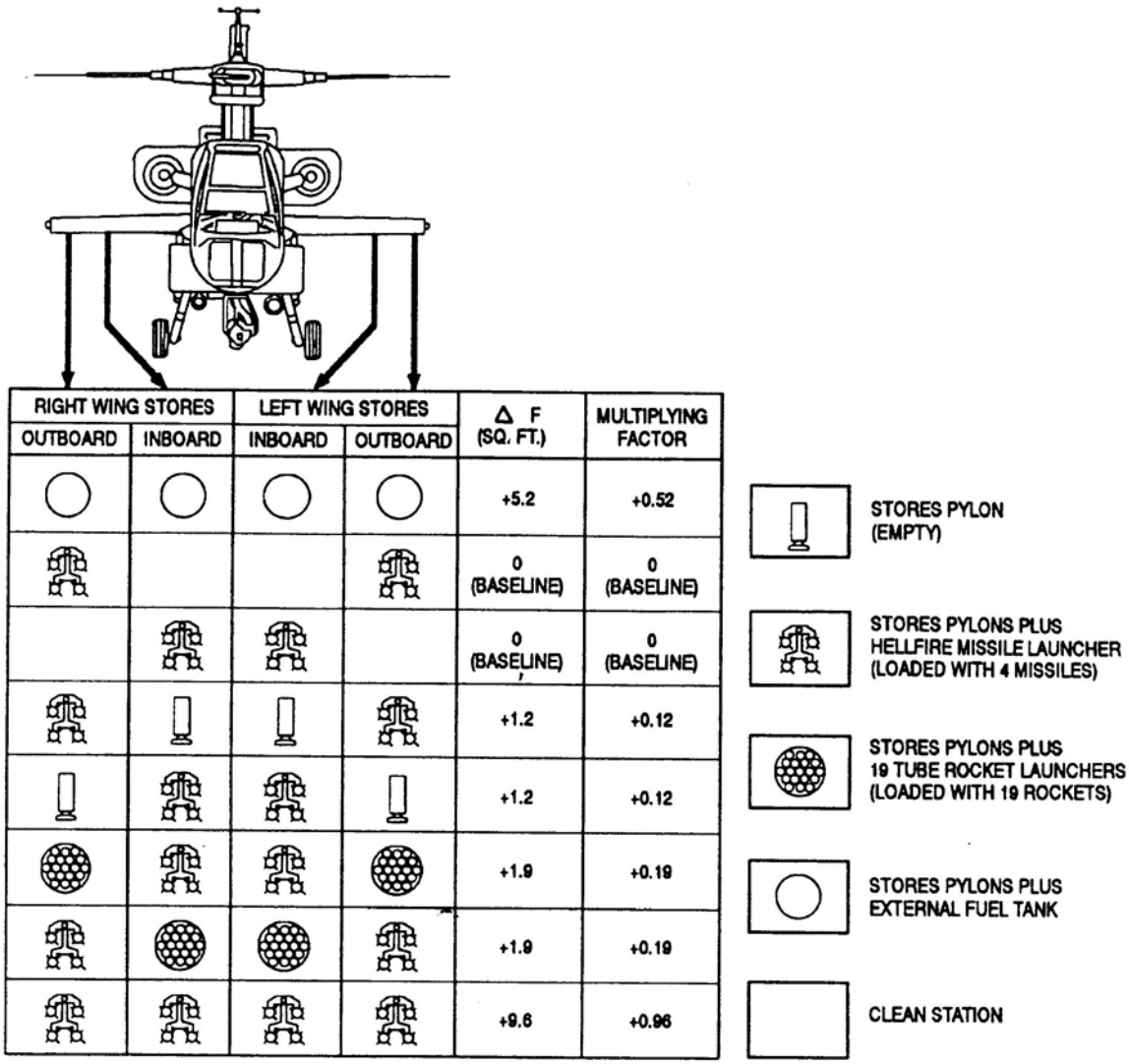


**Figure 5. Drag chart - Continued.**



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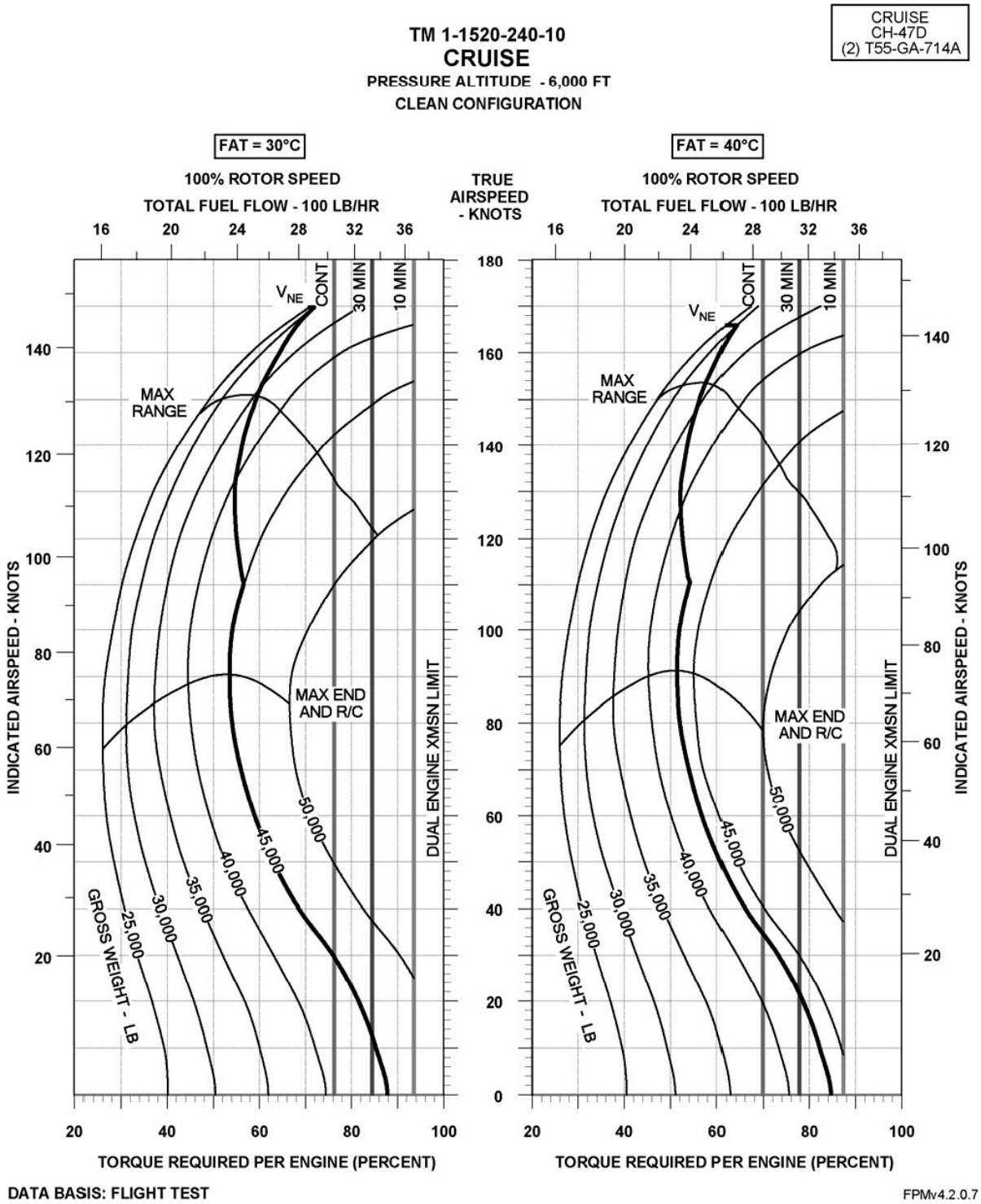


**FIGURE 6. Cruise chart.**



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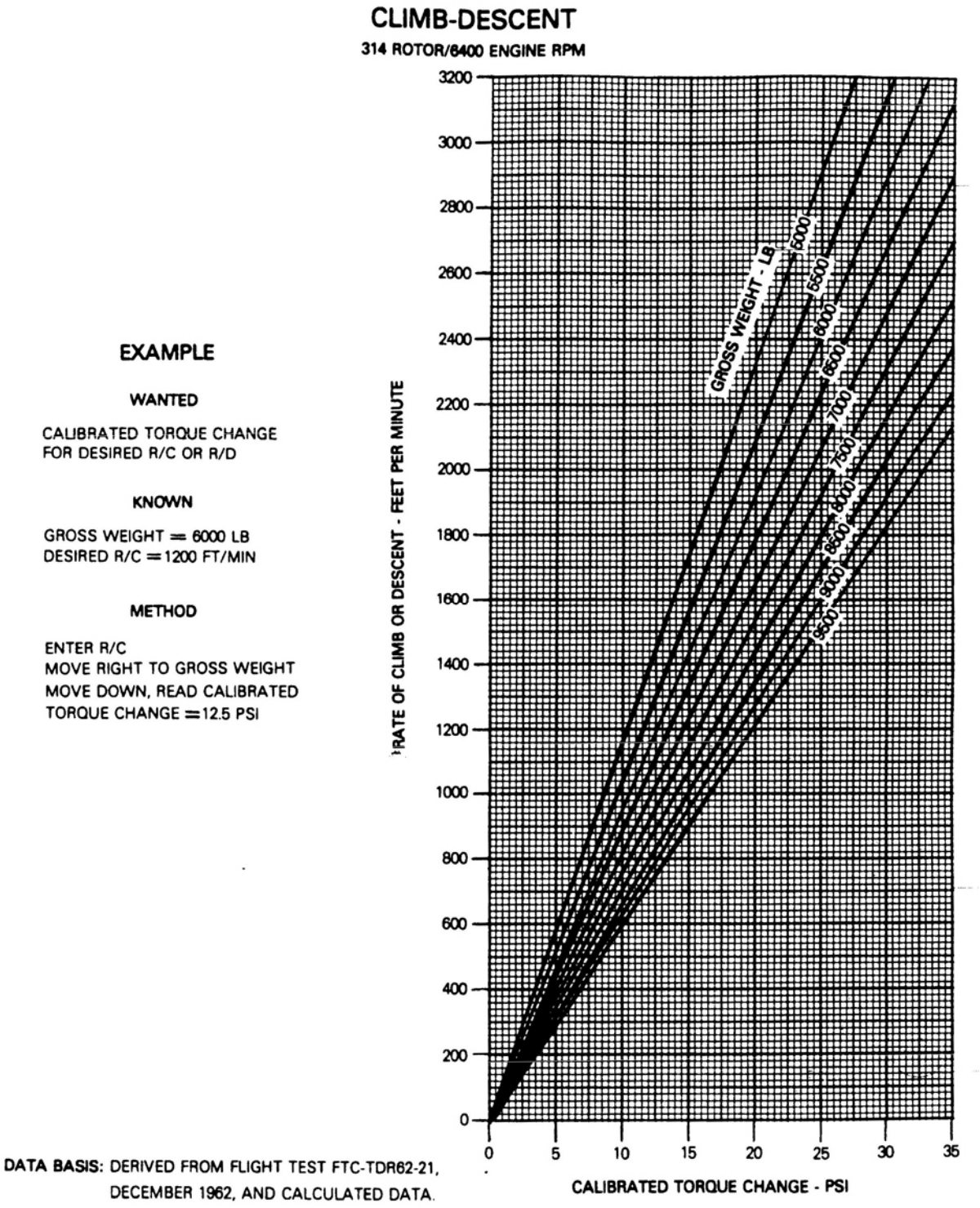


**FIGURE 7. Climb-descent chart.**



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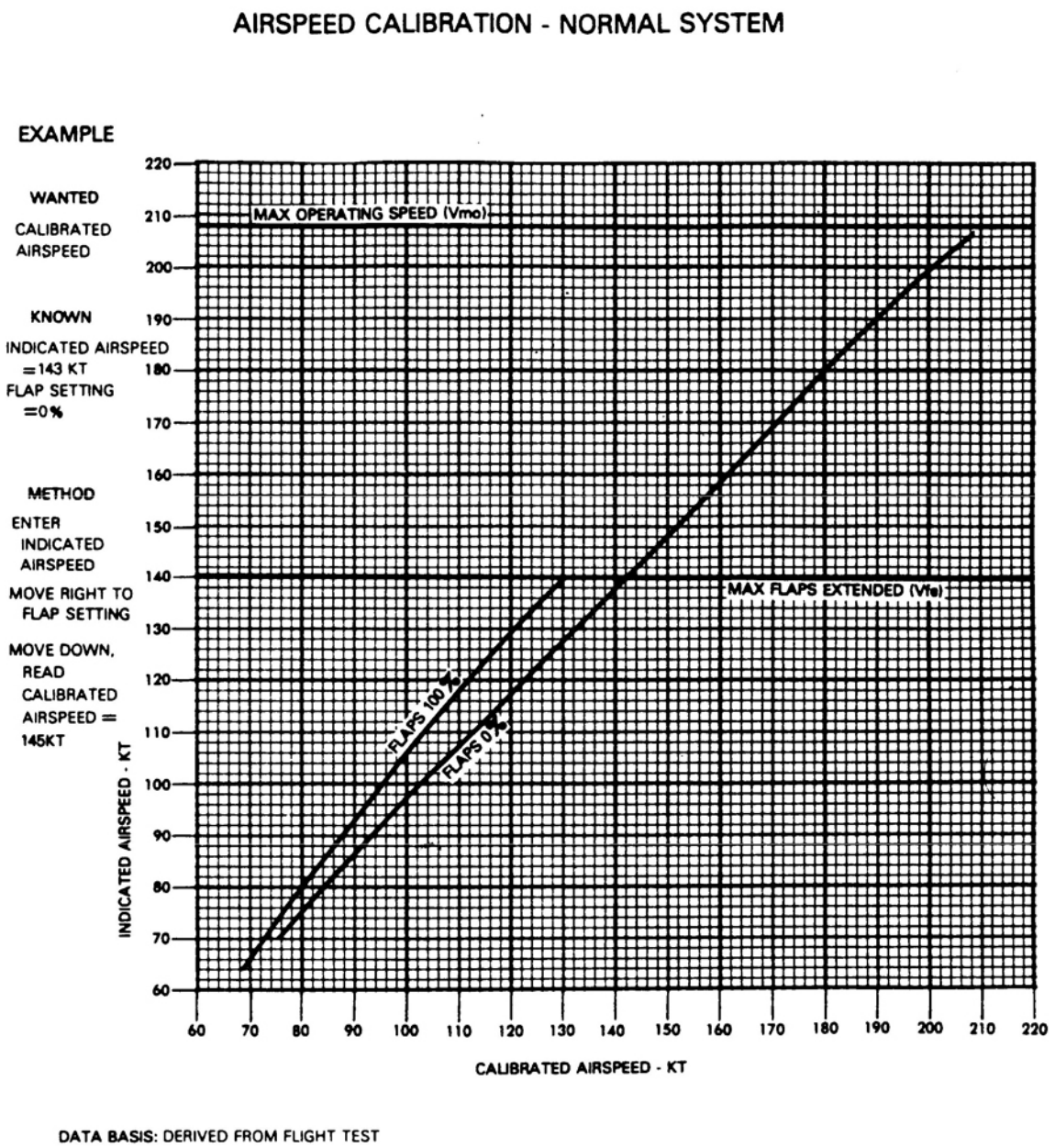


**FIGURE 8. Airspeed calibration chart.**



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**TEMPERATURE CONVERSION/CORRECTION**

TEMPERATURE CONVERSION /CORRECTION
RU-21A, RU-21D
T74-CP-700

**EXAMPLE**

**WANTED**

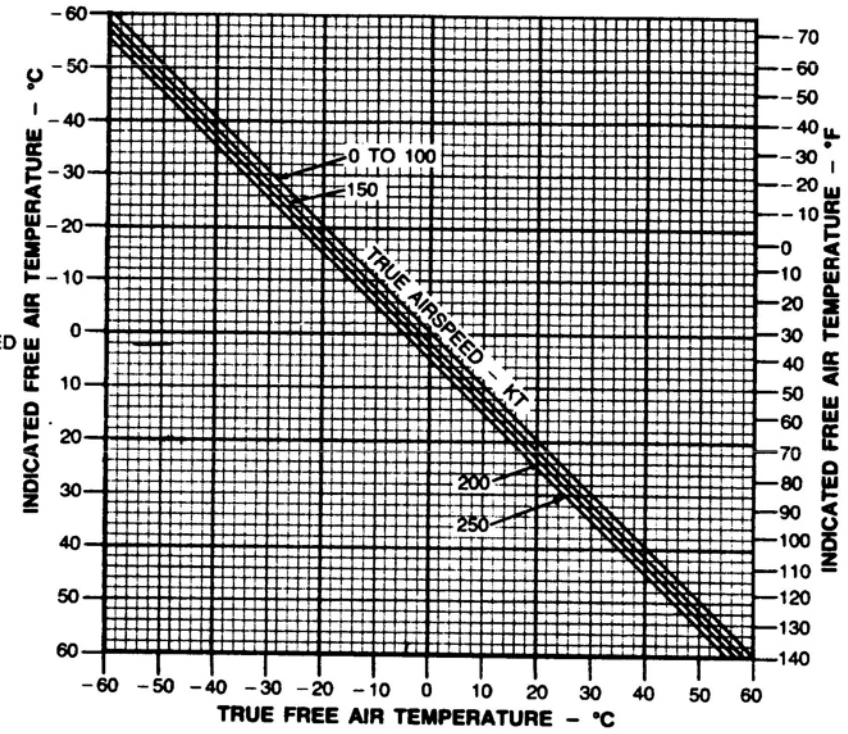
TRUE FAT

**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 - Continued.**



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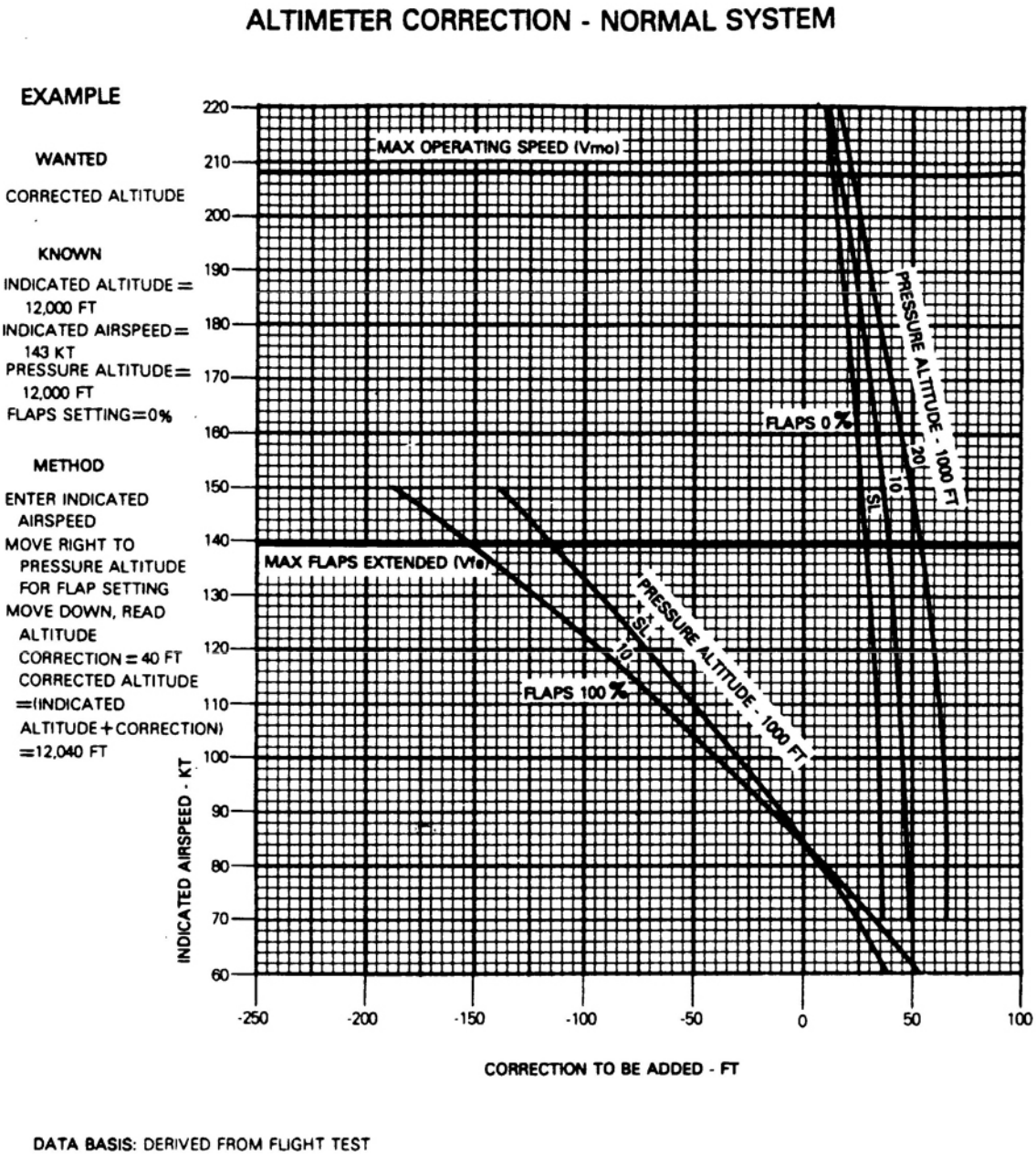


**FIGURE 9. Airspeed-altimeter correction chart.**



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## CROSSWIND - TAKEOFF OR LANDING

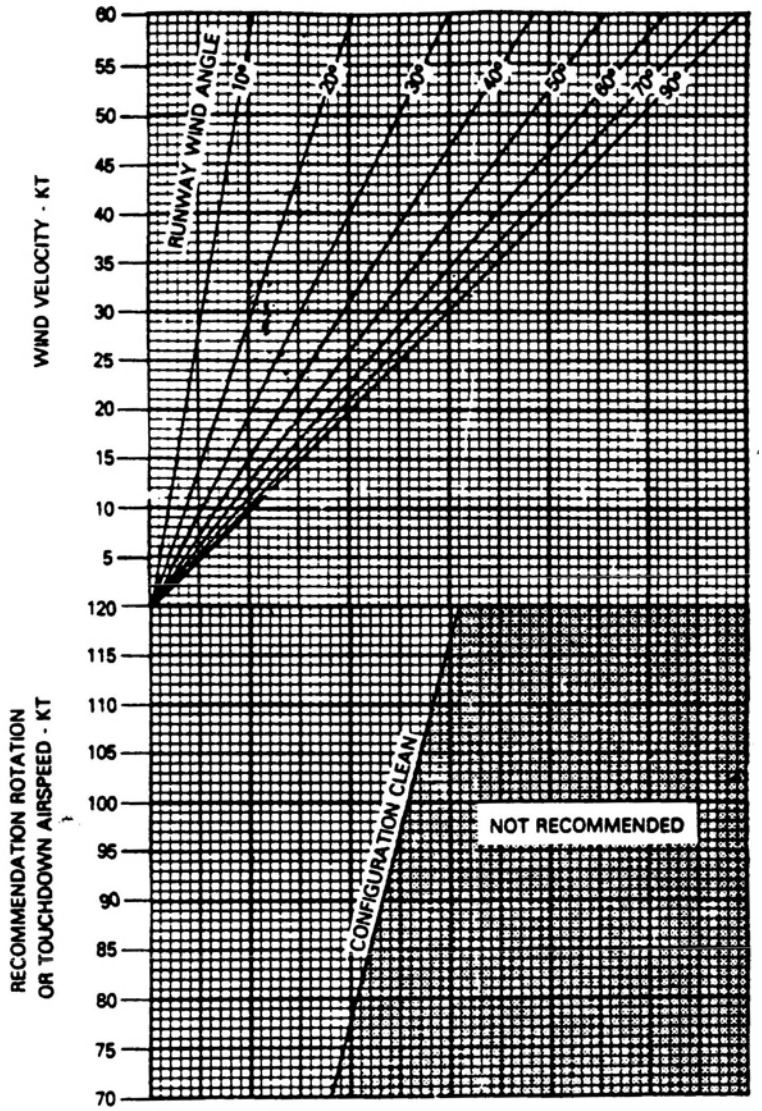
### EXAMPLE

KNOWN

CLEAN CONFIGURATION
RUNWAY 21
WIND VELOCITY = 23KT
WIND DIRECTION = 190°
NORMAL ROTATION AIRSPEED = 93KT

METHOD

DETERMINE RUNWAY WIND ANGLE,
210° - 190° = 20°
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.**



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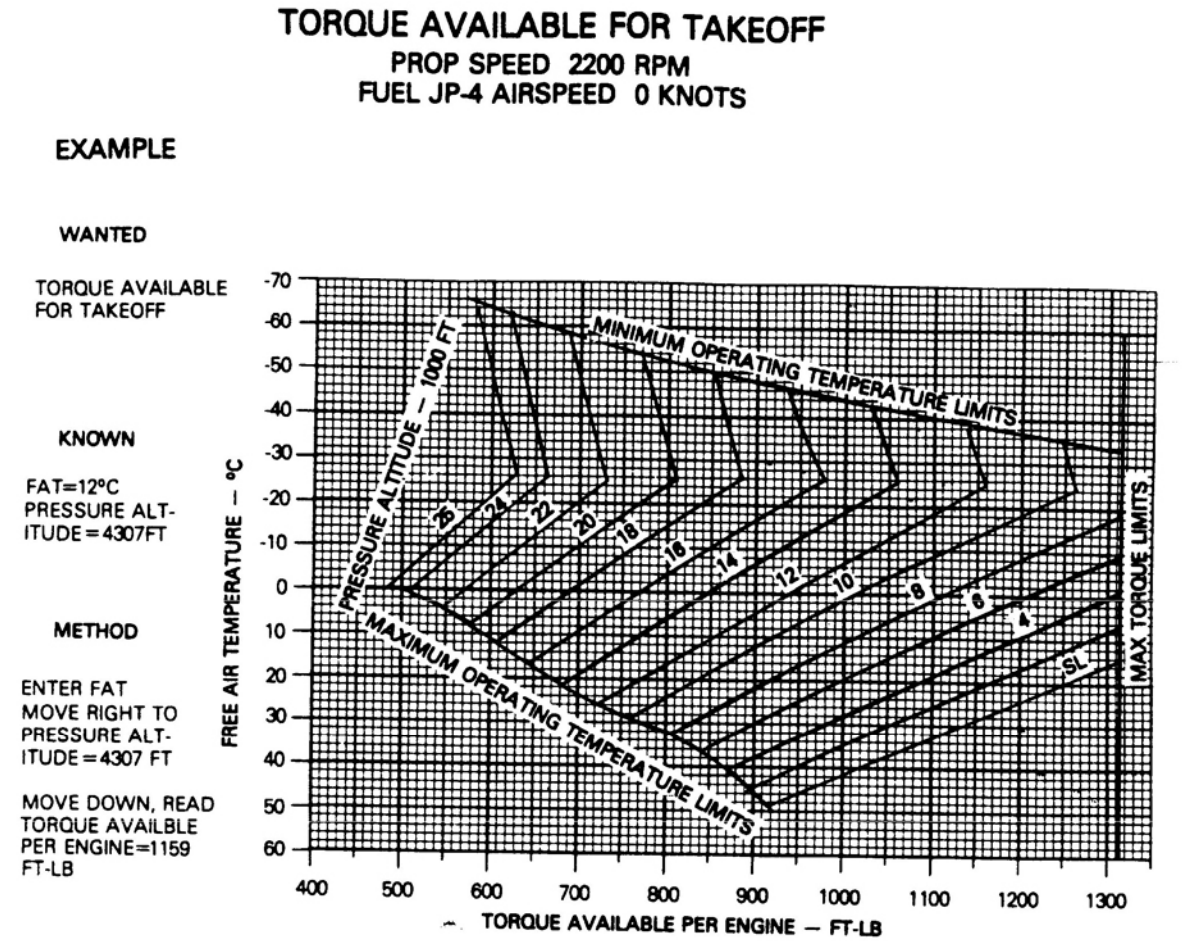


DATA BASIS: CALCULATED FROM ENGINE MODEL SPEC .

**FIGURE 11. Torque available for takeoff chart.**



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## TAKEOFF - NORMAL

CALM WINDS FLAPS 0 PERCENT POWER - TAKEOFF

LEVEL HARD SURFACE

### EXAMPLE

**WANTED**

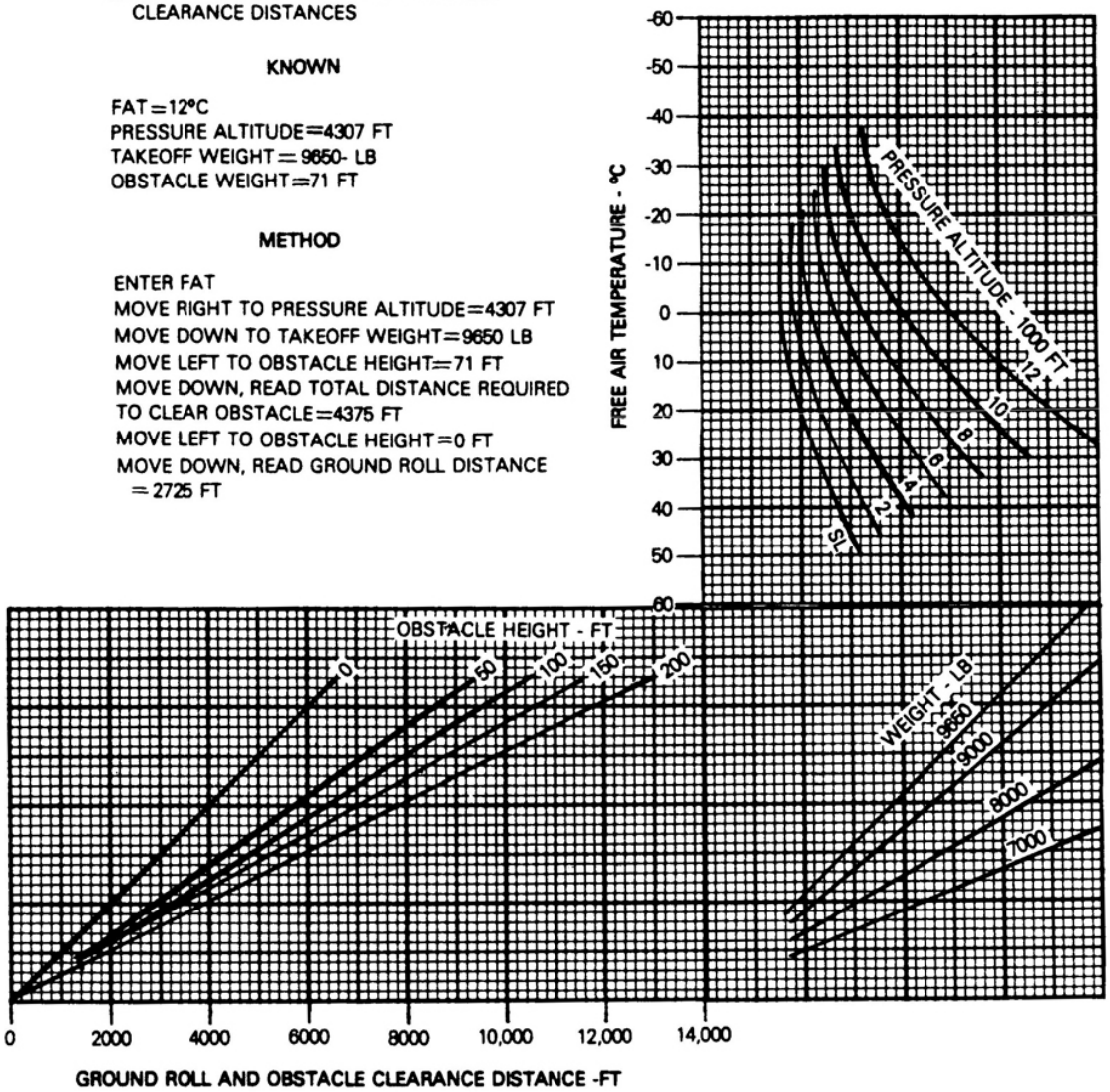
REQUIRED GROUND ROLL AND OBSTACLE CLEARANCE DISTANCES

**KNOWN**

FAT=12°C
PRESSURE ALTITUDE=4307 FT
TAKEOFF WEIGHT=9650- LB
OBSTACLE WEIGHT=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.**



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## NORMAL ROTATION/TAKEOFF AIRSPEED

FLAPS 0 PERCENT

### EXAMPLE

**WANTED**

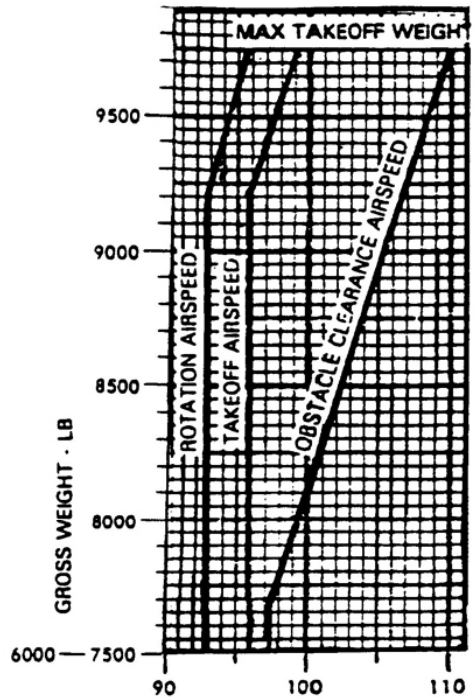
NORMAL ROTATION, TAKEOFF, AND OBSTACLE CLEARANCE AIRSPEEDS FOR KNOWN TAKEOFF WEIGHT

**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.**



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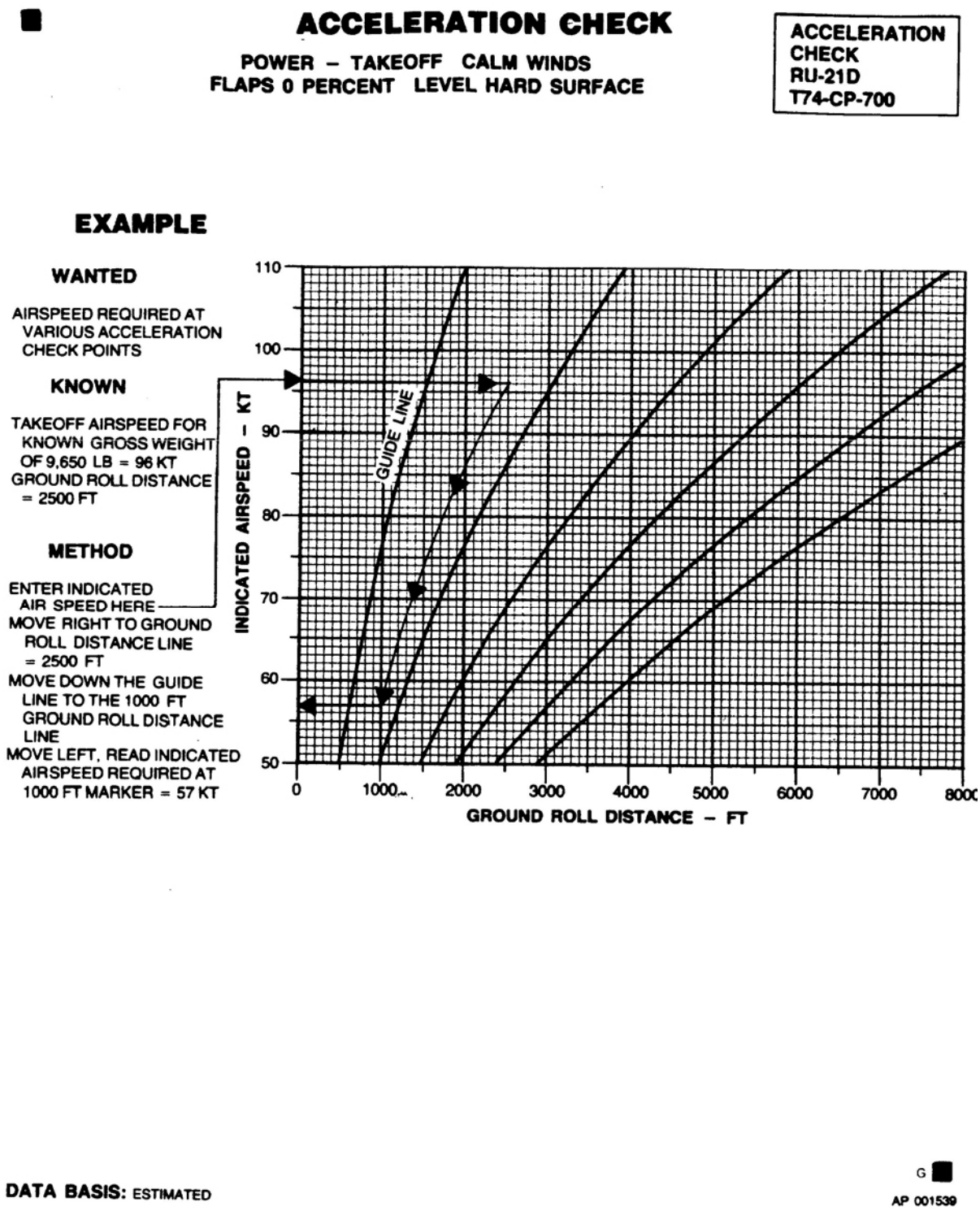


**FIGURE 14. Acceleration check distance chart.**



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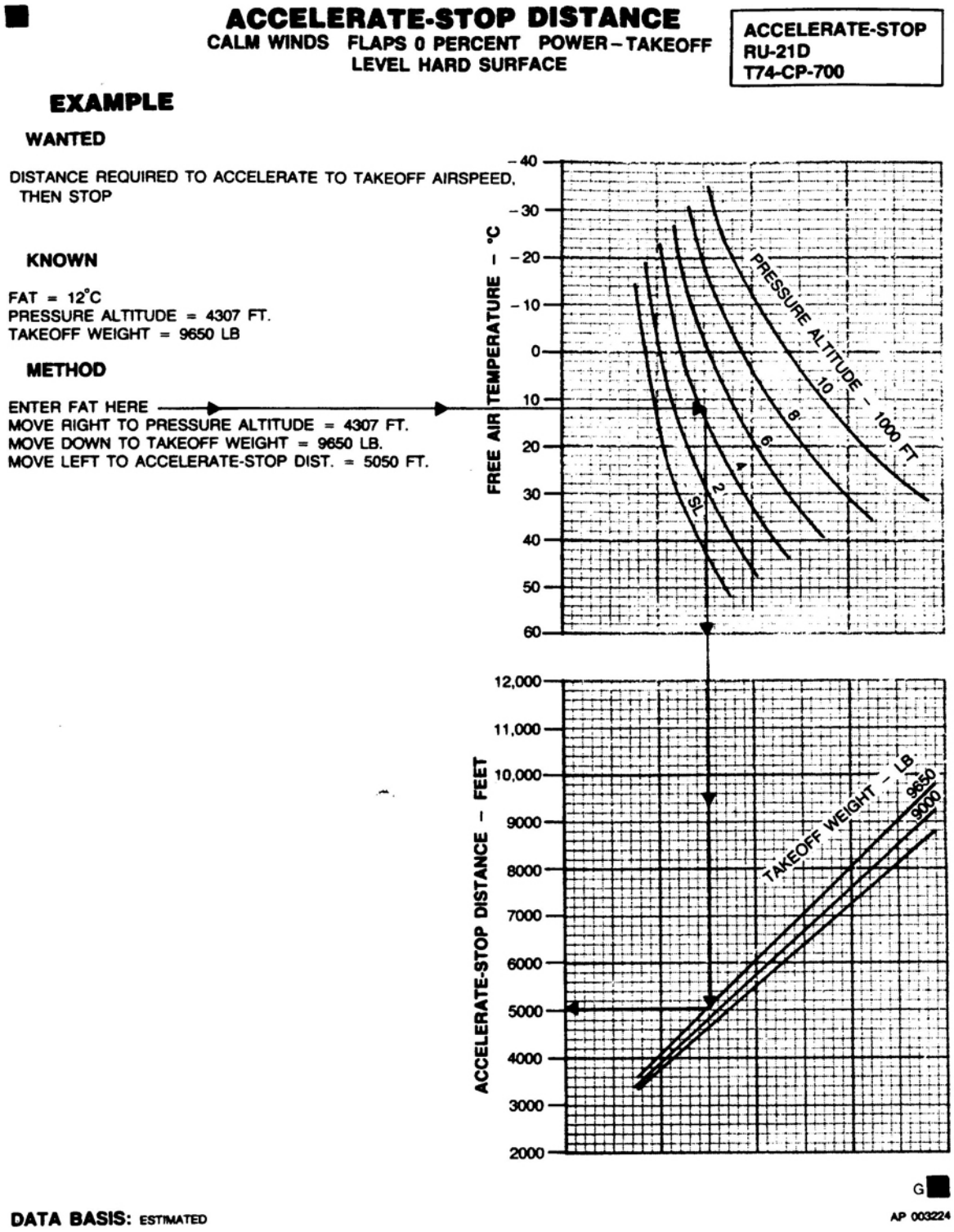


**FIGURE 15. Accelerate-stop distance chart.**



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**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.

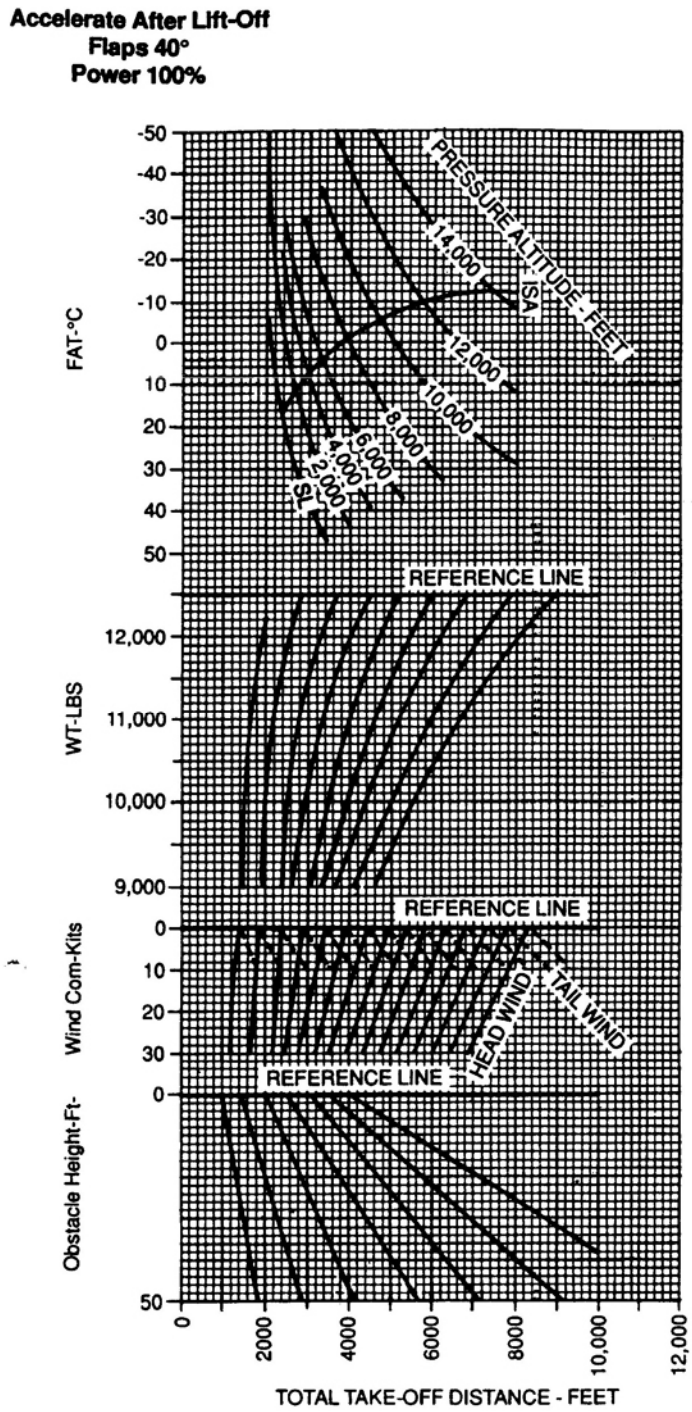


**FIGURE 16. Accelerate after lift off chart.**



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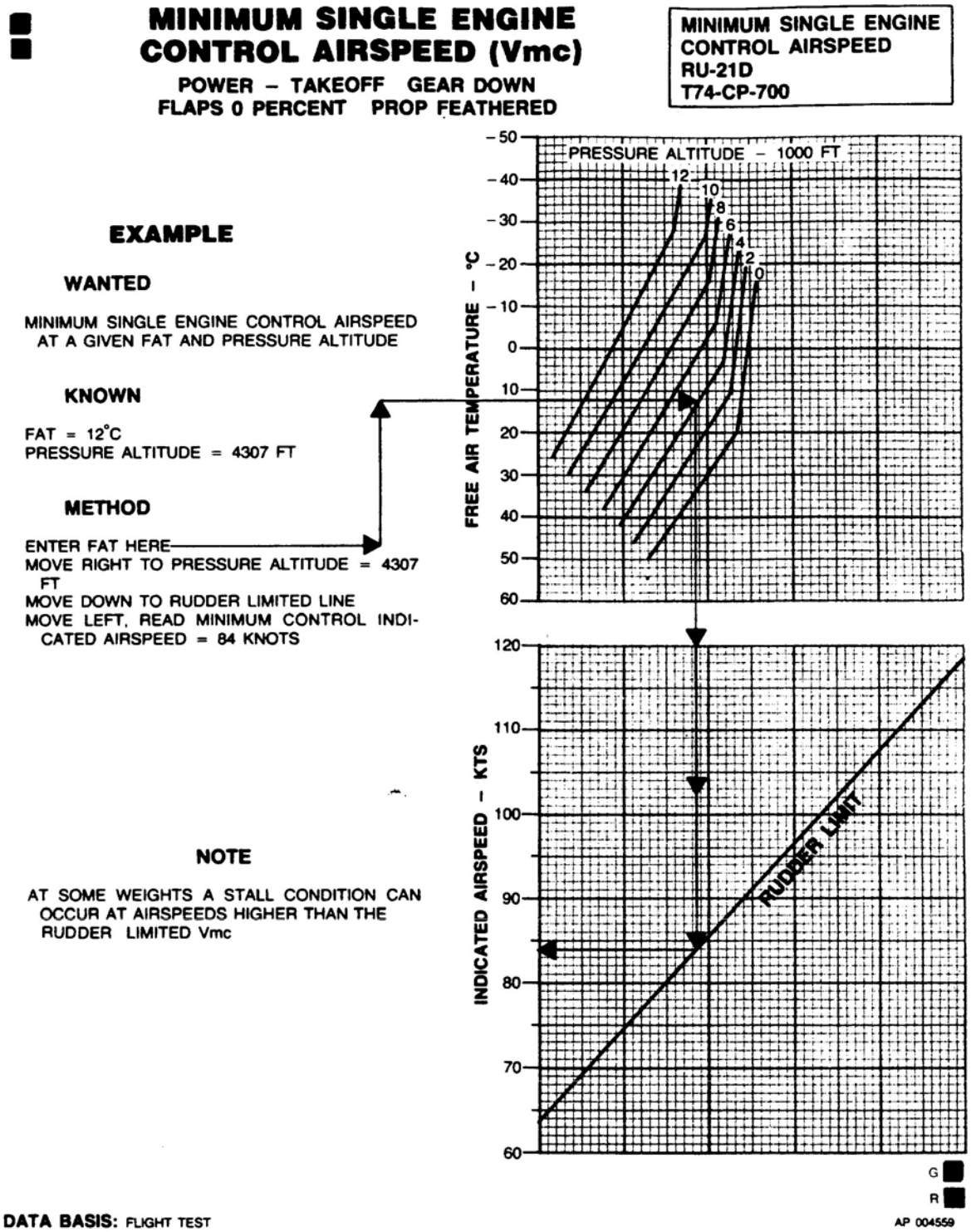


**FIGURE 17. Minimum single engine control airspeed chart.**



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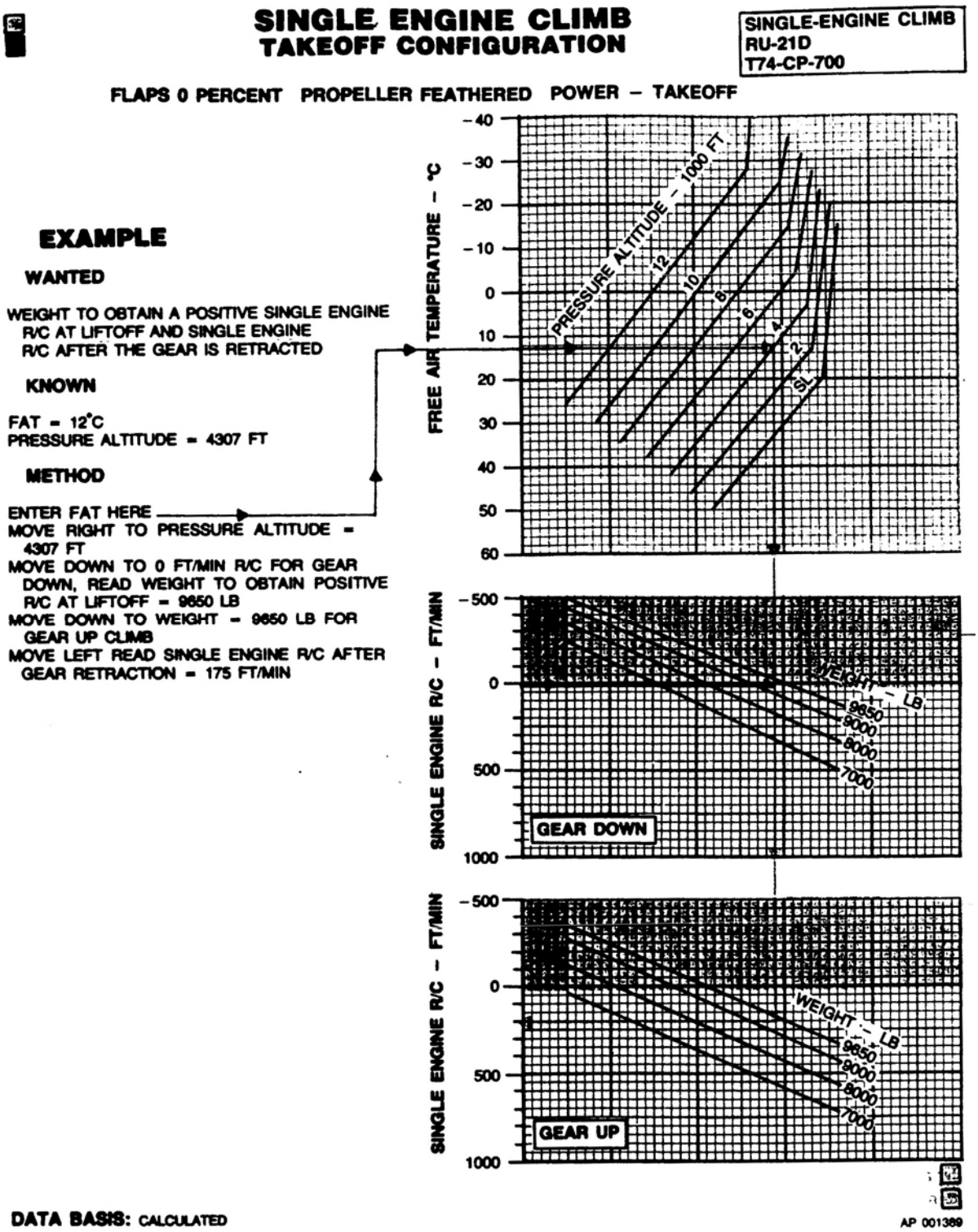


FIGURE 18. Single engine climb chart.



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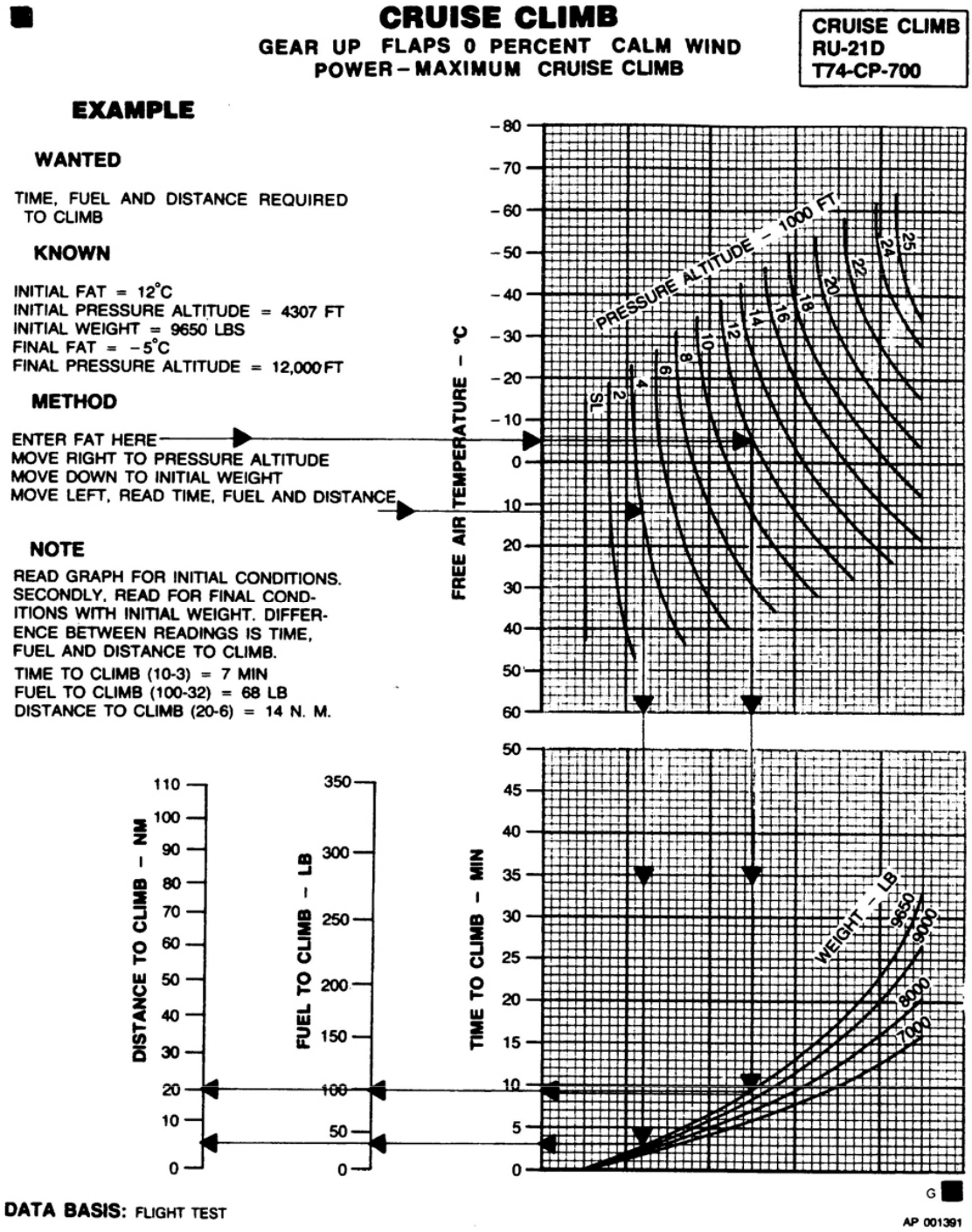


**FIGURE 19. Cruise climb chart.**



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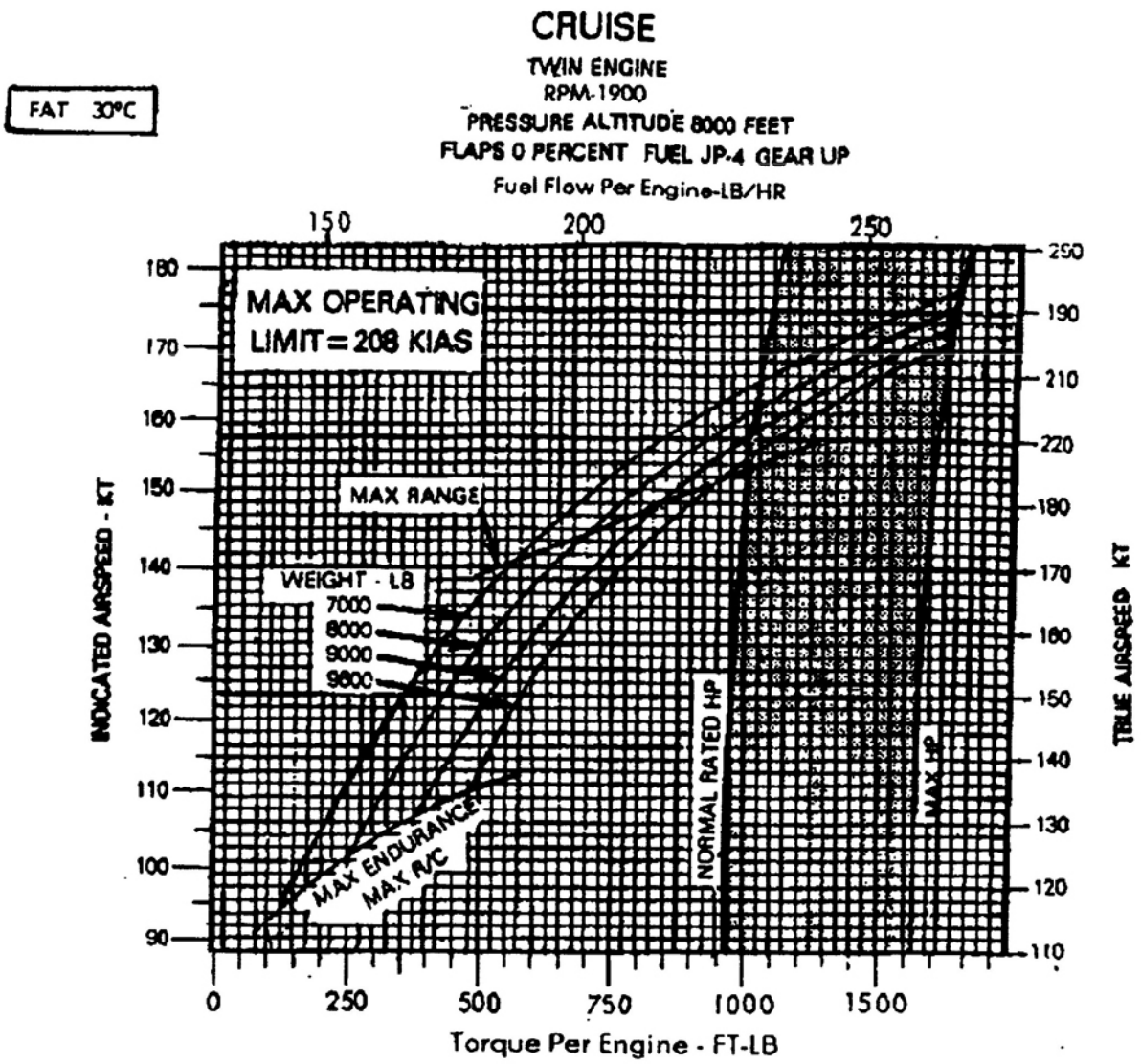


**FIGURE 20. Cruise chart.**



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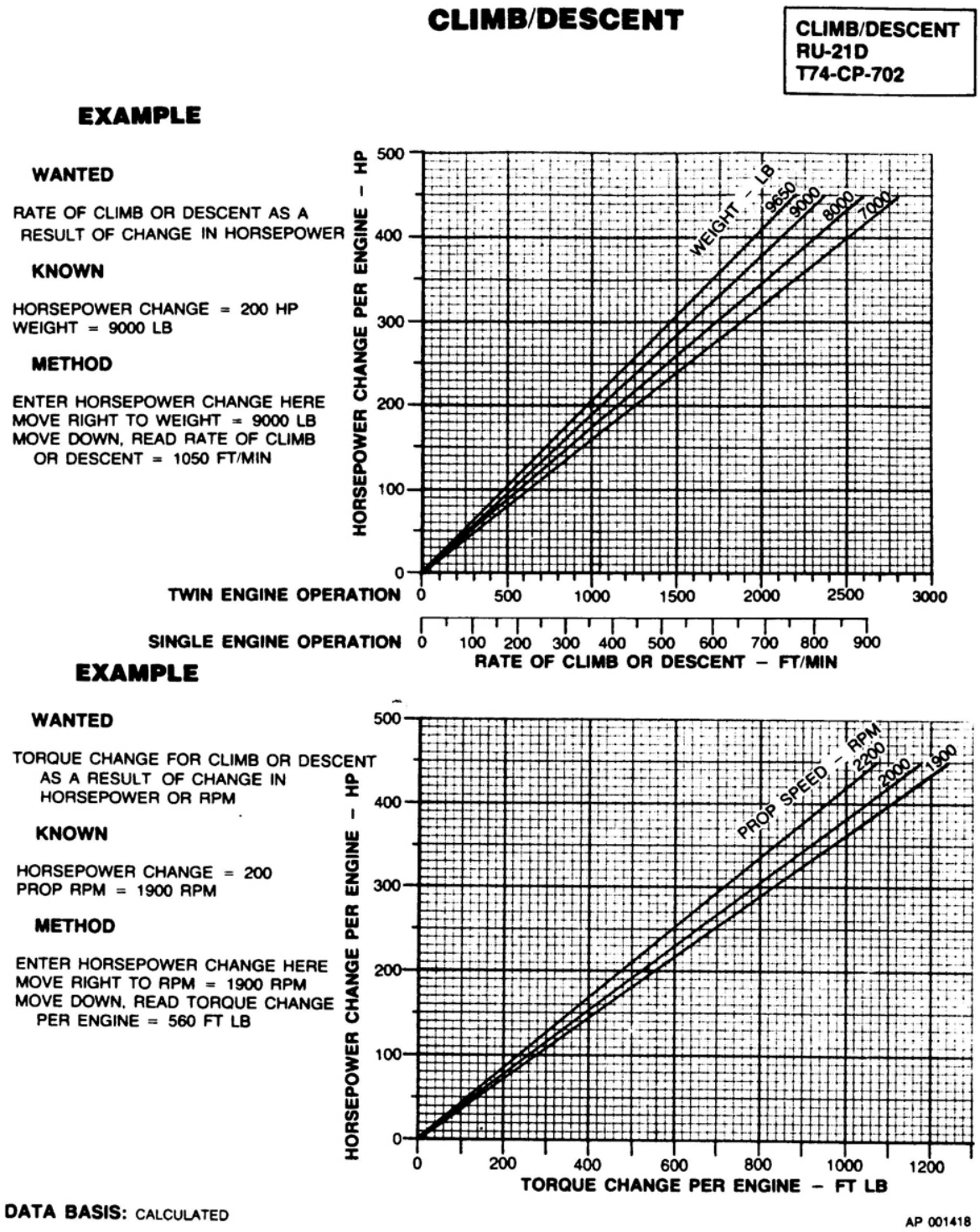


**FIGURE 21. Climb/Descent chart.**



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## APPROACH SPEED

GEAR DOWN

**EXAMPLE**

**WANTED**

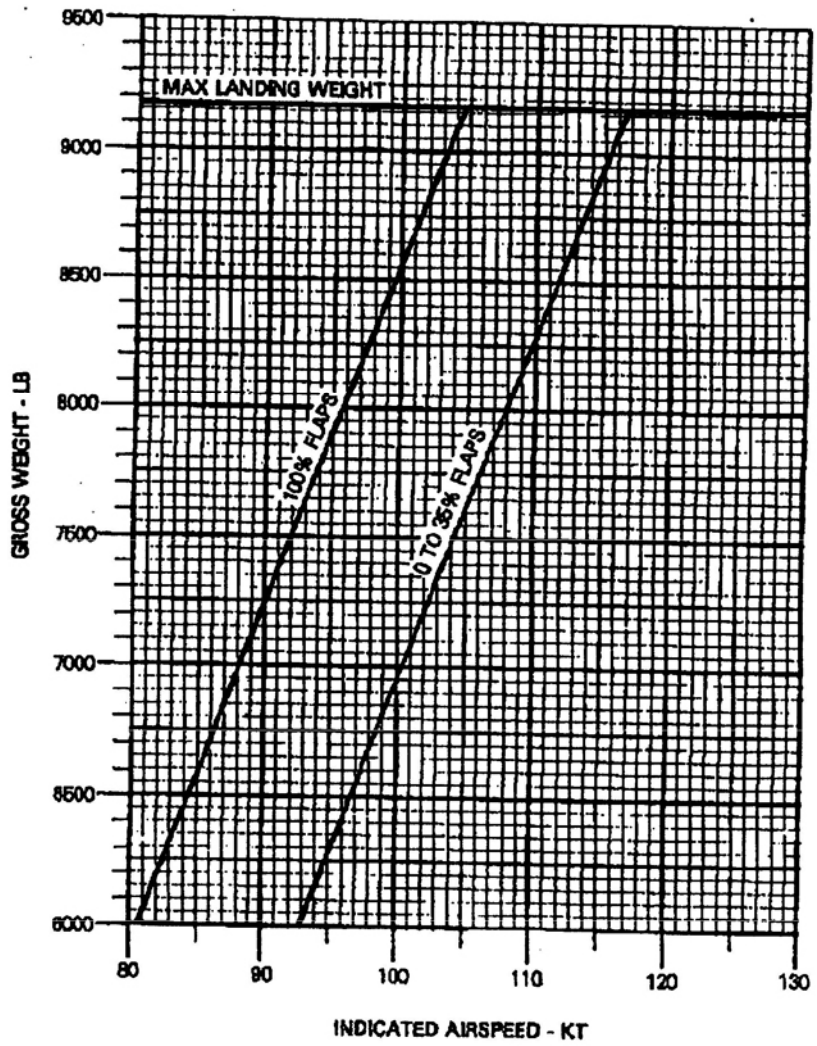
RECOMMENDED APPROACH SPEED FOR KNOWN WEIGHT

**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.**



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# LANDING

CALM WINDS LEVEL, DRY, HARD SURFACE
MAX BRAKING AND IDLE POWER ON RUNWAY

**EXAMPLE**

**WANTED**

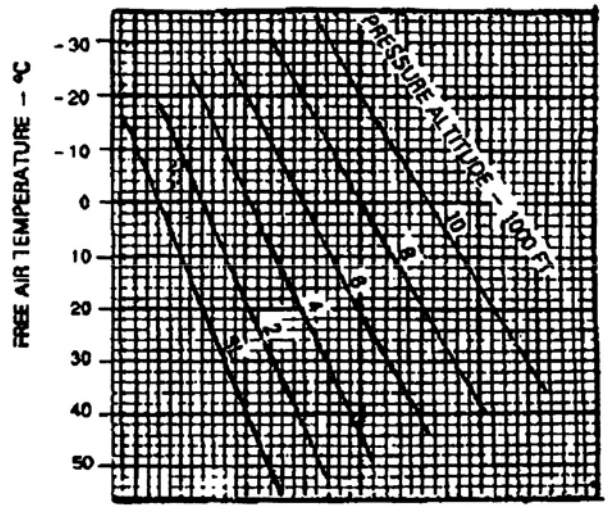
LANDING DISTANCE

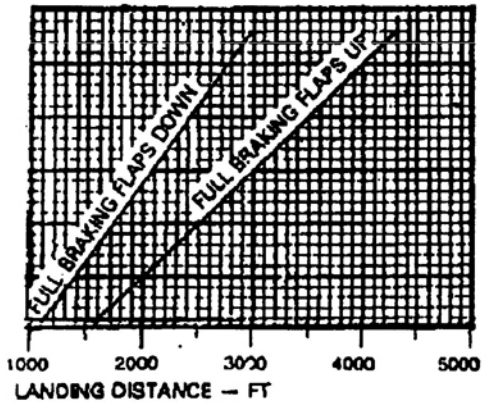
**KNOWN**

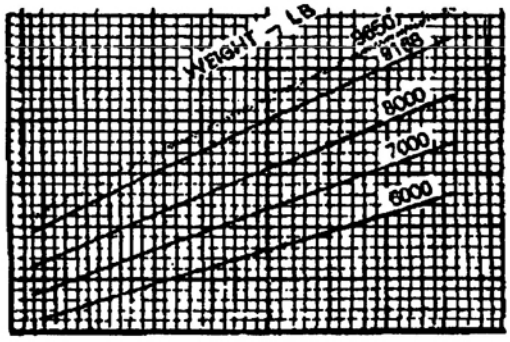
WEIGHT – 8855 LB
PRESSURE ALTITUDE – 4484 FT
FAT – 18°C
FLAPS DOWN

**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.**



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5.115.1.15 Aircraft operator's manual Chapter 8 – Normal procedures.

5.115.1.15.1 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 5.115.1.9), 3 (refer to 5.115.1.10), and 4 (refer to 5.115.1.11) 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.

5.115.1.15.2 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.

5.115.1.15.3 Section II – Operating procedures and maneuvers.

5.115.1.15.3.1 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.

5.115.1.15.3.2 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 5.48.1.10 for values of the attribute **`crewStepCondition`**):



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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.

5.115.1.15.3.3 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.

5.115.1.15.3.4 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.

5.115.1.15.3.5 Normal operation check - Preflight (Before exterior check).

Data Module Type: Crew/Operator Information Code: 131M



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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.

5.115.1.15.3.6 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.

5.115.1.15.3.7 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.

5.115.1.15.3.8 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.

5.115.1.15.3.9 Normal operation – Preflight.

Data Module Type: Crew/Operator Information Code: 131B

5.115.1.15.3.9.1 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



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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 wind 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.

5.115.1.15.3.9.2 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.

5.115.1.15.3.10 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.



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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.

5.115.1.15.3.11 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



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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.

5.115.1.15.4 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. Only those procedures and techniques that are used for instrument flight that are different from normal procedures in FM 3-04.240 shall be discussed. Instrument flight conditions to be considered shall include instrument takeoff, climb, cruise, descent, and approaches; holding; and automatic approaches.

5.115.1.15.5 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.

5.115.1.15.5.1 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.

5.115.1.15.5.2 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.

5.115.1.15.5.3 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.

5.115.1.15.5.4 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.



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5.115.1.15.5.5 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.

5.115.1.15.5.6 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-boosted systems when power boost is inoperative shall be covered.

5.115.1.15.5.7 Level flight.

Characteristics of level flight under slow, cruising, and high speed conditions shall be described.

5.115.1.15.5.8 External loads.

Changes in flight characteristics due to external loads shall be described.

5.115.1.15.5.9 Asymmetrical loads.

Coverage of characteristics and techniques to be employed when operating with asymmetrical loads or configurations shall be presented.

5.115.1.15.6 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.

5.115.1.15.6.1 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.

5.115.1.15.6.1.1 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.



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5.115.1.15.6.1.2 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.

5.115.1.15.6.1.3 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.

5.115.1.15.6.1.4 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.

5.115.1.15.6.1.5 Before takeoff.

Checks for ice and snow buildup on the aircraft shall be included.

5.115.1.15.6.1.6 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.

5.115.1.15.6.1.7 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.

5.115.1.15.6.1.8 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.

5.115.1.15.6.1.9 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.

5.115.1.15.6.1.10 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



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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.

5.115.1.15.6.2 Desert and hot weather operations.

The same requirements and procedures outlined in cold weather operations shall apply to desert and hot weather operation.

5.115.1.15.6.3 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.

5.115.1.15.6.4 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.

5.115.1.15.6.5 Additional sections.

When specified by the acquiring activity, additional sections may be used.

5.115.1.16 Aircraft operator's manual Chapter 9 - Emergency procedures.

5.115.1.16.1 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



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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 element **`<inlineSignificantData>`** (refer to 5.48.1.30).

5.115.1.16.2 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 5.115.1.16).

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.)



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(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.

5.115.1.16.2.1 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.

5.115.1.16.2.2 Engine.

Emergency procedures shall be described in the event of an engine malfunction under a variety of conditions.

5.115.1.16.2.2.1 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.

5.115.1.16.2.2.2 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.



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5.115.1.16.2.2.3 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).

5.115.1.16.2.2.4 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.

5.115.1.16.2.2.5 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.

5.115.1.16.2.2.6 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.

5.115.1.16.2.2.7 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.

5.115.1.16.2.2.8 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.

5.115.1.16.2.2.9 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.



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5.115.1.16.2.2.10 Go-around with one or more engines inoperative (fixed wing).

Recommended procedures shall be described, including important precautions.

5.115.1.16.2.2.11 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.

5.115.1.16.2.3 Propeller/ rotor, transmissions, and drive systems.

Emergency procedures shall be described in the event of propeller/rotor, transmission, or drive system failure.

5.115.1.16.2.3.1 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.

5.115.1.16.2.3.2 Tail rotor failure and directional control malfunctions.

Instructions shall be given regarding all modes of directional control malfunctions and tall 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.

5.115.1.16.2.3.3 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.

5.115.1.16.2.4 Other emergencies.

Other emergencies such as ground resonance and mast bumping shall be described. Restrictions and preventive actions shall be described.

5.115.1.16.2.5 Fire.

Emergency procedures shall be included for aircraft fires as directed in the following paragraphs.

5.115.1.16.2.5.1 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.



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5.115.1.16.2.5.2 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.

5.115.1.16.2.5.3 Wing fire.

Instructions shall be included on means of dealing with wing fires, including shutting down systems which may be feeding the fire.

5.115.1.16.2.5.4 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.

5.115.1.16.2.5.5 Smoke and fume elimination.

Instructions shall be given for most rapid means of dissipating smoke and toxic fumes.

5.115.1.16.2.6 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.

5.115.1.16.2.7 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.

5.115.1.16.2.8 Hydraulic system.

Instructions shall be given for dealing with hydraulic system component failures.

5.115.1.16.2.9 Landing and ditching.

Instructions shall be given regarding landing and ditching emergency procedures as described in the following paragraphs.

5.115.1.16.2.9.1 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.

5.115.1.16.2.9.2 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.



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5.115.1.16.2.9.3 Body positions.

The body positions to be used by passengers and crew in emergency landings shall be illustrated.

5.115.1.16.2.9.4 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.

5.115.1.16.2.10 Flight controls.

Procedures to be employed in event of flight control failure shall be provided.

5.115.1.16.2.11 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.

5.115.1.16.3 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.

5.115.1.16.3.1 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.

5.115.1.16.3.2 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.

5.115.1.16.3.3 Ground control station malfunctions.

Procedures to be employed in event of ground control equipment failure shall be provided.

5.115.1.16.3.4 Data link malfunctions.

Procedures to be employed in event of Primary or secondary Data link failure shall be provided.

5.115.1.16.3.5 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.)



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5.115.1.17 Rear matter.

Refer to 5.128.3 for rear matter content requirements.

5.115.2 Project decisions.

5.115.2.1 Emergency systems.

Emergency systems may be located in Chapter 9 (refer to 5.115.1.16) at the discretion of the acquiring activity. When this is done, include the following statement in the section "Emergency equipment information is located in Chapter 9."

5.115.3 Aircraft operator checklist.

5.115.3.1 Army business rules.

5.115.3.1.1 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.

5.115.3.1.2 Special style and format rules.

5.115.3.1.2.1 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*)."

5.115.3.1.2.2 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.

5.115.3.1.2.3 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.

5.115.3.1.3 Scope.

The operator’s checklist is a condensed version of Chapter 8 (refer to 5.115.1.15) and 9 (refer to 5.115.1.16) 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



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warnings, cautions, and notes, only if specified by the acquiring activity. The contents of the checklist shall be as described in the paragraphs below.

5.115.3.1.4 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.

5.115.3.1.4.1 Detailed requirements for standard operator's checklists.

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

5.115.3.1.4.2 Front matter.

Refer to 5.128.1 for front matter content requirements.

5.115.3.1.4.3 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.

5.115.3.1.4.4 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.

5.115.3.1.4.5 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.



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5.115.3.1.4.6 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 5.115.1.16. 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.

5.115.3.1.4.7 Normal operation checklist - Performance data.

Data Module Type: Crew/Operator Information Code: 131N

5.115.3.1.4.7.1 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 5.115.1.15) 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. Through-flight checklist. 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.

5.115.3.1.4.8 Rear matter.

Refer to 5.128.3.1 for rear matter content requirements.

5.115.3.1.4.8.1 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 5.115.3.1.4.4 and 5.115.3.1.4.6.

5.115.3.2 Project decisions.

5.115.3.2.1 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.



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5.115.4 Aircraft operator Maintenance Test Flight (MTF) manual.

5.115.4.1 Army business rules.

5.115.4.1.1 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.

5.115.4.1.2 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

5.115.4.1.3 Front matter.

Refer to 5.128.1 for front matter content requirements.

5.115.4.1.4 Section I – Introduction.

Data Module Type: Crew/Operator Information Code: 018A

5.115.4.1.4.1 General.

Information of a general nature including the definition of an MTF, the purpose, and instructions specific to the checklist shall be provided.

5.115.4.1.4.2 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.

5.115.4.1.4.3 Definitions.

The following definitions shall be included:

a. Maintenance test flight. A 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.



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(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.

5.115.4.1.4.4 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.

5.115.4.1.4.5 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 5.115.1.15.3.2 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 5.48.1.10 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 property, 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



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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.

5.115.4.1.5 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.

5.115.4.1.6 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.

5.115.4.1.7 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 5.115.4.1.5) 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.

5.115.4.1.8 Section 5 – Charts and forms.

Data Module Type: Crew/Operator Information Code: 00YB

5.115.4.1.8.1 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.

5.115.4.1.8.2 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.

5.115.4.1.8.3 Maintenance test flight check sheets.

A check sheet shall be provided for use by the person(s) conducting the checks.



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5.115.4.1.9 Appendices.

Appendices shall immediately follow the last chapter of the manual. Appendixes shall be included when specified by the acquiring activity.

5.115.4.1.10 Rear matter.

Refer to 5.128.3.1 for rear matter content requirements.

5.115.4.1.10.1 Metric conversion chart.

A chart shall be included at the back of the manual.

5.115.4.2 Project decisions.

5.115.4.2.1 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 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.

5.116 Technical description **(aircraft troubleshooting manuals only)**.

Data Module Type: Descriptive Information Code: 011C

5.116.1 Army business rules.

5.116.1.1 General.

A technical description information set may be developed for each system and subsystem of the weapon system, as applicable. A single descriptive data module shall be used for the technical description, including the following required content.

5.116.1.2 Equipment description and data.

When equipment description and data is required to support the testing and troubleshooting procedures it shall be prepared in accordance with the requirements provided in, as applicable. If this information is provided in another TM/IETP, a reference to the TM/IETP may be included in lieu of including the descriptive data.

5.116.1.3 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 in accordance with the requirements provided in 5.97.5.1.7.2, as applicable. If this information is provided in another TM/IETP, a reference to the TM/IETP may be included in lieu of including the controls and indicator data.



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5.116.1.4 Theory of operation.

When theory of operation is required to support the troubleshooting procedures, it shall be prepared in accordance with the requirements provided in the Theory of Operation information set, as applicable. If this information is provided in another TM/IETP, a reference to the TM/IETP may be included in lieu of including the theory data.

5.116.2 Project decisions.

None.

5.117 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) |

5.117.1 Army business rules.

5.117.1.1 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. 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 as prescribed by the acquiring activity.

The following warning shall appear prior to first step of procedure:

"WARNING

Accidental actuation of aircraft power plant or hydraulic system, or (*insert aircraft specific equipment as applicable, i.e., firing of armament, jettison ballistics*) may cause severe injury or death, Before starting inspection, aircraft safety check shall be performed, if applicable IAW (*insert specific technical manual here*) ."

If applicable the following statement may be appended to the above warning text:

"and all armament shall be safetied, deactivated, and cleared IAW (*insert technical manuals here*)."

5.117.1.2 Mandatory safety-of-flight inspection items.

Mandatory safety-of-flight inspection items shall be highlighted using the element **`<inlineSignificantData>`** (refer to 5.48.1.30). 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."



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5.117.1.3 Area diagram.

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.

5.117.1.4 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."

5.117.2 Project decisions.

None.

5.118 Phased Maintenance (PM) inspection **(aircraft phased maintenance checklist only)**.

Data Module Type: Checklist Information Code: 310F

5.118.1 Army business rules.

5.118.1.1 General.

PM inspection information set shall be prepared.

5.118.1.2 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.

5.118.1.3 Phased maintenance checklist.

The following information shall be developed for the phased maintenance checklist. The inspection data shall be formatted and presented to support the inspection requirements in DA PAM 738-751 as prescribed by the acquiring activity. The information set shall begin with the following note:

"NOTE

Prior to 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."



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5.118.2 Project decisions.

None.

5.119 Preventive maintenance inspection **(aircraft only)**.

Data Module Type: Checklist Information Code: 200D

5.119.1 Army business rules.

5.119.1.1 General.

Preventive maintenance inspections data module (**aircraft only**) shall be prepared as directed by acquiring activity.

5.119.1.2 General information and introduction.

The following paragraph shall be inserted.

"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*)."

5.119.1.3 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."

5.119.1.4 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 which 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



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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.

5.119.2 Project decisions.

None.

5.120 Aircraft inventory master guide **(aircraft only)**.

Data Module Type: Descriptive Information Code: 102B

5.120.1 Army business rules.

5.120.1.1 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.

5.120.1.2 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.

5.120.1.3 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.

5.120.1.4 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.



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(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) Nonaccountable 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.

5.120.1.5 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. Prior to 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."

5.120.2 Project decisions.

None.

5.121 Storage of aircraft.

| | |
|---|---|
| Data Module Type: Procedural | Information Code: 810B (Flyable storage of aircraft) |
| Data Module Type: Procedural | Information Code: 810F (Short term storage of aircraft) |
| Data Module Type: Procedural | Information Code: 810G (Intermediate storage of aircraft) |

5.121.1 Army business rules.

5.121.1.1 General.

This information set shall be prepared as directed by the acquiring activity and information described in this section.

5.121.1.2 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



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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."

5.121.1.3 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.

5.121.2 Project decisions.

None.

5.122 Shipment of Army aircraft.

5.122.1 Army business rules.

5.122.1.1 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.

5.122.1.2 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



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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 IV – Preservation and packaging of components
(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



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(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)

5.122.1.3 Front matter.

Refer to 5.128.1 for front matter content requirements.

5.122.1.4 Shipment of Army aircraft – Chapter 1 – Introduction.

5.122.1.4.1 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.

5.122.1.4.2 Section II – How to use this manual (General).

Data Module Type: Descriptive Information Code: 018B

5.122.1.4.2.1 General.

This section shall include general administrative information relating to the use of the TM/IETP including:

5.122.1.4.2.2 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.

5.122.1.4.2.3 Classified materials.

If classified items are located in specific aircraft, that shall be noted, as well as specific handling requirements.

5.122.1.4.2.4 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.

5.122.1.4.2.5 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."

5.122.1.4.3 Section III – Description (Aircraft description).

Data Module Type: Descriptive Information Code: 040A



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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.

5.122.1.4.3.1 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 5.122.1.4.3.3. For TMs covering different models that exhibit external differences, drawings shall be included for each model.

5.122.1.4.3.2 Scale.

The drawings shall be as large as practicable, consistent with the space available. Scale shall be indicated by use of a graphic bar.

5.122.1.4.3.3 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



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(9) Ground to lowest part of wing
(10) Ground to bottom of horizontal stabilizer

d. Additional dimensions relevant to clearances needed for transportability

5.122.1.4.4 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.

5.122.1.4.4.1 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.

5.122.1.4.4.2 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.

5.122.1.4.4.3 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**).

5.122.1.4.4.4 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.

5.122.1.4.4.5 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.

5.122.1.4.4.6 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.

5.122.1.4.4.7 Unusual characteristics.

This paragraph shall list and explain aircraft peculiar equipment requiring special environmental, handling, and or security precautions.

5.122.1.4.4.8 International shipment.

Reference shall be made to Appendix F for information on customs and quarantine clearance.



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5.122.1.4.5 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.

5.122.1.4.6 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.

5.122.1.4.7 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.

5.122.1.5 Shipment of Army aircraft – Chapter 2 – Shipment by cargo aircraft.

5.122.1.5.1 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.

5.122.1.5.1.1 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.

5.122.1.5.1.2 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.



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e. Inspecting and determining acceptability of tiedowns.

5.122.1.5.1.3 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.

5.122.1.5.1.4 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, grounding, and fresh water.

5.122.1.5.1.5 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.

5.122.1.5.1.6 Security.

Specific physical security instructions relevant to shipment of aircraft and equipment onboard shall be provided.



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5.122.1.5.1.7 Safety.

General safety considerations applicable to shipment by cargo aircraft shall be listed.

5.122.1.5.2 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.

5.122.1.5.2.1 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.

5.122.1.5.2.2 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.



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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 5.122.1.17) for part number and quantity required, Chapter 7 (refer to 5.122.1.10) 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 5.122.1.16) 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 5.122.1.9) 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.

5.122.1.5.2.3 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.

5.122.1.5.2.4 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



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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.

5.122.1.5.2.5 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.

5.122.1.5.2.6 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.

5.122.1.6 Shipment of Army aircraft – Chapter 3 – Shipment by vessel.

5.122.1.6.1 Section I – Shipment of aircraft – General.

Data Module Type: Descriptive Information Code: 812B

5.122.1.6.1.1 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.

5.122.1.6.1.2 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 5.122.1.8) for complete information on crated and intermodal shipments.

5.122.1.6.1.3 Responsibilities of Military Traffic Management Command (MTMC).

The following responsibilities shall be included:

a. When contacted by the appropriate command, the MTMC commander will arrange with the Military Sealift Command commander for vessel shipment.
b. The MTMC will prepare the shipment loading plan and manifest based on information provided by the Army loading team.
c. The MTMC will make arrangements with a stevedore or commercial stevedore firm to load and tiedown the aircraft. The MTMC and Military Sealift Command will supervise all loading and tiedown procedures.



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5.122.1.6.1.4 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.

5.122.1.6.1.5 Functions of the Army loading team.

The responsibilities of the Army loading team will include:

a. Coordinate with MTMC 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 MTMC 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.

5.122.1.6.1.6 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 5.122.1.17) for part and quantity required, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) for equipment operating instructions, as applicable.

5.122.1.6.1.7 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to 5.122.1.16) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.122.1.6.1.8 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.

5.122.1.6.1.9 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, fresh water, and grounding.



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5.122.1.6.1.10 Aircraft security.

Physical security requirements during preparation and shipment shall be listed.

5.122.1.6.1.11 Safety.

State general safety considerations applicable to shipment by vessel.

5.122.1.6.1.12 Characteristics.

Provide an introduction and general information pertaining to vessel shipment. MTMC 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.

5.122.1.6.2 Section II – Tactical shipment.

This section shall contain all information pertaining to transporting aircraft in a tactical configuration by vessel.

5.122.1.6.2.1 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 5.122.1.5 for details of the type of information that will go into this paragraph.

5.122.1.6.2.2 Loading – Vessel, Tactical.

Data Module Type: Procedural Information Code: 831F

Detailed information shall be presented for loading the aircraft for LOLO and RORO vessels.



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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.

5.122.1.6.2.3 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.

5.122.1.6.2.4 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.

5.122.1.6.2.5 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.

5.122.1.6.3 Section III – Logistical shipment.

This section shall contain all information specific to transporting the aircraft in maximum density logistical configuration.

5.122.1.6.3.1 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 5.122.1.5 shall be followed for details of the type of information that will go into this paragraph.



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5.122.1.6.3.2 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.

5.122.1.6.3.3 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 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.

5.122.1.6.3.4 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.

5.122.1.6.3.5 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.

5.122.1.6.4 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).

5.122.1.6.4.1 Preparing the aircraft- Vessel, U.S. Navy capable.

Data Module Type: Descriptive Information Code: 800U



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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.

5.122.1.6.4.2 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.

5.122.1.6.4.3 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.

5.122.1.6.4.4 Unloading – Vessel, U.S. Navy capable.

Data Module Type: Procedural Information Code: 841H

This paragraph shall provide all information needed to unload the aircraft.

5.122.1.6.4.5 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.



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5.122.1.7 Shipment of Army aircraft – Chapter 4 – Shipment by truck.

5.122.1.7.1 Section I – Shipment of arcraft – General.

Data Module Type: Descriptive Information Code: 812B

5.122.1.7.1.1 General.

This section shall present information of a general nature pertaining to tactical and logistical shipment by truck. MTMC restraint criteria for shipment by truck shall be included.

5.122.1.7.1.2 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 waiverable 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."

5.122.1.7.1.3 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 MTMC 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.



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g. Secure aircraft and components to the trailer as specified in the preparations for shipment manual.

5.122.1.7.1.4 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 5.122.1.17) for part and quantity required, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) for equipment operating instructions, as applicable.

5.122.1.7.1.5 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to 5.122.1.16) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.122.1.7.1.6 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.

5.122.1.7.1.7 Facility requirements.

Specific facility needs shall be listed.

5.122.1.7.1.8 Safety requirements.

Safety considerations applicable to shipment by truck shall be listed.

5.122.1.7.2 Section II – Aircraft recovery and tactical transport.

This section shall contain information relevant to tactical shipment and recovery of the aircraft by truck.

5.122.1.7.2.1 Shipping characteristics – Aircraft recovery.

Data Module Type: Descriptive Information Code: 800G

5.122.1.7.2.1.1 Drawings.

Left side, front, and top view drawings shall be made of the aircraft prepared for shipment and secured to the M270A1 trailer.

5.122.1.7.2.1.2 Dimensions.

The length, height, and width of the trailer and the overall length, height, and width of the load shall be stated.

5.122.1.7.2.1.3 Capabilities.

Capabilities of the M270A1 trailer shall be listed.

5.122.1.7.2.1.4 Limitations.

Limitations of the loaded trailer shall be discussed including terrain, surface, slope, speed, weight, and permit requirements.



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5.122.1.7.2.1.5 Load characteristics.

Gross weight and axle load and spacing for the shipment shall be provided.

5.122.1.7.2.1.6 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 MTMC 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."

5.122.1.7.2.2 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 5.122.1.17) for part and quantity required, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) 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 5.122.1.9) 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.



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(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.

5.122.1.7.3 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 semi-trailer, 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 5.122.1.7.2.

5.122.1.8 Shipment of Army aircraft – Chapter 5 – Crated and intermodal container shipment.

5.122.1.8.1 Section I – Shipment of aircraft – General (Crated shipment).

Data Module Type: Descriptive Information Code: 812B

5.122.1.8.1.1 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*)."

5.122.1.8.1.2 Characteristics.

This paragraph shall include the intended use of crated shipment, intended modes of transport, and the advantages and disadvantages of crated shipment.

5.122.1.8.1.3 Handling methods.

Handling methods and devices shall be identified, described, and pictured as required.

5.122.1.8.1.4 Security requirements.

Physical security needs relevant to crated shipment of the aircraft and components shall be indicated.

5.122.1.8.1.5 Facility requirements.

Information on facility requirements such as shelter, overhead crane, electricity, etc., required during crating of the aircraft shall be provided.



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5.122.1.8.1.6 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 5.122.1.17) for part and units of issue, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) for equipment operating instructions, as applicable.

5.122.1.8.1.7 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to 5.122.1.16) for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.122.1.8.1.8 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.

5.122.1.8.1.9 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 5.122.1.9) 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.

5.122.1.8.1.9.1 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.



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(5) Stencil in 1-inch letters adjacent to inspection doors, "PRESERVED FOR INTERMEDIATE STORAGE. REPRESERVE 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.

5.122.1.8.1.10 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.

5.122.1.8.2 Section II – Shipment of aircraft – General (Intermodal container shipment).

Data Module Type: Descriptive Information Code: 812B

5.122.1.8.2.1 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*)."

5.122.1.8.2.2 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.

5.122.1.8.2.3 Drawings.

Drawings showing interior dimensions of containers and of the aircraft prepared for containerized shipment shall be provided.

5.122.1.8.2.4 Security requirements.

Physical security requirements for containerized shipment shall be listed.

5.122.1.8.2.5 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.

5.122.1.8.2.6 Safety requirements.

Indicate special safety considerations applicable to containerized shipment.



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5.122.1.8.2.7 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 5.122.1.17) for part and quantity required, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) for equipment operating instructions, as applicable.

5.122.1.8.2.8 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to 5.122.1.16) for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.122.1.8.2.9 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.

5.122.1.8.2.10 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.

5.122.1.8.2.11 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.

5.122.1.8.2.12 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.



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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.

5.122.1.8.2.13 Unloading – Intermodal container.

Data Module Type: Procedural Information Code: 841J

Provide step-by-step procedures for unloading the container.

5.122.1.8.2.14 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.

5.122.1.9 Shipment of Army aircraft – Chapter 6 – Preservation and packaging.

5.122.1.9.1 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.

5.122.1.9.2 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 5.122.1.17) for part and quantity required, Chapter 7 (refer to 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) 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 5.122.1.16) 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.

5.122.1.9.3 Section III – Preservation of aircraft.

Data Module Type: Procedural Information Code: 811B



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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 5.122.1.16) 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.

5.122.1.9.4 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 5.122.1.16) 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 5.122.1.17). 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 5.122.1.10) and referenced.

5.122.1.9.5 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



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"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.

5.122.1.9.6 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.

5.122.1.10 Shipment of Army aircraft – Chapter 7 – Transportability equipment fabricated at unit level.

5.122.1.10.1 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.

5.122.1.11 Shipment of Army aircraft – Chapter 8 – Operator and maintenance instructions for transportability equipment including illustrated parts data.

5.122.1.11.1 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.

5.122.1.11.2 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.

5.122.1.11.3 Section III – Repair parts information.

Data Module Type: IPD Information Code: 607E

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.

5.122.1.12 Shipment of Army aircraft – Chapter 9 – External transport by helicopter (Aerial recovery).

5.122.1.12.1 Section I – Aerial recovery - General.

Data Module Type: Descriptive Information Code: 812F



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5.122.1.12.1.1 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.

5.122.1.12.1.2 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.

5.122.1.12.1.3 Safety.

Safety considerations applicable to external transport by helicopter shall be listed. This shall include inspection and load testing of rigging equipment.

5.122.1.12.1.4 Structurally damaged aircraft.

Include the following statement in Chapter 9 (refer to 5.122.1.12) 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."

5.122.1.12.1.5 Drag.

Data shall be presented in the TM/IETP concerning the approximate flat plate drag equivalent of the external load.

5.122.1.12.2 Section II – Single cargo hook 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.

5.122.1.12.2.1 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.

5.122.1.12.2.2 Preparing the aircraft – Aircraft recovery, single cargo hook rotor head lift.

Data Module Type: Procedural Information Code: 800X

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



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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 5.122.1.16) 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.

5.122.1.12.2.3 Reassembly.

Data Module Type: Procedural Information Code: 710D

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.

5.122.1.12.3 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 5.122.1.4.2).

5.122.1.12.4 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 5.122.1.4.2).

5.122.1.12.5 Section V – Aerial recovery - Dual cargo hook hard point lift.

Data Module Type: Procedural Information Code: 812J



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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 5.122.1.4.2).

5.122.1.12.6 Section VI – Aerial recovery - Single cargo hook belly band lift.

Data Module Type: Procedural Information Code: 812M

5.122.1.12.6.1 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 5.122.1.4.2).

5.122.1.12.6.2 Alternate methods.

The five methods of aerial recovery discussed in Chapter 9 (refer to 5.122.1.12) 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.

5.122.1.13 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.

5.122.1.14 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.

5.122.1.15 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.

5.122.1.16 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,



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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.

5.122.1.17 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.

5.122.1.18 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 AR 40-12 and TM 5-632. Procedures shall also be included for customs clearance.

5.122.1.19 Shipment of Army aircraft – Appendix G – Heat shrink film protective covering.

5.122.1.19.1 Preparation of aircraft – Protective covering.

Data Module Type: Procedural Information Code: 812Q

5.122.1.19.1.1 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.

5.122.1.19.1.2 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.

5.122.1.19.1.3 Fuel and battery vents.

This paragraph shall list procedures to ensure that fuel and battery vents are vented to the atmosphere during shipment.

5.122.1.19.1.4 Installation of ventilators.

Information on the need to vent the covering and instructions for the installation of ventilators shall be provided.



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5.122.1.19.2 Hoisting.

Data Module Type: Procedural Information Code: 812R

Procedures for hoisting the aircraft with the shrink film covering installed shall be provided.

5.122.1.19.3 Tiedown - General.

Data Module Type: Procedural Information Code: 811F

Procedures for restraining the aircraft with shrink film covering installed shall be listed.

5.122.1.19.4 Enroute maintenance.

Data Module Type: Procedural Information Code: 664B

Instructions shall be provided for enroute maintenance of the shrink film.

5.122.1.19.5 Shipment of aircraft - Protective covering, removal.

Data Module Type: Procedural Information Code: 812S

Procedures shall be provided for the removal of shrink film covering.

5.122.1.19.6 Shipment of Army aircraft – Tools and equipment, consumable materials, and manpower.

Data Module Type: Descriptive Information Code: 802A

5.122.1.19.6.1 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 5.122.1.10) for fabrication of equipment at the unit level, and Chapter 8 (refer to 5.122.1.11) for equipment operating instructions, as applicable.

5.122.1.19.6.2 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D (refer to 5.122.1.16) for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.122.1.19.6.3 Manpower.

An estimate shall be made of the personnel needs, required man-hours, and elapsed time for application and removal of heat shrink film.

5.122.1.19.7 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 5.122.1.14).

5.122.1.20 Shipment of Army aircraft – Rear matter.

Refer to 5.128.3.1 for rear matter content requirements



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5.122.2 Project decisions.

5.122.2.1 Stand alone.

Shipment of Army Aircraft information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not.

5.123 S1000D Chapter 5.2.3.1 – Land/Sea specific information sets – Crew/operator descriptive information.

The information referenced in S1000D Chapter 5.2.3.1 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 LOGSA to ensure consistent implementation across the Army.

5.124 S1000D Chapter 5.2.3.2 – Land/sea specific information sets – Crew/operator operation.

The information referenced in S1000D Chapter 5.2.3.2 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 LOGSA to ensure consistent implementation across the Army.

5.125 S1000D Chapter 5.2.3.3 – Land/sea specific information sets – Crew/operator sequential operation.

The information referenced in S1000D Chapter 5.2.3.3 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 LOGSA to ensure consistent implementation across the Army.

5.126 S1000D Chapter 5.2.3.4 – Land/sea specific information sets – Crew/operator fault detection, isolation and resolution.

The information referenced in S1000D Chapter 5.2.3.4 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 LOGSA to ensure consistent implementation across the Army.

5.127 S1000D Chapter 5.2.3.5 – Land/sea specific information sets – International, national and regulatory scheduled check.

The information referenced in S1000D Chapter 5.2.3.5 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 LOGSA to ensure consistent implementation across the Army.



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5.128 S1000D Chapter 5.3.1.1 – Common requirements – Front matter.

5.128.1 Front matter – Page oriented materials.

5.128.1.1 Army business rules.

5.128.1.1.1 Content, Page-based.

Material preceding the first text data module for all manuals except those referenced in 5.128.1.1.2 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) Promulgation letter (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)

[1] A 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.

5.128.1.1.2 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



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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) Promulgation letter (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)

[1] By project decision, a combined cover/title block may be used.

[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.

[3] A table of contents is not required for Operator's Checklists or manuals that are less than eight pages.

5.128.1.1.3 Front cover.

5.128.1.1.3.1 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.



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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. (AR) Disclosure notice.
m. (R) Distribution statement.
n. (AR) Export control notice warning.
o. (AR) Destruction notice.
p. (AR) General purpose notices.
q. (AR) Service nomenclature.
r. (AR) Publication date.

5.128.1.1.3.2 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."

5.128.1.1.3.3 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.

5.128.1.1.3.4 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*)."

5.128.1.1.3.5 Supersedure notice.

When a supersedure notice is included, an asterisk (*) shall prefix the supersedure notice and the publication module code.

5.128.1.1.3.6 Disclosure notice.

Unless specified otherwise by the acquiring activity, the following disclosure notice shall be placed on the front cover of all classified and unclassified publications, except those with distribution statement A.

"This information is furnished upon the condition that it will not be released to another nation without the specific authority of the Department of the Army of the United States, that it will be used for military purposes only, that individual or corporate rights originating in the information, whether patented or not, will be respected, that the recipient will report promptly to the United States, any known or suspected compromise, and that the information will be provided substantially the same degree of security afforded it by the Department of Defense of the United States. Also, regardless



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of any other markings on the document, it will not be downgraded or declassified without written approval of the originating United States agency."

5.128.1.1.3.7 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 DODD 5230.24.

5.128.1.1.3.8 Export control warning.

For those pubs with export controlled data, the following export control notice contained in DOD Directive 5230.24 shall be included:

"WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et. seq.) or the Export Administration Act of 1979, as amended, Title 50A, U.S.C., App. Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DOD Directive 5230.25."

5.128.1.1.3.9 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 DODD 5230.24.

5.128.1.1.3.10 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.

5.128.1.1.3.11 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.

5.128.1.1.4 Promulgation letter (**MC only**).

Data Module Type: Descriptive Information Code: 023M

A promulgation letter provided by the acquiring activity shall be included.

5.128.1.1.5 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:



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a. First aid data
b. Warning icons
c. Warning description.
d. Hazardous materials icons
e. Hazardous materials descriptions

5.128.1.1.5.1 First aid.

First Aid data shall be included in warning summary. The first paragraph shall reference FM 4-25.11. Any additional first aid data not described in FM 4-25.11 shall be described in this section.

5.128.1.1.5.2 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 FM 4-25.11.

5.128.1.1.6 Revision summary.

Data Module Type: Descriptive Information Code: 003C

Revision summary data (change transmittal page) shall be prepared and shall be included in the change package. The revision summary data module shall not have page numbers and shall be located following the warning summary. When updates are prepared, the change date shall be shown in the revision summary data module. Unless specified otherwise by the acquiring activity, the change date shall be the date at which the material to be included was received (copy freeze date, provided by the acquiring activity).

5.128.1.1.7 List Of Effective Data Modules (LOEDM).

Data Module Type: Descriptive Information Code: 00SA

A list of effective data modules shall be prepared. The LOEDM shall be included with the basic version of the publication and each subsequent change or revision. It shall immediately follow the warning summary. When included in a change, it shall immediately follow the revision summary if the warning summary is not included in the change. All data modules in the publication shall be listed except exempted pages identified in these business rules. List each data module by DMC and put the total number of pages in the data module in parentheses next to the data module number. The words "deleted," "added," or "blank" may be placed next to the DMC when applicable. All data modules, except the following shall be included in LOEDM. The following data modules shall not be included in a LOEDM:

a. Revision summary.
b. LOEDM.
c. DA Forms 2028.
d. Authentication page data module.

The following types of publications shall have LOEDM:

a. Technical Manuals (TMs).
b. Illustrated parts lists.



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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.

5.128.1.1.7.1 List of effective data modules content.

The LOEDM shall contain data module code, title, sequence number, and issue number. (JS)

5.128.1.1.7.2 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.

5.128.1.1.7.3 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.

5.128.1.1.8 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.

5.128.1.1.8.1 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).



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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

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. Submit by NAVMC form 10772 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."

(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 - By NAVMC form 10772 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*).

(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 e-



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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. 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

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. Submit by NAVMC form 10772 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."

(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. Reports, as applicable by the requiring Service, should be submitted as follows:

(a) (A) Army - Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: (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 - By NAVMC form 10772 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*).

(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*).



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(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 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."

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."

5.128.1.1.8.2 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.



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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."

5.128.1.1.9 Table of contents.

Data Module Type: Descriptive Information Code: 009A

5.128.1.1.9.1 General.

A table of contents listing all chapters, data modules, figures, and tables 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 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 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 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.

5.128.1.1.9.2 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)



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5.128.1.1.9.3 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)

5.128.1.1.9.4 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)

5.128.1.1.10 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.

5.128.1.1.11 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.

5.128.1.1.11.1 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.



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"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."

5.128.1.2 Project decisions.

5.128.1.2.1 Use of a descriptive data module to prepare table of contents.

The project shall decide if table of contents shall be prepared using a descriptive data module or some other means.

5.128.1.2.2 Part figures.

When a publication includes the parts information chapter, the listing of part figures in the table of contents is optional.

5.128.1.2.3 Access illustrations.

The project shall decide if access illustrations should be included and what should be contained in Access illustrations.

5.128.1.2.4 List of symbols.

The project shall decide if list of symbols should be included and what should be contained in list of symbols.

5.128.1.2.5 Technical standard record.

The project shall decide if technical standard record should be included and what should be contained in technical standard record.

5.128.1.2.6 List of applicable specifications and documentation.

The project shall decide if List of applicable specifications and documentation should be included and what should be contained in List of applicable specifications and documentation.

5.128.2 Front matter – Interactive Electronic Technical Publication (IETP).

5.128.2.1 Army business rules.

5.128.2.1.1 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) Promulgation letter (information code 023M) (Mandatory for Marine Corps only)
d. (AR) Safety summary (Warning summary) (information code 012J)



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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)

5.128.2.1.2 Interactive Electronic Technical Publication (IETP) installation data.

Information on installing the CD-ROM 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. The information shall be printed and shall be part of the packaging of the CD-ROM. 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 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.
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.
c. Loading the executable program to the hard drive. This will require the data be accessed from the CD. 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.

5.128.2.1.3 Compact Disk (CD) content screen.

When more than one IETP is resident on a CD, the first information that shall appear on the viewer is the CD content screen. This screen shall provide the IETP number and title of all technical manuals that are contained on the CD.

5.128.2.1.4 Promulgation letter (MC Only).

Data Module Type: Descriptive Information Code: 023M

A promulgation letter provided by the acquiring activity shall be included.

5.128.2.1.5 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:



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a. First aid data. The first paragraph shall reference FM 4-25.11. Any additional first aid data not described in FM 4-25.11 shall be described in this section.
b. Warning icons.
c. Warning description.
d. Hazardous materials icons.
e. Hazardous materials descriptions.

5.128.2.1.5.1 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 FM 4-25.11.

5.128.2.1.6 Revision summary.

Data Module Type: Descriptive Information Code: 003C

When a revision to an IETP is issued, a revision summary screen shall be displayed containing a list of data modules by DMC and title that have been revised. The revised data module listed on the revision summary screen shall be linked to the data module containing the revised information.

5.128.2.1.7 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. (AR) Disclosure notice.
n. (R) Distribution statement.
o. (AR) Export control notice warning.
p. (AR) Destruction notice.
q. (AR) General purpose notices.
r. (R) Service nomenclature.
s. (R) Publication date.



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t. (R) User feedback link.

5.128.2.1.7.1 Interactive Electronic Technical Publication (IETP) number.

IETPs shall be numbered the same as page-based publications in accordance with 5.70.1.1. Publication medium shall never be IETP, IETM, ETM, or EP.

5.128.2.1.7.2 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."

5.128.2.1.7.3 Weapon system name.

When required the name of the weapon system to which this publication applies shall be included.

5.128.2.1.7.4 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



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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 - 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.

(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,



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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…"

5.128.2.1.7.5 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*)."

5.128.2.1.7.6 Supersedure notice for revisions only.

When a manual is updated, a supersedure notice shall be included and an asterisk (*) shall prefix the supersedure notice and the TM number.

5.128.2.1.7.7 Disclosure notice.

Unless specified otherwise by the acquiring activity, the following disclosure notice shall be included on all classified and unclassified TMs, except those with distribution statement A:

"This information is furnished upon the condition that it will not be released without the specific authority of the Department of the Army of the United States, that it will be used for military purposes only, that individual or corporate rights originating in the information, whether patented or not, will be respected, that the recipient will report promptly to the Department of the Army, any known or suspected compromise, and that the information will be provided substantially the same degree of security afforded it by the Department of Defense of the United States. Also, regardless of any other markings on the document, it will not be downgraded or declassified without written approval of the originating United States agency."



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5.128.2.1.7.8 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 DOD Directive 5230.24.

5.128.2.1.7.9 Export control notice warning.

For those pubs with export controlled data, the following export control notice contained in DOD Directive 5230.24 shall be included:

> "WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et. seq.) or the Export Administration Act of 1979, as amended, Title 50A, U.S.C., App. Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DOD Directive 5230.25."

5.128.2.1.7.10 Destruction notice.

All IETPs marked with distribution statements "B," "C," "D," "E," "F," or "X" shall be marked with the destruction notice provided by the acquiring activity.

5.128.2.1.7.11 General purpose notice.

When specified by the acquiring activity, additional notice(s) may be included that are not addressed by the notices in 5.128.2.1.7.5 through 5.128.2.1.7.10. The notice shall have a title followed by the notice text.

5.128.2.1.7.12 Service nomenclature.

All TMs shall include the service or acquiring activity's nomenclature.

5.128.2.1.7.13 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).

5.128.2.1.7.14 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.

5.128.2.1.8 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.

5.128.2.1.8.1 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)



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5.128.2.1.8.2 Authentication information.

An authentication block, provided by the acquiring activity, shall be included. The authentication block is not displayed unless accessed through an entry in the table of contents.

5.128.2.1.9 How to use this manual.

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."

5.128.2.1.10 Reporting errors and recommending improvements (DA Form 2028).

Data Module Type: Descriptive Information Code: 023B



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An electronic equivalent of DA Form 2028 should be provided in the IETP so the users can notify the proponent if any mistakes are found or any recommended improvements can be made to the IETP. Guidelines shall be included for completing the form. When an electronic equivalent of this form is not provided on the IETP, the paper form shall be used.

5.128.2.1.10.1 Blank forms.

Unless otherwise specified, blank forms (DA Form 2028) shall not be included in IETPs.

5.128.2.1.11 Glossary.

If a glossary or index is used in an IETP, it shall be located in the general information section.

5.128.2.2 Project decisions.

5.128.2.2.1 "How To Use This IETP" information.

Project shall decide whether to prepare "How To Use This IETP" information.

5.128.3 Common requirements – Rear matter.

5.128.3.1 Rear matter – Page oriented manuals.

5.128.3.1.1 Army business rules.

5.128.3.1.1.1 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 page (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)

5.128.3.1.1.2 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.

5.128.3.1.1.3 Authentication page.

Data Module Type: Descriptive Information Code: 023C

The authentication page shall be the last printed text page of the publication, or if there are foldout pages, the authentication page shall be the last printed text page prior to the foldout pages. For changes, the authentication block shall be included on the change transmittal sheet(s). The authentication block shall be placed after all of the other information on the change transmittal sheet(s).



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5.128.3.1.1.4 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.

5.128.3.1.1.5 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.

5.128.3.1.1.6 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.

5.128.3.1.2 Project decisions.

5.128.3.1.2.1 Alphabetical index use.

Project shall determine the use of an alphabetical index.

5.128.3.1.2.2 Alphabetical index detail.

The alphabetical index may be an index of data modules only or it may be a detailed index.

5.128.4 Rear matter – Interactive Electronic Technical Publication (IETP).

No rear matter is required for IETP.

5.129 S1000D Chapter 5.3.1.2 – Common requirements – Technical content.

The technical content referenced in S1000D Chapter 5.3.1.2 is not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.130 S1000D Chapter 5.3.1.3 – Common requirements – Illustrated parts data.

The parts data referenced in S1000D Chapter 5.3.1.3 are not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices and 5.93 for content requirements.

5.131 S1000D Chapter 5.3.2 – Publications – Requirements for air specific publications.

The air specific publications referenced in S1000D Chapter 5.3.2 are not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.132 S1000D Chapter 5.3.2.1 – Air specific publications – Aircrew information.

The aircrew information referenced in S1000D Chapter 5.3.2.1 is not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices and 5.115 for content requirements.



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5.133 S1000D Chapter 5.3.2.2 – Air specific publications – Cross servicing guide.

The cross servicing guide referenced in S1000D Chapter 5.3.2.2 is not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.134 S1000D Chapter 5.3.3 – Publications – Requirements for land/sea specific publications.

The land/sea publications referenced in S1000D Chapter 5.3.3 are not required for U.S. Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.135 S1000D Chapter 6 – Information presentation/use.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 6 Information presentation/use
b. Chapter 6.1 Information presentation/use – Introduction
c. Chapter 6.3 Information presentation/use – IETP
d. Chapter 6.4.3 Functionality – Acquisition management

**NOTE**

Paragraphs 5.136 through 5.140 address presentation requirements for page-based and IETP output. These paragraphs use informal tables to more clearly connect the requirements in this standard to related requirements defined in S1000D.

5.136 S1000D Chapter 6.2 – Information presentation/use – Page-oriented publications.

5.136.1 Army business rules.

5.136.1.1 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. (JS)

5.136.2 Project decisions.

None.

5.137 S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers.

5.137.1 Page layout.

5.137.1.1 Army business rules.

The following table contains Army business rules related to page layout of paper publications.

**TABLE XLIII. Army business rules – page layout of paper publications.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Page size | Technical manual page sizes shall be selected from the following list:<br>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 | Chapter 6.2.1 paragraph 2.1, including Fig. 3 which is the page layout diagram for standard page size Army publications. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| | standard page size:<br>(1) Operator's technical manual<br>(2) Alternate operator's Maintenance Test Flight (MTF) manual<br>(3) Alternate operator's checklist<br>b. Double standard page size shall be 17 inches by 11 inches. The usable area shall be 15 3/4 inches by 9 inches.<br>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.<br>d. Pocket page size shall be 5 ½ inches by 4 inches. The usable area shall be 5 inches by 3 1/8 inches.<br>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 1/2 x 7 1/2. | |
| Text position | Text shall be positioned above and below the illustration, and not on the illustration's left or right sides. | Chapter 6.2.1 paragraph 2.1. |
| Pocket-size manuals | Text for pocket-size manuals shall be on the right-hand pages with supporting illustration on the facing left-hand pages. | Chapter 6.2.1 paragraph 2.1. |
| 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 sides of the page. | Chapter 6.2.1 paragraph 2.1. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| In-work | 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. | Chapter 6.2.1 paragraph 2.2. |
| Organization responsible for printing | 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) | Chapter 6.2.1 paragraph 2.3. |

5.137.1.2 Project decisions.

5.137.1.2.1 Page sizes.

Project shall determine when to use the available page sizes.

5.137.1.2.2 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.

5.137.2 Header and footer.

5.137.2.1 General.

5.137.2.1.1 Army business rules.

The following table contains Army business rules related to headers and footers of paper publications.

**TABLE XLIV. Army business rules – header and footer of paper publications.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Page placement | Headers and footers shall be placed outside the area of the page used for text, full-page tabular data, or full-page illustrations, but within the printing area dimensions of the page. | Chapter 6.2.1 paragraph 2.4. |
| Use | Headers and footers shall be prepared for all pages except covers, authentication pages, and forms (e.g., DA Form 2028). | Chapter 6.2.1 paragraph 2.4. |
| Use of mirrored headers and footers | Mirrored headers and footers shall be used (to accomplish double-sided printing). | Chapter 6.2.1 paragraph 2.4. |

5.137.2.1.2 Project decisions.

5.137.2.1.2.1 Applicability.

When applicability is used, the project shall determine the use of either applicability codes, or a human readable expression.



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5.137.2.2 Page identification.

5.137.2.2.1 Army business rules.

The following table contains Army business rules related to page identification.

**TABLE XLV. Army business rules – page identification.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Presentation of publication module code | The project shall use the S1000D standard page-oriented presentation rules for the publication module code. | Chapter 6.2.1 paragraph 2.4.1.1. |
| Presentation of data module code | The project shall use the S1000D standard page-oriented presentation rules for the data module code. | Chapter 6.2.1 paragraph 2.4.1.2. |
| Presentation of issue date | The project shall use the S1000D standard page-oriented presentation rules for the issue date. | Chapter 6.2.1 paragraph 2.4.1.3. |
| 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. | Chapter 6.2.1 paragraph 2.4.1.3. |
| Presentation of page number | The project shall use the S1000D standard page-oriented presentation rules for the page number. | Chapter 6.2.1 paragraph 2.4.1.4. |
| 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." | Chapter 6.2.1 paragraph 2.4.1.4. |
| Blank pages, numbering | A blank page shall be assigned a number, but it shall appear on the preceding or following page. | Chapter 6.2.1 paragraph 2.4.1.4. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Use of page numbers. | Page numbers shall be published as follows:<br>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.<br>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.<br>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. (JS) | Chapter 6.2.1 paragraph 2.4.1.4. |
| 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. | Chapter 6.2.1 paragraph 2.4.1.4. |
| Foldout page numbering | 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. | Chapter 6.2.1 paragraph 2.4.1.4. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Presentation of applicability annotation | The project shall use the S1000D standard page-oriented presentation rules for the applicability annotation. | Chapter 6.2.1 paragraph 2.4.1.5. |

5.137.2.2.2 Project decisions.

5.137.2.2.2.1 Double sided printing of foldout pages.

The project shall decide whether to use double sided printing on foldout pages.

5.137.2.3 Security markings.

5.137.2.3.1 Army business rules.

The following table contains Army business rules related to security markings.

**TABLE XLVI. Army business rules – security markings.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.2.1 paragraph 2.4.2. |
| Markings | Classification markings are not required at the top and bottom of pages in an unclassified manual. | Chapter 6.2.1 paragraph 2.4.2. |
| Commercial classification | Commercial classification (value of attribute **`commercialClassificiation`**) shall not be presented. | Chapter 6.2.1 paragraph 2.4.2. |

5.137.2.3.2 Project decisions.

None.

5.137.2.4 Logotype.

5.137.2.4.1 Army business rules.

The following table contains an Army business rule related to logotype.



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**TABLE XLVII. Army business rules – logotype.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Logotype | Manufacturer's, project's, or sponsor's logotype shall not be included in the header. | Chapter 6.2.1 paragraph 2.4.3. |

5.137.2.4.2 Project decisions.

None.

5.137.2.5 End of data module.

5.137.2.5.1 Army business rules.

The following table contains an Army business rule related to the use of "End of."

**TABLE XLVIII. Army business rules – End of.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| End of | The words "End of [*data module title*]" shall be placed at the end of every data module. | Chapter 6.2.1 paragraph 2.4.4. |

5.137.2.5.2 Project decisions.

None.

5.137.3 Double column text.

5.137.3.1 Army business rules.

None.

5.137.3.2 Project decisions.

5.137.3.2.1 Use of double column text.

The project shall decide whether or not to use double column text and under what circumstances.

5.137.4 Folding and binding.

5.137.4.1 Army business rules.

The following table contains Army business rules related to folding and binding.

**TABLE XLIX. Army business rules – folding and binding.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.2.1 paragraph 2.6.1. |
| 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. | Chapter 6.2.1 paragraph 2.6.1. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Use with IPD | Foldouts shall not be used in IPD or operator-only manuals. | Chapter 6.2.1 paragraph 2.6.1. |
| 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>`**. | Chapter 6.2.1 paragraph 2.6.1. |

5.137.4.2 Project decisions.

5.137.4.2.1 Foldouts.

The project shall determine if and when to use foldouts.

5.138 S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements.

5.138.1 Font.

5.138.1.1 Army business rules.

The following table contains Army business rules related to font.

**TABLE L. Army business rules – font.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Text | All text (except where fixed font is required) shall be written in Arial font. (JS) | Chapter 6.2.2 paragraph 2.1. |
| Fixed font | Fixed font, if needed, shall be Courier New. | Chapter 6.2.2 paragraph 2.1. |
| Text color | Only black print shall be used for operator's checklist manuals. | Chapter 6.2.2 paragraph 2.1. |

5.138.1.2 Project decisions.

None.

5.138.2 Headings and titles.

5.138.2.1 Army business rules.

The following table contains Army business rules related to headings and titles.



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**TABLE LI. Army business rules – headings and titles.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Data module title | 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) | Chapter 6.2.2 paragraph 2.3.2.1 |
| 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). | Chapter 6.2.2 paragraph 2.3.2.2. |
| Table caption | The caption "Table" shall not be added before the table number in the list of tables. | Chapter 6.2.2 paragraph 2.3.2.2.2. |
| Fig. caption | The caption "Fig." shall not be added before the figure number in the list of illustrations. | Chapter 6.2.2 paragraph 2.3.2.2.3. |

5.138.2.2 Project decisions.

None.

5.138.3 Paragraphs of text.

5.138.3.1 Army business rules.

The following table contains Army business rules related to paragraphs of text.

**TABLE LII. Army business rules – paragraphs of text.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Text justification | Text shall be left margin justified, with ragged (unjustified) right-hand edge. (JS) | Chapter 6.2.2 paragraph 2.3 and 2.4. |
| 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. | Chapter 6.2.2 paragraph 2.3 and 2.4. |
| 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). | Chapter 6.2.2 paragraph 2.3 and 2.4. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.2.2 paragraph 2.3 and 2.4. |
| 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. | Chapter 6.2.2 paragraph 2.3 and 2.4. |
| 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). | Chapter 6.2.2 paragraph 2.3 and 2.4. |

5.138.3.2 Project decisions.

None.

5.138.4 Lists.

5.138.4.1 Army business rules.

The following table contains Army business rules related to lists.

**TABLE LIII. Army business rules – lists.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Checklist titles | 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 comer of the left-hand page followed by "(Cont.)." | Chapter 6.2.2 paragraph 2.6.1. |

5.138.4.2 Project decisions.

None.



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5.138.5 Footnotes.

5.138.5.1 Army business rules.

The following table contains Army business rules related to footnotes.

**TABLE LIV. Army business rules – footnotes.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Inline footnotes | Inline footnotes shall not be used. | Chapter 6.2.2 paragraph 2.7.2. |
| Markers | 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. | Chapter 6.2.2 paragraph 2.7.3. |
| Table footnotes | 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) | Chapter 6.2.2 paragraph 2.7.3. |

5.138.5.2 Project decisions.

None.

5.138.6 Tables.

5.138.6.1 Army business rules.

The following table contains Army business rules related to tables.



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**TABLE LV. Army business rules – tables.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Alignment | Lists of alphabetic data in table columns should be vertically aligned with left justification. Numerical data should be justified with respect to a fixed decimal point. In cases where there is no decimal point, the numerical data should be right justified. | Chapter 6.2.2 paragraph 2.8.1. |
| 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. | Chapter 6.2.2 paragraph 2.8.1. |
| Linking | Tables shall be linked to the appropriate text to allow for display. | Chapter 6.2.2 paragraph 2.8.1. |
| Column headers | Table column headers shall be in boldface, uppercase letters. | Chapter 6.2.2 paragraph 2.8.1. |
| Vertical rule | All tables shall have outside vertical rules | Chapter 6.2.2 paragraph 2.8.1. |
| 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. | Chapter 6.2.2 paragraph 2.8.1. |
| 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. | Chapter 6.2.2 paragraph 2.8.1. |

5.138.6.2 Project decisions.

None.

5.138.7 Figures.

5.138.7.1 Army business rules.

The following table contains Army business rules related to figures.



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**TABLE LVI. Army business rules – figures.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Multi-sheet illustration numbering | 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.<br><br>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) | Chapter 6.2.2 paragraph 2.9.1. |
| Presentation of ICN | ICN shall be placed outside the graphic except in cases where legacy graphics are used which already contain the ICN within the graphic and the project would encounter expense to remove it. The information control numbers are normally derived from the XML attribute **`infoEntityIdent`** and put in place by the page layout system. (JS) | Chapter 6.2.2 paragraph 2.9.1. |

5.138.7.2 Project decisions.

5.138.7.2.1 Color.

Unless specified otherwise by the acquiring activity, black and shades of black (gray scale) shall be used for figures in page oriented publications.

5.138.8 Warnings, cautions, and notes.

5.138.8.1 Army business rules.

The following table contains Army business rules related to warnings, cautions, and notes.



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**TABLE LVII. Army business rules – warnings, cautions, and notes.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Placement | Warnings and cautions shall appear as follows:<br>a. Warnings shall be presented immediately after the associated title (if present) and immediately preceding the associated text.<br>b. If multiple warnings, cautions, and notes apply to the same text, warnings shall appear first and cautions shall appear second, and notes shall appear last. (JS) | Chapter 6.2.2 paragraph 2.10.1. |
| Headers | 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. | Chapter 6.2.2 paragraph 2.10.1. |
| 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. | Chapter 6.2.2 paragraph 2.10.1. |
| Indentation | Warning, caution, and note text shall be indented on the right and left. | Chapter 6.2.2 paragraph 2.10.1. |
| 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) | Chapter 6.2.2 paragraph 2.10.1. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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). | Chapter 6.2.2 paragraph 2.10.1. |
| Icons | 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. | Chapter 6.2.2 paragraph 2.10.1.1.2. |

5.138.8.2 Project decisions.

5.138.8.2.1 Use of numbered notes within a data module.

The project shall decide whether to use numbered notes within a data module or not.

5.138.9 Change marks.

5.138.9.1 Army business rules.

The following table contains Army business rules related to change marks.

**TABLE LVIII. Army business rules – change marks.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.2.2 paragraph 2.13. |
| Change bars | 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) | Chapter 6.2.2 paragraph 2.13. |
| Tables | 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) | Chapter 6.2.2 paragraph 2.13. |
| Illustrations – General | 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. | Chapter 6.2.2 paragraph 2.13. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.2.2 paragraph 2.13. |
| 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. | Chapter 6.2.2 paragraph 2.13. |
| 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 LMI plan. | Chapter 6.2.2 paragraph 2.13. |
| Presentation of data module titles in the reference table | Data module titles shall be presented in the reference table | Chapter 6.2.2 paragraph 2.13. |

5.138.9.2 Project decisions.

5.138.9.2.1 Presentation of publication module/non S1000D publication titles in the reference table.

The project shall decide whether to present the title (**`<pmTitle>`**/**`<externalPubTitle>`**) or the short title (**`<shortPmTitle>`**/**`<shortExternalPubTitle>`**), or both, in the reference table.



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5.138.9.2.2 Inline presentation of non S1000D publication titles.

The project shall decide whether to present the external publication code (**<externalPubCode>**), the title (**<externalPubTitle>**) or the short title (**<shortExternalPubTitle>**) as the inline reference.

5.138.9.2.3 Presentation of name of spares, supplies and support equipment.

The project shall decide whether to present the name (**<name>**) or the abbreviated alternate name (**<shortName>**), as the cross-reference in the text.

5.138.10 References.

5.138.10.1 Army business rules.

The following table contains an Army business rule related to references.

**TABLE LIX. Army business rules – references.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Presentation of references. | Page-oriented publication references to data modules shall include the referenced data module title followed by the data module sequence number (e.g., "See Radio XYZ – Safety Summary [DM 0009]."). | Chapter 6.2.2 paragraph 2.14. |

5.138.10.2 Project decisions.

None.

5.138.11 Aircraft operator style and format.

5.138.11.1 Army business rules.

5.138.11.1.1 Linear dimensions.

Except for weight and balance values in Chapter 6 (refer to 5.115.1.13) 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 5.115.1.15) and 9 (refer to 5.115.1.16). of an Operator's manual shall be stated in bold capital lettering in the text and on illustrations.

5.138.11.1.2 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.

5.138.11.1.3 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.



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5.138.11.1.4 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 **`<inlineSignificantData>`** and the attribute **`significantParaDataType`** with the value "**`psd55`**" (refer to 5.48.1.30). 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.

5.138.11.1.5 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.

5.138.11.2 Project decisions.

None.

5.139 S1000D Chapter 6.2.3 – Information presentation/use – Layout.

The page layout examples in Chapters 6.2.3 though 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.

5.140 S1000D Chapter 6.3.1 – IETP – Output specification.

5.140.1 General.

5.140.1.1 Army business rules.

The following table contains an Army business rule related to IETP output specification.

**TABLE LX. Army business rules – IETP output specification.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Use of S1000D Chapter 6.3.1 | The requirements and guidance of the S1000D Chapter titled, "IETP Output specification" as augmented by these business rules shall be mandatory. (JS) | Chapter 6.3.1 paragraph 1. |

5.140.1.2 Project decisions.

None.

5.140.2 Title bar.

5.140.2.1 Army business rules.

The following table contains an Army business rule related to title bar.



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**TABLE LXI. Army business rules – title bar.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | The Title Bar shall contain the following items: security classification of the displayed PM (if the publication is classified), PM title, and PMC. The security classification shall be presented first. (JS) | Chapter 6.3.1 paragraph 2.3.2. |

5.140.2.2 Project decisions.

None.

5.140.3 Inner shell.

5.140.3.1 General.

5.140.3.1.1 Army business rules.

The following table contains an Army business rule related to general requirements for the inner shell.

**TABLE LXII. Army business rules – inner shell.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | The inner shell shall contain, as a minimum:<br>a. Reset area<br>b. Table of contents panel<br>c. Navigation panel<br>d. Subtitle bar<br>e. Main menu bar<br>f. Main content area (JS) | Chapter 6.3.1 paragraph 2.3.3. |

5.140.3.1.2 Project decisions.

5.140.3.1.2.1 Main menu bar.

By project decision, the main menu bar may contain additional project functions appearing to the right of the nine mandatory functions. Additional functions may optionally be added to the additional information bar.

5.140.3.1.2.2 Additional information bar.

The project shall decide if the inner shell will contain an additional information bar. The additional information bar can be used if additional functions are required, e.g., ordering of spares. It is presented below the main menu bar and shall include the functionality to be toggled on and off.

5.140.3.2 Inner shell status bar.

5.140.3.2.1 Army business rules.

The following table contains Army business rules related to the inner shell status bar.



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**TABLE LXIII. Army business rules – inner shell status bar.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.3.3. |
| Toggle | The inner shell status bar shall have the capability to be toggled on or off. | Chapter 6.3.1 paragraph 2.3.3. |

5.140.3.2.2 Project decisions.

None.

5.140.3.3 Table of contents panel.

5.140.3.3.1 Army business rules.

The following table contains Army business rules related to the table of contents panel.

**TABLE LXIV. Army business rules – table of contents panel.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | The table of contents panel shall include at a minimum (links to):<br>a. Table of contents<br>b. Safety summary (as applicable)<br>c. List of illustrations<br>d. List of tables (JS) | Chapter 6.3.1 paragraph 2.3.4. |
| TOC order | TOC information shall be displayed in the order mandated by the applicable content selection matrix. | Chapter 6.3.1 paragraph 2.3.4. |
| TOC items | TOC items shall be generated from every data module title. | Chapter 6.3.1 paragraph 2.3.4. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.3.4. |
| 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. | Chapter 6.3.1 paragraph 2.3.4. |
| TOC References | TOC references shall require a single click. | Chapter 6.3.1 paragraph 2.3.4. |

5.140.3.3.2 Project decisions.

5.140.3.3.2.1 Additional Table Of Contents (TOC) items.

The project shall decide the use of additional items in the TOC.

5.140.3.4 Reset area.

5.140.3.4.1 Army business rules.

The following table contains Army business rules related to the reset area.

**TABLE LXV. Army business rules – reset area.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | The mandatory reset area provides a special mechanism for navigation and preferences. | Chapter 6.3.1 paragraph 2.3.5. |
| 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. | Chapter 6.3.1 paragraph 2.3.5. |
| Use of a compass rose icon in the reset area | If a compass rose icon is used, it shall be a graphical representation of the Webdings character (108) for a compass rose. (JS) | Chapter 6.3.1 paragraph 2.3.5. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Functions | The reset area shall provide the following mandatory functions:<br>a. Reset user interface to standard default view.<br>b. View revision summary/link to highlights<br>c. Exit reset area menu<br>d. Suspend (conditional).<br>e. Restart (conditional)<br>If any of the above are not applicable to the data module being displayed, it shall be grayed out. (JS) | Chapter 6.3.1 paragraph 2.3.5. |
| Suspend and restart | 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. | Chapter 6.3.1 paragraph 2.3.5. |

5.140.3.4.2 Project decisions.

5.140.3.4.2.1 General.

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.

5.140.3.5 Navigation panel.

5.140.3.5.1 Army business rules.

The following table contains Army business rules related to the navigation panel.

**TABLE LXVI. Army business rules – navigation panel.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Placement | The navigation panel shall appear above the main content area. | Chapter 6.3.1 paragraph 2.4. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Subtitle bar. | The subtitle bar is mandatory and may have the capability to be toggled on or off. | Chapter 6.3.1 paragraph 2.4.1. |
| Subtitle bar contents. | The Subtitle Bar shall contain the following items: security classification of the displayed data module (if the data module or the publication module is classified), the data module title, and DMC. The security classification shall be presented first. (JS) | Chapter 6.3.1 paragraph 2.4.1. |
| 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. | Chapter 6.3.1 paragraph 2.4.1. |
| Main menu bar | The main menu bar is mandatory and may have the capability to be toggled on or off. | Chapter 6.3.1 paragraph 2.4.2. |
| 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, TOC, History, Search, Print, Feedback, Exit, Help, and IDSTATUS. (JS) | Chapter 6.3.1 paragraph 2.4.2. |
| 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). | Chapter 6.3.1 paragraph 2.4.2. |
| 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. | Chapter 6.3.1 paragraph 2.4.2.6. |
| Custom IETP functions | Any custom functions that the IETP provides shall be placed in the additional information bar. | Chapter 6.3.1 paragraph 2.4.3. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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 re-establish 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. | Chapter 6.3.1 paragraph 2.4.3. |
| 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. | Chapter 6.3.1 paragraph 2.4.3. |

5.140.3.5.2 Project decisions.

None.

5.140.3.6 Main content area.

5.140.3.6.1 Army business rules.

None.

5.140.3.6.2 Project decisions.

None.

5.140.4 Icons.

5.140.4.1 Army business rules.

5.140.4.1.1 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.

**TABLE LXVII. Session control icons.**

| SESSION | DESCRIPTION | INDICATOR | ICON |
|---|---|---|---|
| Complete | Normal exit save and update history. Clear state table. | Icon: Check Mark (Wingdings 2 #080)<br>Text: Complete (Optional) | ✓ |
| Suspend | Save current state and do not update history. | Icon: Pause (two vertical bars) (Webdings #059)<br>Text: Pause Session (Optional) | ❚❚ |
| Restart | Reinstate previous suspended session. | Text: Session Restart | Session Restart |



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| SESSION | DESCRIPTION | INDICATOR | ICON |
|---|---|---|---|
| Abort | Browse only - Do not save session or update history. Clear state table. | Icon: Rain Clouds (Webdings #219)<br>Text: Abort (Optional) | ☔ |

5.140.4.1.2 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.

**TABLE LXVIII. Bookmark icons.**

| BOOKMARK | FUNCTION | INDICATOR | ICON |
|---|---|---|---|
| Create | Shall ask whether creating or navigating to Bookmark. | Icon: Open Book (Wingdings #038)<br>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 (Wingdings #038)<br>Location: Additional information bar. | 🕮 |
| Minimized | Indicates location is a bookmark. | Icon: Open Book (Wingdings #038)<br>Location: Content pane. | 🕮 |

5.140.4.1.3 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.

**TABLE LXIX. 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 (Wingdings #063)<br>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 (Wingdings #063)<br>Location: Content pane. | ✍ |

5.140.4.1.4 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.



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**TABLE LXX. Redline function icons.**

| ELEMENT | FUNCTION | INDICATOR | ICON |
|---|---|---|---|
| Redline mode | Toggle on and off redline functionality | Icon: Red pencil (Wingdings #033)<br>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 (Wingdings 2 #047)<br>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 (Wingdings 2 #047)<br>Location: Content pane. | 🗋 |

5.140.4.1.5 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.

**TABLE LXXI. 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 | Icon: Eyeglasses unselected (Wingdings #036)<br>Location: Additional information bar. | 👓 |
| Browse previous | Act similar to PREVIOUS functions except no interaction system variables are set. | Icon: Double left pointing arrows (Wingdings 3 #072)<br>Location: Additional information bar. | ⇇ |
| Browse next | Act similar to NEXT functions except no interaction system variables are set. | Icon: Double right pointing arrows (Wingdings 3 #073)<br>Location: Additional information bar. | ⇉ |
| Mode indicator | Denotes to user the system is in browse mode. | Icon: Eyeglasses (Wingdings #036)<br>Text: Browse Mode On<br>Location: Status bar | 👓 |
| | Denotes to user the system is not in browse mode. | Icon: Eyeglasses (Wingdings #036) with "no or don't" slash (Wingdings 2 #087)<br>Text: Browse Mode Off<br>Location: Status bar | 👓⊘ |



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| ELEMENT | FUNCTION | INDICATOR | ICON |
|---|---|---|---|
| End | Ends browse mode capability by single click on icon button. Denotes to user the system is not in browse mode. | Icon: Eyeglasses unselected (Wingdings #036) Location: Additional information bar. | |

5.140.4.1.6 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.

**TABLE LXXII. Navigation icons.**

| ELEMENT | FUNCTION | INDICATOR | ICON |
|---|---|---|---|
| Save to a disk | Save a graphic to a disk | Icon: 3.5" Floppy Disk (Wingdings #060) Location: Navigation panel | |
| Print | Print the graphic | Icon: Printer (Wingdings 2 #054) Location: Navigation panel | |
| E-Mail | E-mail the graphic | Icon: Unopened envelope (Wingdings #042) Location: Navigation panel | |
| Save to a folder | Saving graphic to graphic/photo area folder | Icon: Folder (Wingdings #048) Location: Navigation panel | |
| Zoom In | Toggle on and off graphic zoom in function | Icon: Magnifying glass with plus (Graphic) Location: Navigation panel | |
| Zoom Out | Toggle on and off graphic zoom out function | Icon: Magnifying glass with minus (Graphic) Location: Navigation panel | |
| Pan graphic | Toggle on and off pan graphic | Icon: Open hand (Wingdings #073) Location: Navigation panel | |
| | Move graphic in the pane | Icon: Open hand (Wingdings #073) Location: Content pane | |

5.140.4.2 Project decisions.

5.140.4.2.1 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 LOGSA Web site (https://www.logsa.army.mil/mil40051/tmsspecs.cfm) are mandatory and the function text shall be presented on mouseover.



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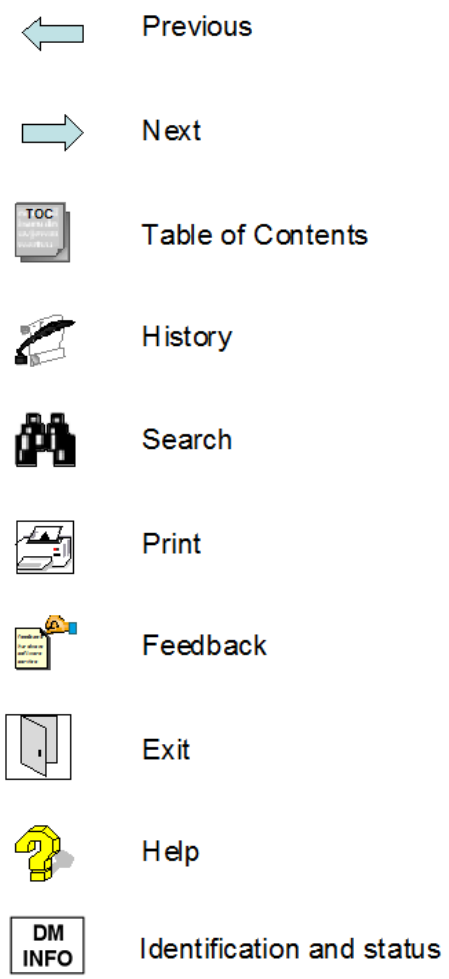


**FIGURE 24. Main menu bar navigation icons.**

5.140.4.2.2 Printing of classified data.

The project shall decide whether or not to allow the printing of classified data. If not allowed, the print function shall be disabled when classified data is presented in the IETP viewer.

5.140.5 Style and format.

5.140.5.1 Army business rules.

The following table contains Army business rules related to style and format.

**TABLE LXXIII. Army business rules – Style and format.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.5.2. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Font (general) and background colors | The text shall be black (#000000 or #000033) arial 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) | Chapter 6.3.1 paragraph 2.5.3. |
| Font (specific) | Arial font shall be used for all titles, headings, narrative, callouts and special characters. | Chapter 6.3.1 paragraph 2.5.3. |
| IETP font size | Text shall not be displayed smaller than 8 points. (JS) | Chapter 6.3.1 paragraph 2.5.3. |

5.140.5.2 Project decisions.

5.140.5.2.1 Font size.

The minimum recommended font size is 12 pt. Based on intended viewing environment, projects may decide upon an alternate minimum font size.

5.140.6 Dialog boxes.

5.140.6.1 Army business rules.

The following table contains Army business rules related to dialog boxes.

**TABLE LXXIV. Army business rules – Dialog boxes.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Curser movement | Cursor movement within dialog boxes shall be consistent throughout the IETP. | Chapter 6.3.1 paragraph 2.6. |
| Curser 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). | Chapter 6.3.1 paragraph 2.6. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.6. |
| Push buttons, general | Dialog boxes shall contain graphical controls called push buttons as a means for the user to communicate with the IETP. | Chapter 6.3.1 paragraph 2.6.2. |
| 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. | Chapter 6.3.1 paragraph 2.6.2. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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."<br>a. The "OK" push button shall communicate the entered or selected information to the IETP and proceed to the next action.<br>b. The "CANCEL" push button shall not send user-inputted information to the IETP and the IETP shall return to its previous display.<br>c. The "HELP" function shall provide further information about the current dialog box in message dialog box. | Chapter 6.3.1 paragraph 2.6.2. |

5.140.6.2 Project decisions.

5.140.6.2.1 Tool tips.

Controls can have 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.

5.140.6.2.2 Help.

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).

5.140.6.2.3 Display.

The project shall specify in their project-specific business rules how the viewer will handle dialogs (pop-up vs. in-line).

5.140.7 Lists.

5.140.7.1 Army business rules.

None.

5.140.7.2 Project decisions.

None.

5.140.8 Steps/Procedural.

5.140.8.1 Army business rules.

The following table contains Army business rules related to procedural steps.



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**TABLE LXXV. Army business rules – procedural steps.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | Procedural steps and their corresponding illustrations shall be presented together. Illustrations shall not be presented with non-corresponding steps. | Chapter 6.3.1 paragraph 2.8. |

5.140.8.2 Project decisions.

None.

5.140.9 Tables.

5.140.9.1 Army business rules.

The following table contains Army business rules related to tables.

**TABLE LXXVI. Army business rules – tables.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Table titles | Table titles shall appear above the table. If a table is scrollable, the table shall have "sticky" column headers. | Chapter 6.3.1 paragraph 2.9. |
| Shading | If shading alternate rows is decided by the project, the alternate shaded rows shall be gray (Hexadecimal value: #CECECE). | Chapter 6.3.1 paragraph 2.9. |
| IETP footnote presentation | For IETP presentations, footnotes shall be linked from the marker to their location at the end of the table. Mouse over of the marker may be used to display the footnote in addition to the hyperlink. (JS) | Chapter 6.3.1 paragraph 2.9.1.1. |

5.140.9.2 Project decisions.

5.140.9.2.1 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.

5.140.9.2.2 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.

5.140.10 Hyperlinks.

5.140.10.1 Army business rules.

The following table contains Army business rules related to hyperlinks.



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**TABLE LXXVII. Army business rules – hyperlinks.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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 [DMC-RADIOXYZ-001-001-23-4750-01000-012J-A]."). | Chapter 6.3.1 paragraph 2.10. |
| 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. | Chapter 6.3.1 paragraph 2.10. |
| 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. | Chapter 6.3.1 paragraph 2.10. |
| 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. | Chapter 6.3.1 paragraph 2.10. |
| 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. | Chapter 6.3.1 paragraph 2.10. |
| Display | Hyperlink formatting shall be consistent throughout the IETP. | Chapter 6.3.1 paragraph 2.10. |

5.140.10.2 Project decisions.

5.140.10.2.1 Presentation of references.

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.



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5.140.11 Warnings, cautions, and notes.

5.140.11.1 Army business rules.

The following table contains Army business rules related to warnings, cautions, and notes.

**TABLE LXXVIII. Army business rules – warnings, cautions, and notes.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Placement | Warnings and cautions shall appear in-line as follows:<br>a. For tasks, they shall follow the title of the associated task.<br>b. For procedures, they shall follow the title of the associated procedure.<br>c. For steps, they shall precede the associated step.<br>d. Alert paragraphs shall be indented from left and right margins. | Chapter 6.3.1 paragraph 2.11. |
| Multiple warnings and cautions, general | 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. | Chapter 6.3.1 paragraph 2.11. |
| Multiple warnings and cautions, order | 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. | Chapter 6.3.1 paragraph 2.11. |
| Display | 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. | Chapter 6.3.1 paragraph 2.11. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.11. |
| 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. | Chapter 6.3.1 paragraph 2.11. |
| Numbering | 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. | Chapter 6.3.1 paragraph 2.11. |
| 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). | Chapter 6.3.1 paragraph 2.11. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Acknowledgement of alerts | If acknowledgment of alerts is used, alerts shall be displayed and acknowledged as follows:<br>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.<br>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.<br>c. When alerts apply to the entire task or procedure, the alerts shall be displayed in-line prior to the applicable data.<br>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). | Chapter 6.3.1 paragraph 2.11. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Icons | The following rules apply to warning and caution icons.<br>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.<br>b. The use of standardized icons to improve readers' recognition of hazards is required (https://www.logsa.army.mil/mil40051/tmsspecs.cfm). Additional non-standardized warning icons shall be approved by the acquiring activity.<br>c. Hazards that result from a combination of materials shall clearly be identified to indicate that mixing or combining the materials creates the hazard.<br>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. | Chapter 6.3.1 paragraph 2.11. |
| Hazardous materials icons | Hazardous materials icons shall be used in cases where hazardous materials are present. (JS) | Chapter 6.3.1 paragraph 2.11. |
| Notes, placement | Notes shall appear in-line as follows:<br>a. For tasks, they shall follow the title of the associated task.<br>b. For procedures, they shall follow the title of the associated procedure.<br>c. For steps, they shall precede the associated step. | Chapter 6.3.1 paragraph 2.11. |



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| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| 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. | Chapter 6.3.1 paragraph 2.11. |
| 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. | Chapter 6.3.1 paragraph 2.11. |
| 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. | Chapter 6.3.1 paragraph 2.11. |
| 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. | Chapter 6.3.1 paragraph 2.11. |

5.140.11.2 Project decisions.

5.140.11.2.1 Acknowledgement of alerts.

The project shall determine if acknowledgement of alerts will be required.

5.140.12 Change marks.

5.140.12.1 Army business rules.

The following table contains Army business rules related to change marks.



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**TABLE LXXIX. Army business rules – change marks.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | Each change shall be discretely marked or identified in the IETP. | Chapter 6.3.1 paragraph 2.12. |
| 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. | Chapter 6.3.1 paragraph 2.12. |
| Links | There shall not be links from changed material to the highlights page. | Chapter 6.3.1 paragraph 2.12. |
| Reason for update | Reason for update shall not be displayed to the user (via pop up or any other means). | Chapter 6.3.1 paragraph 2.12. |

5.140.12.2 Project decisions.

None.

5.140.13 Acronyms and abbreviations.

5.140.13.1 Army business rules.

The following table contains Army business rules related to acronyms and abbreviations.

**TABLE LXXX. Army business rules – acronyms and abbreviations.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | 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. | Chapter 6.3.1 paragraph 2.13. |

5.140.13.2 Project decisions.

None.

5.140.14 Illustrations.

5.140.14.1 Army business rules.

The following table contains Army business rules related to illustrations.



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**TABLE LXXXI. Army business rules – illustrations.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| Modes of visual indication | The following shall be the three acceptable modes of visual indication of hotspots in graphics:<br>a. Persistent visual indication that an area is hot.<br>b. Cursor changes shape or color when cursor is over a hotspot area.<br>c. Object changes shape or color when cursor is over a hotspot area. | Chapter 6.3.1 paragraph 2.14. |
| 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. | Chapter 6.3.1 paragraph 2.14. |
| Tool tips | Tooltips shall not be used in IPD graphics. | Chapter 6.3.1 paragraph 2.14. |

5.140.14.2 Project decisions.

5.140.14.2.1 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).

5.140.14.2.2 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).

5.140.14.2.3 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.

5.140.15 Printed output from Interactive Electronic Technical Publication (IETP).

5.140.15.1 Army business rules.

The following table contains Army business rules related to printed output from IETPs.



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**TABLE LXXXII. Army business rules – printed output from printed IETPs.**

| Topic | Army Requirements | S1000D Reference |
|---|---|---|
| General | 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)." | Chapter 6.3.1 paragraph 2.15. |

5.140.15.2 Project decisions.

None.

5.141 S1000D Chapter 6.4 – Information presentation/use – Functionality.

5.141.1 Army business rules.

5.141.1.1 Use of the functionality matrix.

The functionality matrix shall be completed and included in contract documents. The use of IETP classes in contracts is disallowed. (JS)

5.141.2 Project decisions.

None.

5.142 S1000D Chapter 6.4.1 – Functionality – Background and explanation.

5.142.1 Access.

5.142.1.1 Army business rules.

5.142.1.1.1 Login.

The login shall be used to identify key information by the user and/or weapon system. A password for log on may be required.

5.142.1.1.2 Session control.

Session control shall involve saving the state of the session to re-establish 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. When specified by the requiring activity through the IETP functionality matrix, all the following functionalities shall be provided.

5.142.1.1.3 Suspend.

The ability to suspend a session at any time (e.g., for a break or emergency) shall be provided.

5.142.1.1.4 Restart.

A restart function shall be capable of restarting the session at the same point it was suspended.



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5.142.1.1.5 Restart conditions.

At the time of restart, the user shall be advised that some key parameters/condition settings may be out-of-date.

5.142.1.1.6 Exit.

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).

5.142.1.2 Project decisions.

None.

5.142.2 Annotations.

5.142.2.1 Army business rules.

5.142.2.1.1 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.

5.142.2.2 Project decisions.

None.

5.142.3 Delivery and distribution.

5.142.3.1 Army business rules.

5.142.3.1.1 Interactive Electronic Technical Publication (IETP) installation.

The following rules apply to IETP installation.

a. Information on installing the CD-ROM 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 or display software.
e. The installation information shall be printed and shall be part of the packaging of the CD-ROM.
f. 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



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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.

(3) Loading the executable program to the hard drive. This will require the data be accessed from the CD. 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.

g. When more than one IETP are resident on a CD, the first information that shall appear on the viewer is the CD content screen. This screen shall provide the IETP number and title of all technical manuals that are contained on the CD.

5.142.3.1.2 Deliverable media.

Unless otherwise directed by the acquiring activity, all maintenance instructions (operators through overhaul (depot)) for major weapon systems and all types of equipment, including test and support equipment, shall be provided on a single CD-ROM or DVD.

5.142.3.1.3 Deliverable contents.

Textual material marked up in accordance with S1000D and the Army business rules shall be referred to as a source file. A complete XML-tagged source file(s) shall be a mandatory part of each final product delivered. XML applications shall contain document instance and a style sheet.

5.142.3.2 Project decisions.

None.

5.142.4 Diagnostics.

5.142.4.1 Army business rules.

5.142.4.1.1 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.

5.142.4.1.2 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.

5.142.4.2 Project decisions.

None.

5.142.5 External processes.

5.142.5.1 Army business rules.

None.



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5.142.5.2 Project decisions.

None.

5.142.6 Graphics.

5.142.6.1 Army business rules.

5.142.6.1.1 Photos.

Photos shall not be the primary instruction to perform the task, but shall be a supplement to the narrative instruction.

5.142.6.2 Project decisions.

None.

5.142.7 Linking.

5.142.7.1 Army business rules.

None.

5.142.7.2 Project decisions.

None.

5.142.8 Navigation and tracking.

5.142.8.1 Army business rules.

5.142.8.1.1 Browse, general.

The following browse capability shall be available.

a. User controlled access mode
b. No tracking of activities
c. Not rigidly tied to IETP controls

5.142.8.1.2 Browse navigation, general.

The BROWSE PREVIOUS and BROWSE NEXT functions shall act as NEXT and PREVIOUS, but shall not set or reset system variables automatically or through dialogs. Once either BROWSE PREVIOUS or BROWSE NEXT is selected, other navigation functions shall not be available until the user returns to the originating window by invoking the BROWSE EXIT function.

5.142.8.1.3 Browse navigation, logical.

When either the BROWSE PREVIOUS or the BROWSE NEXT function is not logical (such as at the beginning of a string or at a mandatory branch point), only the complementary BROWSE function shall be active. Browse system variables shall be set, activated, and logged to a temporary state table and shall not be posted permanently in the state table.

5.142.8.1.4 Browse, distinct visual indication.

The presentation system shall provide a distinct visual indication that the system is in browse mode.



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5.142.8.1.5 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.

5.142.8.2 Project decisions.

5.142.8.2.1 Audit trail.

The project shall determine which IETP audit trail data is collected for maintenance data collection or other purposes. Maintenance data shall be exported in accordance with MIL-STD-3008.

5.142.9 Printing.

5.142.9.1 Army business rules.

None.

5.142.9.2 Project decisions.

None.

5.142.10 Special content.

5.142.10.1 Army business rules.

5.142.10.1.1 Multimedia.

Multimedia shall never be the primary means of presenting information.

5.142.10.1.2 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.

5.142.10.1.3 Classified information.

Neither audio nor video shall be provided for classified information.

5.142.10.1.4 Sounds.

Sounds may be used by the technician to identify possible faults or system is producing the correct sound. The technician should take action to hear the sound.

5.142.10.1.5 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.



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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.

5.142.10.2 Project decisions.

None.

5.142.11 Updates.

5.142.11.1 Army business rules.

None.

5.142.11.2 Project decisions.

None.

5.142.12 User operation mode.

5.142.12.1 Army business rules.

None.

5.142.12.2 Project decisions.

None.

5.143 S1000D Chapter 6.4.2 – Functionality – Functionality matrices.

5.143.1 Army business rules.

5.143.1.1 Mandatory functionalities.

The following functionalities are mandatory:

a. Deficiency Report
b. Parts Ordering
c. Table of Contents
d. Logon
e. Exit
f. History of Traversed Links
g. Next and Previous



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h. Search - Full Text
i. Print Screen
j. Data Module specific printing
k. Content Sensitive Help
l. Context Sensitive Help
m. Reset Area (Reset User Interface To Standard Default, View Revision Summary, Drill Up/Drill Down, Exit Guide Post)
n. Active Change Indications and markings.

5.143.2 Project decisions.

5.143.2.1 Optional functionalities.

The project shall determine which of the remaining optional functionalities will be acquired. The project shall also determine implementation requirements for these functionalities.

5.144 S1000D Chapter 7 – Information processing.

There are no Army business rules or project decisions in the following S1000D chapters:

| | | |
|---|---|---|
| a. | Chapter 7 | Information processing |
| b. | Chapter 7.3.1 | CSDB objects – Data module Schema |
| c. | Chapter 7.3.1.1 | Data module Schema – Version summary |
| d. | Chapter 7.3.1.2 | Data module Schema – Modular structure |
| e. | Chapter 7.3.1.3 | Data module Schema – Invocation |
| f. | Chapter 7.3.1.4 | Data module Schema – Backwards compatibility |
| g. | Chapter 7.3.1.5 | Data module Schema – Configuration of attributes |
| h. | Chapter 7.3.2 | CSDB objects – Graphics |
| i. | Chapter 7.4 | Information processing – Generation of publications |
| j. | Chapter 7.4.1 | Generation of publications – IETP |
| k. | Chapter 7.4.1.2 | IETP – Resource resolution |
| l. | Chapter 7.4.2 | Generation of publications – Publication module Schema |
| m. | Chapter 7.4.2.1 | Publication module Schema – Version summary |
| n. | Chapter 7.5 | Information processing – Information interchange |
| o. | Chapter 7.5.2 | Information interchange – Interchange Schemas |
| p. | Chapter 7.5.2.1 | Interchange Schema – Version summary |
| q. | Chapter 7.5.4 | Information interchange – LOM metadata |
| r. | Chapter 7.6 | Information processing – Software requirements |
| s. | Chapter 7.6.1 | Software requirements – Process data module requirements |
| t. | Chapter 7.7 | Information processing – Guidance and examples |
| u. | Chapter 7.7.1 | Guidance and examples – Logic engine |
| v. | Chapter 7.7.2 | Guidance and examples – Process data module nodes |
| w. | Chapter 7.7.3 | Guidance and examples – Resource resolution |
| x. | Chapter 7.7.4 | Guidance and examples – XLink |
| y. | Chapter 7.7.5 | Guidance and examples – XPath |



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5.145 S1000D Chapter 7.1 – Information processing – Introduction.

5.145.1 Army business rules.

5.145.1.1 Use of S1000D schemas.

Only S1000D promulgated schemas shall be used; the project shall use the schemas related to the issue of the specification used. Only those schemas available on the S1000D Web site (http://www.s1000d.org) shall be used.

5.145.2 Project decisions.

None.

5.146 S1000D Chapter 7.2 – Information processing – Basic concepts.

5.146.1 Army business rules.

5.146.1.1 Use of Extensible Markup Language (XML).

Data modules shall be coded in XML.

5.146.1.2 Extensible Markup Language (XML) and the Common Source Data Base (CSDB).

Authored data modules and publication modules shall reside in the CSDB in XML format.

5.146.1.3 Use of modularized or flattened schemas.

Unless dictated differently by an authoring tool or software, the modularized version of the Schemas shall not be used.

5.146.2 Project decisions.

None.

5.147 S1000D Chapter 7.3.3 – CSDB Objects – Multimedia.

5.147.1 Army business rules.

None

5.147.2 Project decisions.

5.147.2.1 Use of multimedia.

The project shall determine if multimedia is suitable for the environment in which the project will operate.

5.147.2.2 Media player.

Multimedia objects shall be developed and produced for the chosen project viewer or display platforms used; i.e., plug-ins and viewers, shall be defined in the project rules for non-textual data

5.147.2.3 Capture rates.

To ensure consistency of a given type, the project shall determine the capture rates to be used.

5.147.2.4 Multimedia types.

The project shall determine the multimedia types used.



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5.148 S1000D Chapter 7.4.1.1 – IETP – Generation process.

5.148.1 Army business rules.

5.148.1.1 Transformation of references.

The rules specified in S1000D Chapter 7.4.1.1 shall be used for transformation of references for viewing and navigation purposes.

5.148.1.2 Use of S1000D schemas.

S1000D provided Schemas shall not be modified. (JS)

5.148.1.3 Resource Description Framework (RDF) metadata.

rdf.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.148.1.4 Dublin Core (DC) metadata.

dc.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.148.1.5 XLink.

xlink.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.148.2 Project decisions.

None.

5.149 S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information.

5.149.1 Army business rules.

None.

5.149.2 Project decisions.

5.149.2.1 Population of the element **`<externalPubCode>`**.

The project shall decide the preferred syntax applied to identify legacy data by a publication code.

5.149.2.2 Use of the attribute **`pubCodingScheme`**.

The project shall decide if the attribute will be used and, if so, the set of allowed coding schemes and the syntax used to specify those schemes.

5.149.2.3 Method to include legacy information in an Interactive Electronic Technical Publication (IETP).

The project shall decide whether to include legacy information by encapsulating it in data modules or by referencing it as external publications using the publication module.

5.149.2.4 Interactive Electronic Technical Publication (IETP) reference format.

The project shall decide the syntax and semantic of the links established to reference legacy data.



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5.150 S1000D Chapter 7.5.1 – Software interchange – File based transfer.

5.150.1 Army business rules.

None.

5.150.2 Project decisions.

5.150.2.1 Use of file compression techniques.

The project shall decide whether to use compression techniques on files being transferred or not.

5.150.2.2 Defined file formats.

The project shall decide on the allowable file formats, if any, beyond those given in S1000D Chapter 7.5.1.

5.150.2.3 Use of multimedia.

The project shall decide on the use of multimedia.

5.150.2.4 Media options.

A variety of computer media are available and in widespread use for the interchange of technical information. The most appropriate medium, or combination of media, shall be agreed at the project level. Whichever interchange medium is selected, file naming, file types and file structure shall be implemented as described in S1000D.

5.150.2.5 Training Data Module Code (DMC) extensions.

The project shall decide whether to use the learn code and learn event code or not.

5.151 S1000D Chapter 7.5.3 – Information interchange – RDF/DC metadata.

5.151.1 Army business rules.

None.

5.151.2 Project decisions.

5.151.2.1 Inclusion of Resource Description Framework/Dublin Core (RDF/DC) metadata.

The project shall decide whether to include RDF/DC metadata in data dispatch notes, data module lists and comments or not. It is recommended that inclusion is applied consistently across all CSDB objects, including data modules.

5.152 S1000D Chapter 7.6.2 – Software requirements – Resource resolution service.

5.152.1 Army business rules.

5.152.1.1 Resource resolution.

The guidelines in S1000D Chapter 7.6.2 shall be used when implementing a resolution service.

5.152.2 Project decisions.

None.



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5.153 S1000D Chapter 7.8 – Information processing – Applicability.

5.153.1 Army business rules.

None.

5.153.2 Project decisions.

5.153.2.1 Generation of display text.

The project or shall decide whether to populate the element **`<displayText>`** within the applicability annotation or to rely on the publication engine and/or IETP viewer to generate the displayed applicability annotation from the computable applicability annotation.

5.153.2.2 Format of generated display text.

The project shall determine the format for generating the displayed applicability annotation from the computable applicability annotation that will best fulfill industry and/or customer display requirements.

5.154 S1000D Chapter 8 – Standard numbering systems, information codes and learn codes.

There are no Army business rules or project decisions in the following S1000D chapters:

a. Chapter 8.0 Standard numbering systems, information codes and learn codes
b. Chapter 8.2 SNS information and learn codes - Maintained SNS - General
c. Chapter 8.4.1 Information codes – Short definitions
d. Chapter 8.4.2 Information codes – Full definitions
e. Chapter 8.5 SNS, information and learn codes – Learn codes
f. Chapter 8.5.1 Learn codes – Human performance technology codes
g. Chapter 8.5.2 Learn codes – Training codes

5.155 S1000D Chapter 8.1 – SNS, information and learn codes – General.

5.155.1 Army business rules.

None.

5.155.2 Project decisions.

5.155.2.1 Use of Standard Numbering System (SNS).

The project shall decide whether to use the maintained SNS, the example SNS or to write their own.

5.156 S1000D Chapter 8.2.1 – Maintained SNS – Generic.

5.156.1 Army business rules.

5.156.1.1 Use of the generic Standard Numbering System (SNS).

The SNS shall reflect the equipment for which it applies except in cases where the data module applies across multiple model identification codes or does not apply to any specific model identification code. The generic SNS provided in S1000D Chapter 8.2.1 shall only be used by project decision and in these excepted cases.



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5.156.2 Project decisions.

5.156.2.1 Use of the generic Standard Numbering System (SNS).

Within the constraints of 5.156.1.1, the project shall decided if and how to use the generic SNS provided in S1000D Chapter 8.2.1.

5.156.2.2 Definitions.

If the Generic SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.157 S1000D Chapter 8.2.2 – Maintained SNS – Support and training equipment.

5.157.1 Army business rules.

None.

5.157.2 Project decisions.

5.157.2.1 Use of the support and training equipment Standard Numbering System (SNS).

The project shall decided if and how to use the support and training equipment SNS provided in S1000D Chapter 8.2.2.

5.157.2.2 Definitions.

If the support and training equipment SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.158 S1000D Chapter 8.2.3 – Maintained SNS – Ordnance.

5.158.1 Army business rules.

None.

5.158.2 Project decisions.

5.158.2.1 Use of the ordnance Standard Numbering System (SNS).

The project shall decided if and how to use the ordnance SNS provided in S1000D Chapter 8.2.3.

5.158.2.2 Definitions.

If the ordnance SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.159 S1000D Chapter 8.2.4 – Maintained SNS – General communications.

5.159.1 Army business rules.

None.

5.159.2 Project decisions.

5.159.2.1 Use of the general communications Standard Numbering System (SNS).

The project shall decided if and how to use the general communications SNS provided in S1000D Chapter 8.2.4.



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5.159.2.2 Definitions.

If the general communications SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.160 S1000D Chapter 8.2.5 – Maintained SNS – Air vehicle, engines and equipment.

5.160.1 Army business rules.

None.

5.160.2 Project decisions.

5.160.2.1 Use of the air vehicle Standard Numbering System (SNS).

The project shall decided if and how to use the air vehicle SNS provided in S1000D Chapter 8.2.5.

5.160.2.2 Definitions.

If the air vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.161 S1000D Chapter 8.2.6 – Maintained SNS – Tactical missiles.

5.161.1 Army business rules.

None.

5.161.2 Project decisions.

5.161.2.1 Use of the tactical missiles Standard Numbering System (SNS).

The project shall decided if and how to use the tactical missiles SNS provided in S1000D Chapter 8.2.6.

5.161.2.2 Definitions.

If the tactical missiles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.162 S1000D Chapter 8.2.7 – Maintained SNS – General surface vehicles.

5.162.1 Army business rules.

None.

5.162.2 Project decisions.

5.162.2.1 Use of the surface vehicles Standard Numbering System (SNS).

The project shall decided if and how to use the surface vehicles SNS provided in S1000D Chapter 8.2.7.

5.162.2.2 Definitions.

If the surface vehicles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."



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5.163 S1000D Chapter 8.2.8 – Maintained SNS – General sea vehicles.

5.163.1 Army business rules.

None.

5.163.2 Project decisions.

5.163.2.1 Use of the sea vehicle Standard Numbering System (SNS).

The project shall decided if and how to use the sea vehicle SNS provided in S1000D Chapter 8.2.8.

5.163.2.2 Definitions.

If the sea vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects."

5.164 S1000D Chapter 8.3 – SNS, information codes – Example SNS.

5.164.1 Army business rules.

None.

5.164.2 Project decisions.

5.164.2.1 Use of the example Standard Numbering System (SNS).

The project shall decided if and how to use the example SNS provided at http://www.s1000d.org.

5.165 S1000D Chapter 8.4 – SNS, information and learn codes – Information codes.

5.165.1 Army business rules.

5.165.1.1 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 propose a new code to the S1000D Steering Committee using the change process described in 5.3.1.1.

5.165.1.2 Use of "Available for projects" information codes.

When a project determines the need to assign an "Available for projects" information code, that information code, corresponding information name and definition shall be submitted to the S1000D Steering Committee via a change proposal with the intent to make the request a permanent part of the standard. (JS)

5.165.1.3 Information code use with schemas.

In general, information codes and information names shall not be restricted to specific schemas, but in their information sets, projects may direct which schema to use for particular applications of information codes. (JS)

5.165.1.4 Information code variants.

Information code variants shall be used as defined in B.5.



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5.165.1.5 Information names.

The alternate Army information names shall be used in lieu of the S1000D short definition where stipulated in A.5 and B.5.

5.165.2 Project decisions.

None.

5.166 S1000D Chapter 9 – Terms and data dictionary.

There are no Army business rules or project decisions in the following S1000D chapters:

Chapter 9.0 Terms and data dictionary

Chapter 9.1 Terms and data dictionary – Introduction

Chapter 9.2 Terms and data dictionary – Glossary of terms, abbreviations and acronyms

Chapter 9.3 Terms and data dictionary – Data dictionary



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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.

### 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 (ASMC) 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).

| DID Number | DID Title |
|---|---|
| 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://assist.daps.dla.mil/quicksearch/ 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-3031A 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)



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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 last previous issue.



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# 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 Matrixes 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-XXXVII 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-XXXVII 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 already contain a "AR" are "AS REQUIRED" shall be required by the project when needed to support the equipment or condition. The blocks that are blank shall be filled in with "R", or "P." A block marked with a "AR" may be changed to "R" or "P." 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 XXXVIII.
c. Column Heading: Ref - Identifies the paragraph in this document that provides details about the content requirement in column 1.



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d. Column Heading: PM Type – Identifies the publication module entry type to be used with the corresponding content (refer to 5.48.1.23). The publication module type applies to all rows spanned by the cell. Unless otherwise directed by the acquiring activity, a single publication module shall be used for the content in the spanned rows. In some tables there is more than one column for PM Type, this indicates when nested publication modules are used.
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-XXXVII. 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-XXXVII are available in Excel™ at https://www.logsa.army.mil/mil40051/S1000D.cfm.

A.5.2 Front and rear matter.
Table A-II through Table A-V 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-XXXVII) to form the basis for the project publication output requirements.



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A.5.3 Publication output types.
Although Table A-VI through Table A-IX are identified as "IETP" content selection matrices, there is no prohibition against using the contained content requirements for a page-based manual, nor is there any prohibition against using Table A-X through Table A-XXXVII for IETP.

A.5.4 Publication titles.

a. All publication titles shall correspond to the titles in Table A-VI through Table A-XXXVII.
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. Publications Types, Titles and Associated Content Matrix Tables.**

| Title | Applicable Table |
|---|---|
| Front and rear matter | |
| IETP Introductory Matter | Table A-II |
| Page-Based Front Matter | Table A-III |
| Page-Based Front Matter – Reduced | Table A-IV |
| Page-Based Rear Matter | Table A-V |
| Interactive Electronic Technical Publication (IETP) | |
| Operator Interactive Electronic Technical Publication (IETP) for *Insert System* | Table A-VI |
| Operator & Field and Operator, Field, & Sustainment Maintenance Interactive Electronic Technical Publication (IETP) for *Insert System* | Table A-VII |
| Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP) for *Insert System* | Table A-VIII |
| DMWR & NMWR Interactive Electronic Technical Publication (IETP) for *Insert System* | Table A-IX |
| Excluding Conventional and Chemical Ammunition | |
| Operator's Manual for *Insert System* | Table A-X |
| Sustainment Maintenance Manual including Parts List for *Insert System* | Table A-XI |
| Field and Sustainment Maintenance Manual including Parts List for *Insert System* | Table A-XII |
| Aviation Field Maintenance Manual including Parts List for *Insert System* | Table A-XIII |
| Parts and Special Tools List for *Insert System* | Table A-XIV |
| Depot Maintenance Work Requirements (DMWR) and National Maintenance Work Requirements (NMWR) for *Insert System* | Table A-XV |
| DMWR with Overhaul Standards for *Insert System* | Table A-XVI |
| Aviation Field Troubleshooting for *Insert System* | Table A-XVII |
| Aircraft Preventive Maintenance for *Insert System* | Table A-XVIII |



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**TABLE A-I. Publications Types, Titles and Associated Content Matrix Tables.**

| Title | Applicable Table |
|---|---|
| Aircraft Phased Maintenance Inspection Checklist for *Insert System* | Table A-XIX |
| Conventional and Chemical Ammunition | |
| Operator's Manual for *Insert System* | Table A-XX |
| Sustainment Maintenance Manual for *Insert System* | Table A-XXI |
| Field and Sustainment Maintenance Manual for *Insert System* | Table A-XXII |
| Specialized Content | |
| Hand Receipt Technical Manual for *Insert System* | Table A-XXIII |
| Supplemental Information for Commercial Off-The-Shelf (COTS) Manuals for *Insert System* | Table A-XXIV |
| Preventive Maintenance Checklist for *Insert System* | Table A-XXV |
| Modification Work Order (MWO) for *Insert System* | Table A-XXVI |
| Battle Damage Assessment and Repair (BDAR) for *Insert System* | Table A-XXVII |
| Preparation for Shipment of Army Aircraft Manual for *Insert System* | Table A-XXVIII |
| Depot Maintenance Work Requirements (DMWRs) For Maintenance/Demilitarization of Conventional and Chemical Ammunition for *Insert System* | Table A-XXIX |
| Munition Equipment and Ammunition Data Sheet Manual for *Insert System* | Table A-XXX |
| Aircraft Operator Manual for *Insert System* | Table A-XXXI |
| Aircraft Operator Checklist for *Insert System* | Table A-XXXII |
| Maintenance Test Flight Manual for *Insert System* | Table A-XXXIII |
| Demilitarization of Surplus Military Items Manual for *Insert System* | Table A-XXXIV |
| Warranty Technical Bulletin (WTB) for *Insert System* | Table A-XXXV |
| Destruction of Equipment to Prevent Enemy Use Manual for *Insert System* | Table A-XXXVI |
| Test, Measurement and Diagnostic Equipment Manual for *Insert System* | Table A-XXXVII |



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**TABLE A-II. IETP Introductory Matter.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128.2 | | | | | |
| Identification Information | R | 5.128.2.1.7 | Generated from PM metadata | | N/A | N/A | |
| (MC) Promulgation Letter | AR | 5.128.2.1.4 | Front Matter | Descriptive | 023 | M | Promulgation letter |
| Warning Summary | AR | 5.128.2.1.5 | | Descriptive | 012 | J | Safety summary |
| Revision Summary Frame | AR | 5.128.2.1.6 | | Descriptive | 003 | C | Revision summary |
| Table of Contents | R | 5.128.2.1.8 | | Descriptive | 009 | A | Table of contents |
| How To Use This IETP | AR | 5.128.2.1.9 | | Descriptive | 018 | B | How to use this manual |
| DA Form 2028 | R | 5.128.3.1.1.4 | | Descriptive / Comment | 023 | B | Reporting errors and recommending improvements |



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**TABLE A-III. Page-Based Front Matter.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128.1 | | | | | |
| Front Cover | R | 5.128.1.1.3 | Generated from PM metadata | | N/A | N/A | |
| (MC) Promulgation Letter | AR | 5.128.1.1.4 | Front Matter PM | Descriptive | 023 | M | Promulgation letter |
| Warning Summary | AR | 5.128.1.1.5 | | Descriptive | 012 | J | Safety summary |
| Revision Summary | AR | 5.128.1.1.6 | | Descriptive | 003 | C | Revision summary |
| List of Effective Data Modules | R | 5.128.1.1.7 | | Descriptive | 00S | A | List of effective data modules |
| Title Block Page | R | 5.128.1.1.8 | | Descriptive | 001 | A | Title page |
| Table of Contents | R | 5.128.1.1.9 | | Descriptive | 009 | A | Table of contents |
| Glossary | | 5.128.1.1.10 | | Descriptive | 006 | A | List of terms |
| How to Use This Manual | | 5.128.1.1.11 | | Descriptive | 018 | B | How to use this manual |



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**TABLE A-IV. Page-Based Front Matter – Reduced.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128.1 | | | | | |
| Front Cover | R | 5.128.1.1.3 | Generated from PM metadata | | N/A | N/A | |
| (MC) Promulgation Letter | AR | 5.128.1.1.4 | Front Matter PM | Descriptive | 023 | M | Promulgation letter |
| Title Block Page | R[1] | 5.128.1.1.8 | | Descriptive | 001 | A | Title page |
| Table of Contents | R[2] | 5.128.1.1.9 | | Descriptive | 009 | A | Table of contents |
| How to Use This Manual | | 5.128.1.1.11 | | Descriptive | 018 | B | How to use this manual |

Notes:

1. By project decision, a combined cover/title block may be used.
2. 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-V. Page-Based Rear Matter.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |
| Alphabetical Index | | 5.128.3.1.1.2 | | Descriptive | 014 | B | Alphabetical index |
| DA Form 2028 | R[1] | 5.128.3.1.1.4 | | Descriptive | 023 | B | Reporting errors and recommending improvements |
| Authentication Page | R | 5.128.3.1.1.3 | | Descriptive | 023 | C | Authentication page |
| Foldout Pages | | 5.128.3.1.1.5 | | Descriptive | PD | | |
| Back Cover | R | 5.128.3.1.1.6 | | Descriptive | 001 | C | Back cover |

Notes:

1. Maintenance Test Flight, Checklists, and manuals smaller than standard size do not require DA Form 2028.



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | 5.86.3.1.8 | | | | | |
| Calibration | | 5.86.3.1.9 | | | | | |
| Copyright Credit Line | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Information | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | 5.86.4.1.6 | | | | | |
| Nuclear Hardness | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | 5.86.5 | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | 5.86.5.1.2 | | | | | |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Location and Description of Major Components (not Required for Conventional and Chemical Ammunition IETPs) | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **OPERATOR INSTRUCTIONS** | R | 5.85.1.3 | Chapter PM | | | | |
| *DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS* | R | 5.85.3 | | Descriptive | 111 | A | Controls and indicators |
| *OPERATION UNDER USUAL CONDITIONS* | R | 5.85.4 | | | | | |
| Security Measures for Electronic Data | AR | 5.85.4.1.2 | | Descriptive | 990 | D | Security measures for electronic data |
| Siting | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Assembly and Preparation for Use | AR | 5.85.4.1.5 | | Procedural | 710 | B | Assembly and preparation for use |
| Initial Adjustments, Before Use and Self-Test | AR | 5.85.4.1.6 | | Procedural | 121 | B | Initial adjustments, before use and self-test |
| Operating Procedures | R | 5.85.4.1.7 | | Procedural | 131 | A | Normal operation procedures |
| Operating Auxiliary Equipment | AR | 5.85.4.1.9 | | Procedural | 131 | A | Normal operation procedures |
| Preparation for Movement | AR | 5.85.4.1.10 | | Procedural | 131 | S | Preparation for movement |
| Decals and Instruction Plates | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and instruction plates |
| *OPERATION UNDER UNUSUAL CONDITIONS* | R | 5.85.5 | | | | | |
| Security Measures for Electronic Data | AR | 5.85.5.1.1 | | Descriptive | 990 | C | Security measures for electronic data (Unusual conditions) |
| Unusual Environment/ Weather | R | 5.85.5.1.2 | | Procedural | 142 | B | Unusual environment / weather |
| Fording and Swimming | AR | 5.85.5.1.3 | | Procedural | 131 | R | Fording and swimming |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures | AR | 5.85.5.1.4 | | Procedural | 139 | B | Interim Chemical, Biological, Radiological, and Nuclear (CBRN) decontamination procedures |
| Jamming and Electronic Countermeasures (ECM) Procedures | AR | 5.85.5.1.5 | | Procedural | 144 | A | Jamming and Electronic Countermeasures (ECM) procedures |
| Degraded Operation Procedures | AR | 5.85.5.1.6 | | Procedural | 142 | C | Degraded operation procedures |
| Decals and Instruction Plates | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and instruction plates |
| *EMERGENCY* | | 5.85.6 | | Procedural | 140 | B | Operation under emergency conditions |
| *STOWAGE AND DECAL / DATA PLATE GUIDE* | | 5.85.7 | | Descriptive | 067 | B | Stowage and decal / data plate guide |
| *ON-VEHICLE EQUIPMENT LOADING PLAN* | | 5.99.1.1 | | Descriptive | 160 | C | On-vehicle equipment loading plan |
| **TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included.* | | 5.88 | | | | | |
| *INTRODUCTION* | | 5.88.3 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TROUBLESHOOTING INDEX* | | 5.88.35.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | Descriptive | 410 | B | Symptom index |
| | | | | Descriptive | 410 | C | System/Subsystem index |
| **OPERATIONAL CHECKOUT* | | 5.88.7 | | 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 |
| **TROUBLESHOOTING PROCEDURES* | | 5.88.1.18 | | Descriptive | 018 | C | Troubleshooting introduction |
| | | | | Procedural | PD | | |
| | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | Fault | 421 | B | Troubleshooting procedure |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **MAINTENANCE INSTRUCTIONS** | R | 5.87 | | | | | |
| *PMCS INTRODUCTION* | R | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS, INCLUDING LUBRICATION INSTRUCTIONS* | R | 5.87.6 | | Checklist | 200 | B | PMCS |
| *SERVICE UPON RECEIPT* | R | 5.87.3 | | | | | |
| Siting | | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | R | 5.87.3.1.2 | | | | | |
| Unpacking | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | R | 5.87.3.1.3 | | | | | |
| Assembly of equipment | R | 5.87.3.1.3.1 | Chapter PM | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | R | 5.87.3.1.3.2 | | Procedural | 710 | A | Assembly procedure |
| Special application installation instructions | R | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | R | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | | 5.87.3.1.12 | | Procedural | 120 | G | Procedure to activate ammunition |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Additional maintenance task | | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT/USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | 5.97.1 | | Procedural | 913 | B | Equipment/User fitting instructions |
| *MAINTENANCE* | R | 5.87.8 | | | | | |
| Inspect | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Disassemble | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | 5.87.8.1.29 | | | | | |
| Towing | | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| **AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | 5.97.2 | Chapter PM | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | 5.97.2 | | Procedural | PD | | |
| **AMMUNITION MAINTENANCE INSTRUCTIONS** | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | 5.87.19 | | Procedural | 200 | K | Ammunition maintenance |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *AMMUNITION MARKING INFORMATION* | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE** *NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | 5.101.3 | | | | | |
| Introduction | | 5.101.3.1.6.2 | Chapter PM | Descriptive | 997 | D | Destruction general information |
| Authorization | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | |
| Parts List | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **SUPPORTING INFORMATION** | R | 5.106.1 | Chapter PM | | | | |
| *REFERENCES* | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS* | R | 5.93.12 | | Descriptive | 105 | D | Components of End Item (COEI) list |
| | | 5.93.13 | | Descriptive | 105 | C | Basic Issue Items (BII) list |
| *ADDITIONAL AUTHORIZATION LIST (AAL)* | | 5.93.14 | | Descriptive | 104 | C | Additional Authorization List (AAL) |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *CRITICAL SAFETY ITEMS* | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |



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**TABLE A-VI. Operator's IETP requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *ADDITIONAL SUPPORTING INFORMATION* | | 5.106.1.1.4 | | Descriptive | PD | | |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | | | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Information | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | AR | AR | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.5 | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | | | | |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Location and Description of Major Components (Not Required for Conventional and Chemical Ammunition TMs) | R | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | R | R | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **OPERATOR INSTRUCTIONS** | R | R | 5.85.1.3 | | | | | |
| *DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS* | R | R | 5.85.3 | | Descriptive | 111 | A | Controls and indicators |
| *OPERATION UNDER USUAL CONDITIONS* | R | R | 5.85.4 | | | | | |
| Security Measures for Electronic Data | AR | AR | 5.85.4.1.2 | | Descriptive | 990 | D | Security measures for electronic data |
| Siting | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Assembly and Preparation for Use | AR | AR | 5.85.4.1.5 | | Procedural | 710 | B | Assembly and preparation for use |
| Initial Adjustments, Before Use and Self-Test | AR | AR | 5.85.4.1.6 | Chapter PM | Procedural | 121 | B | Initial adjustments, before use and self-test |
| Operating Procedures | R | R | 5.85.4.1.7 | | Procedural | 131 | A | Normal operation procedures |
| Operating Auxiliary Equipment | AR | AR | 5.85.4.1.9 | | Procedural | 131 | A | Normal operation procedures |
| Preparation for Movement | AR | AR | 5.85.4.1.10 | | Procedural | 131 | S | Preparation for movement |
| Decals and Instruction Plates | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and instruction plates |
| *OPERATION UNDER UNUSUAL CONDITIONS* | R | R | 5.85.5 | | | | | |
| Security Measures for Electronic Data | AR | AR | 5.85.5.1.1 | | Descriptive | 990 | C | Security measures for electronic data (Unusual conditions) |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Unusual Environment/ Weather | R | R | 5.85.5.1.2 | | Procedural | 142 | B | Unusual environment/weather |
| Fording and Swimming | AR | AR | 5.85.5.1.3 | | Procedural | 131 | R | Fording and swimming |
| Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures | AR | AR | 5.85.5.1.4 | | Procedural | 139 | B | Interim Chemical, Biological, Radiological, and Nuclear (CBRN) decontamination procedures |
| Jamming and Electronic Countermeasures (ECM) Procedures | AR | AR | 5.85.5.1.5 | | Procedural | 144 | A | Jamming and Electronic Countermeasures (ECM) procedures |
| Degraded Operation Procedures | AR | AR | 5.85.5.1.6 | | Procedural | 142 | C | Degraded operation procedures |
| Decals and Instruction Plates | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and instruction plates |
| *EMERGENCY* | | | 5.85.6 | | Procedural | 140 | B | Operation under emergency conditions |
| *STOWAGE AND DECAL/DATA PLATE GUIDE* | | | 5.85.7 | | Descriptive | 067 | B | Stowage and decal/data plate guide |
| *ON-VEHICLE EQUIPMENT LOADING PLAN* | | | 5.99.1.1 | | Descriptive | 160 | C | On-vehicle equipment loading plan |
| **TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included.* | R | R | 5.88 | | | | | |
| *INTRODUCTION* | | | 5.88.3 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TECHNICAL DESCRIPTION* | | | 5.116 | | | | | |
| Equipment Description and Data | | | 5.116.1.2 | Chapter PM | Descriptive | 011 | C | Technical description |
| Controls and Indicators | | | 5.116.1.3 | | | | | |
| Theory of Operation | | | 5.116.1.4 | | | | | |
| *TROUBLESHOOTING INDEX* | | | 5.88.3 | | Descriptive | 410 | F | Malfunction index |
| | | | | | Descriptive | 410 | B | Symptom index |
| | | | | | Descriptive | 410 | C | System/subsystem index |
| **OPERATIONAL CHECKOUT* | | | 5.88.7 | | Descriptive | 018 | V | Operational checkout introduction |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| | | | | | 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 |
| **TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | Descriptive | 018 | C | Troubleshooting introduction |
| | | | | | Procedural | PD | | |
| | | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | | Fault | 421 | B | Troubleshooting procedure |
| | | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **MAINTENANCE INSTRUCTIONS** | R | R | 5.87 | Chapter PM | | | | |
| *SERVICE UPON RECEIPT* | R | R | 5.87.3 | | | | | |
| Siting | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | R | R | 5.87.3.1.2 | | | | | |
| Unpacking | R | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | R | R | 5.87.3.1.3 | | | | | |
| Assembly of equipment | R | R | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | R | R | 5.87.3.1.3.2 | | Procedural | 710 | A | Install procedure |
| Special application installation instructions | R | R | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | R | R | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | | | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Preliminary checks and adjustment of equipment | | | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | | | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | AR | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | AR | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | AR | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | AR | AR | 5.87.3.1.12 | | Procedural | 120 | G | Procedures To activate ammunition |
| Additional maintenance task | AR | AR | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT / USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | | 5.97.1 | | Procedural | 913 | B | Equipment/User fitting instructions |
| *INTRODUCTION* | AR | AR | 5.87.5 | | Descriptive | 018 | F | PMCS Introduction |
| *PMCS, INCLUDING LUBRICATION INSTRUCTION* | AR | AR | 5.87.6 | | Checklist | 200 | B | PMCS |
| *MAINTENANCE* | R | R | 5.87 | | | | | |
| Inspect | | | 5.87.8.1.4 | | | | | |
| Test and inspection | | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | | | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | | | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | | | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | | | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | | | 5.87.8.1.8 | | Procedural | 272 | A | Align |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Calibrate | | | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | | | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | | | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | | | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | | | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | | | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | | | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | | | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | | | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | | | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | | | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | | | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | | | 5.87.8.1.215.<br>87.8.1.30<br>5.122.1.9.1 | | Procedural | 810 | H | Preservation procedure |
| Assemble and prepare for use | | | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | | | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | | | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | | | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | | | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | | | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | | | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | | | 5.87.8.1.29 | | | | | |
| Towing | | | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | | | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | | | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | | | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | | | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | | | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | | | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | | | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | | | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | | | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Arm | | | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | | | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | | | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | | | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | | | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | | | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION* | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |
| **AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | 5.97.2 | | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS (FIELD LEVEL ONLY)* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS (FIELD LEVEL ONLY)* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | | 5.87.19 | | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **PARTS INFORMATION** | R | R | 5.93 | Chapter PM | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEMS* | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | AR | AR | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | AR | AR | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | AR | AR | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE**<br>*NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | | 5.101.3 | Chapter PM | | | | |
| Introduction | | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | | |
| Part List | | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **SUPPORTING INFORMATION** | R | R | 5.106.1 | Chapter PM | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *INTRODUCTION FOR MAC (FIELD ONLY)*<br>Non-aviation<br>Aviation | <br>R<br>R | <br>R<br>R | <br>5.94.1<br>5.94.2 | | Descriptive | 018 | D | MAC Introduction |
| *MAINTENANCE ALLOCATION CHART (FIELD ONLY)* | R | R | 5.94.3 | | Schedule | 916 | PD | |



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**Table A-VII. Operator, Field & Sustainment Maintenance IETP requirements matrix for _____.**

| Content Requirement | M3B Req. | M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS (CREW (OPERATOR) ONLY)* | R | R | 5.93.12 | | Descriptive | 105 | D | Components of End Item (COEI) list |
| | | | 5.93.13 | | Descriptive | 105 | C | Basic Issue Items (BII) list |
| *ADDITIONAL AUTHORIZATION LIST (AAL)* | | | 5.93.14 | | Descriptive | 104 | C | Additional Authorization List (AAL) |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | 5.86.3 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Information | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Quality Assurance (QA) (Aviation Only)<br>Aviation<br>Non-Aviation | <br><br>R<br>P | <br><br>R<br>P | 5.86.4.1.9 | | | | | |
| Critical Safety Items (CSI)<br>Aviation<br>Non-Aviation | <br><br>R<br>P | <br><br>R<br>P | 5.86.4.1.10 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.5 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components (Not Required for Conventional and Chemical Ammunition IETPs) | R | R | 5.86.5.1.3 | | Descriptive | 000 | B | Equipment description and data |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **TROUBLESHOOTING PROCEDURES**<br>*NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included* | R | R | 5.88 | | | | | |
| *INTRODUCTION* | | | 5.88.3 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TECHNICAL DESCRIPTION* | | | 5.116 | | | | | |
| Equipment Description and Data | | | 5.116.1.2 | | Descriptive | 011 | C | Technical description |
| Controls and Indicators | | | 5.116.1.3 | | | | | |
| Theory of Operation | | | 5.116.1.4 | | | | | |
| *TROUBLESHOOTING* | | | 5.88.4 | Chapter PM | Descriptive | 410 | F | Malfunction index |
| | | | | | Descriptive | 410 | B | Symptom index |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *INDEX* | | | | | Descriptive | 410 | C | System/Subsystem index |
| **OPERATIONAL CHECKOUT* | | | 5.88.7 | | 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 checkout shutdown procedures |
| **TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | 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 shutdown procedures |
| **DIAGNOSTICS* | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **MAINTENANCE INSTRUCTIONS** | R | R | | Chapter PM | | | | |
| *SERVICE UPON RECEIPT* | R | R | 5.87.3 | | | | | |
| Siting | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | AR | AR | 5.87.3.1.2 | | | | | |
| Unpacking | AR | AR | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | AR | AR | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | AR | AR | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | AR | AR | 5.87.3.1.3 | | | | | |
| Assembly of equipment | AR | AR | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | AR | AR | 5.87.3.1.3.2 | | Procedural | 710 | A | Assembly procedure |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Special application installation instructions | AR | AR | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | AR | AR | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | AR | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | AR | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | AR | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | AR | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | AR | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | AR | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | AR | AR | 5.87.3.1.12 | | Procedural | 120 | G | Procedures to activate ammunition |
| Additional maintenance task | AR | AR | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT/USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | | 5.97.1 | | Procedural | 913 | B | Equipment/user fitting instructions |
| *PMCS INTRODUCTION* | AR | AR | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS*<br>Aviation<br>Non-Aviation | AR<br>P | AR<br>P | 5.87.6 | | Checklist | 200 | B | PMCS |
| *PREVENTIVE MAINTENANCE INSPECTION (AIRCRAFT ONLY)*<br>Aviation<br>Non-Aviation | R<br>P | R<br>P | 5.119 | | Checklist | 200 | D | preventive maintenance inspection |
| *MAINTENANCE* | R | R | 5.87.8 | | | | | |
| Inspect | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | AR | AR | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |



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| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | AR | AR | 5.87.8.1.4.3 | | Procedural | 310 | A | Pre-embarkation inspection |
| Inspection of installed items | AR | AR | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | AR | AR | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assemble procedure |
| Disassemble | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Ground handling | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |
| *OVERHAUL AND RETIREMENT SCHEDULE (AIRCRAFT ONLY)*<br>Aviation<br>Non-Aviation | <br><br>R<br>P | <br><br>R<br>P | 5.87.13 | | Descriptive | 288 | A | Overhaul and retirement schedule. |
| *LUBRICATION INSTRUCTION* | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *AIRCRAFT INVENTORY MASTER GUIDE (AIRCRAFT ONLY)* | | | 5.120 | | Descriptive | 102 | B | Aircraft inventory master guide |
| Aviation | R | R | | | | | | |
| Non-Aviation | P | P | | | | | | |
| *STORAGE OF AIRCRAFT (AIRCRAFT ONLY)* | | | 5.121 | | Procedural | 810 | B | Flyable storage of aircraft |
| | | | | | Procedural | 810 | F | Short storage of aircraft |
| Aviation | R | R | | | Procedural | 810 | G | Intermediate storage of aircraft |
| Non-Aviation | P | P | | | | | | |
| *WEIGHING AND LOADING (AIRCRAFT ONLY)* | | | 5.95.1 | | Procedural | 160 | B | Weighing and loading |
| Aviation | R | R | | | | | | |
| Non-Aviation | P | P | | | | | | |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | 5.97.2 | | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | 5.97.2 | Chapter PM | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **AMMUNITION MAINTENANCE INSTRUCTIONS** | | | 5.87.19 | | | | | |
| *AMMUNITION MAINTENANCE* | | | 5.87.19 | Chapter PM | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **AIRCRAFT PMS** | | | 5.117 | | | | | |
| *GENERAL INFORMATION* | | | 5.117 | Chapter PM | Descriptive | 010 | D | General information (Preventive maintenance) |
| *PMS/PMD INSPECTION* | | | 5.117 | | Checklist | 310 | E | PMS inspection |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| | | | | | Checklist | 310 | P | PMD inspection |
| **AIRCRAFT PHASED MAINTENANCE** | | | 5.118 | Chapter PM | | | | |
| *GENERAL INFORMATION* | | | 5.118 | | Descriptive | 010 | E | General information (Phased maintenance inspection) |
| *PM INSPECTION* | | | 5.118 | | Checklist | 310 | F | PM inspection |
| *GENERAL INSPECTION* | | | 5.118 | | | | | |
| *AIRCRAFT AREA INSPECTION* | | | 5.118 | | | | | |
| *AIRCRAFT POWER ON CHECKS* | | | 5.118 | | | | | |
| *AIRCRAFT FINAL INSPECTION* | | | 5.118 | | | | | |
| **PARTS INFORMATION** | R | R | 5.93 | Chapter PM | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEMS* | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *PART NUMBER INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **BATTLE DAMAGE ASSESSMENT AND REPAIR (BDAR)** | | | 5.102 | Chapter PM | | | | |
| *GENERAL INFORMATION* | | | 5.102.1.4 | | Descriptive | 018 | G | BDAR introduction |
| *ASSESSING BATTLEFIELD DAMAGE* | | | 5.102.1.5 | | | | | |
| General Fault Assessment Tables | | | 5.102.1.5 | | Descriptive | 410 | E | General fault assessment tables |
| *GENERAL REPAIR* | | | 5.102.1.6.1 | | | | | |
| Repair Procedure | | | 5.102.1.6.6 | | Procedural | PD | | |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *MAJOR FUNCTIONAL GROUPS* | | | 5.102.1.6.3 | | | | | |
| Repair Procedure | | | 5.102.1.6.6 | | Procedural | PD | | |
| *AUXILIARY EQUIPMENT* | | | 5.102.1.6.4 | | | | | |
| Repair Procedure | | | 5.102.1.6.6 | | Procedural | PD | | |
| Special or Fabricated Tools | | | 5.102.1.8 | | Descriptive | 605 | B | Support equipment and tools |
| Substitute Materials/Parts | | | 5.102.1.10 | | Descriptive | 607 | D | Substitute materials/parts |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE** *NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | | 5.101.3 | | | | | |
| Introduction | | | 5.101.3.1.6.2 | | | | | |
| Authorization | | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | | 5.101.3.1.6.4 | Chapter PM | Descriptive | 997 | D | Destruction general information |
| General Destruction Information | | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | | |
| Parts List | | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **SUPPORTING INFORMATION** | R | R | 5.106.1 | Chapter PM | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |



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**Table A-VIII. Field and Sustainment Maintenance Manual including Parts Information IETP requirements matrix for _____.**

| Content Requirement | M2B Req. | M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *INTRODUCTION FOR STANDARD FORMAT MAC*<br>Non –Aviation<br>Aviation | R | R | 5.94.1<br>5.94.2 | | Descriptive | 018 | D | MAC introduction |
| *MAINTENANCE ALLOCATION CHART (AVIATION)*<br>Non –Aviation<br>Aviation | P | R | 5.94.3 | | Schedule | 916 | B | Aviation MAC |
| *MAINTENANCE ALLOCATION CHART (NON-AVIATION)*<br>Non –Aviation<br>Aviation | R | P | 5.94.3 | | Schedule | 916 | A | MAC |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |
| *MANDATORY REPLACEMENT PARTS* | | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS*<br>Aviation<br>Non –Aviation | R<br>P | R<br>P | 5.93.17 | | Descriptive | 075 | E | Critical safety items (CSI) |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R R | | 5.128 | Front Matter PM | | | | |
| **GENERAL INFORMATION, DESCRIPTION AND THEORY OF OPERATION** | R | R R | | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R R | | 5.86.3 | | Descriptive | 010 | A | General Data |
| Scope | R | R R | | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R R | | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R R | | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | R | R | R | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | R R | | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR AR | | 5.86.3.1.8 | | | | | |
| Calibration | AR | AR | AR | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | AR | AR | AR | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | AR | AR | AR | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R R | | 5.86.4.1.2 | | Descriptive | 010 | B | General Information |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Equipment Improvement Recommendations (EIR) | R | R R | | 5.86.4.1.3 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R R | | 5.86.4.1.5 | | | | | |
| Warranty Information | AR | AR | AR | 5.86.4.1.6 | | | | | |
| Quality of Material | R | R R | | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | | 5.86.4.1.8 | | | | | |
| Quality Assurance (QA) | | | | 5.86.4.1.9 | | | | | |
| Critical Safety Items (CSI) (Aircraft Only) | | | | 5.86.4.1.10 | | | | | |
| Engineering Change Proposals (ECP) | R | R R | | 5.86.4.1.11 | | | | | |
| Modifications | | | | 5.86.4.1.12 | | | | | |
| Deviations and Exceptions | R | R R | | 5.86.4.1.13 | | | | | |
| Mobilization Requirements | R | R R | | 5.86.4.1.14 | | | | | |
| Cost Considerations | R | R R | | 5.86.4.1.15 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R R | | 5.86.5 | | Descriptive | 000 | B | Equipment Description and Data |
| Equipment Characteristics, Capabilities, and Features | R | R R | | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components | R | R R | | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R R | | 5.86.5.1.5 | | | | | |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the Use, Transportation, Handling, Storage, or Disposal |
| *THEORY OF OPERATION* | AR | AR AR | | 5.86.6 | | Descriptive | 042 | F | Theory of Operation |
| **TROUBLESHOOTING PROCEDURES** | R | R R | | 5.88.1.18<br>5.88.8.1.8 | Chapter PM | | | | |
| *INTRODUCTION* | | | | 5.115.4.1.6 | | Descriptive | 018 | C | Troubleshooting Introduction |
| *TECHNICAL DESCRIPTION* | | | | 5.116 | | Descriptive | 011 | C | Technical Description |
| Equipment Description and Data | R | R | R | 5.116.1.2 | | | | | |
| Controls and Indicators | | | | 5.116.1.3 | | | | | |
| Theory of Operation | | | | 5.116.1.4 | | | | | |
| *TROUBLESHOOTING INDEX* | | | | 5.88.4 | | Descriptive | 410 | F | Malfunction Index |
| | | | | | | Descriptive | 410 | B | Symptom Index |
| | | | | | | Descriptive | 410 | C | System/Subsystem Index |
| *PRESHOP ANALYSIS* | R | R | R | 5.88.5 | | Procedural | 341 | C | Preshop Analysis |
| *COMPONENT CHECKLIST* | | | | 5.88.6 | | Descriptive | 341 | B | Component Checklist |
| *OPERATIONAL CHECKOUT* | | | | 5.88.7 | | 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 Checkout Shutdown Procedures |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *TROUBLESHOOTING PROCEDURES* | | | | 5.88.1.18 | | 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 Shutdown Procedures |
| *DIAGNOSTICS* | | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **MAINTENANCE INSTRUCTIONS** | R | R R | | 5.87 | Chapter PM | | | | |
| *MAINTENANCE* | R | R R | | 5.87.8 | | | | | |
| Inspect | AR | AR AR | | 5.87.8.1.4 | | 1 | | | |
| Test and inspection | AR | AR AR | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | P | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual Examinations |
| Pre-embarkation inspection | AR | AR AR | | 5.87.8.1.4.3 | | Procedural | 310 | A | Pre-embarkation Inspection |
| Inspection of installed items | AR | AR AR | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | AR | AR AR | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR AR | | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR AR | | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR AR | | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR AR | | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR AR | | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Remove | AR | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation Procedure |
| Assemble and prepare for use | AR | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assemble Procedure |
| Disassemble | AR | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio Interference Suppression |
| Place in service | AR | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing In Service |
| Ground handling | AR | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| External power | AR | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | | | | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | | 5.87.10 | | Procedural | PD | | |
| *OVERHAUL AND RETIREMENT SCHEDULE (AIRCRAFT ONLY)* | AR | AR | AR | | | Descriptive | 288 | A | Overhaul and retirement schedule. |
| *LUBRICATION INSTRUCTIONS* | | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *FACILITIES* | | | | 5.87.12 | | Descriptive | 915 | A | Facilities |
| *OVERHAUL INSPECTION PROCEDURES (OIP)* | | | | 5.87.14 | | Procedural | 310 | C | Overhaul Inspection Procedures |
| *DEPOT MOBILIZATION REQUIREMENTS* | | | | 5.87.15 | | Descriptive | 800 | K | Depot Mobilization Requirements |
| *QUALITY ASSURANCE REQUIREMENTS* | R | R R | | 5.87.16 | | Descriptive | 315 | A | Quality Assurance Requirements |
| *ILLUSTRATION LIST OF MANUFACTURED ITEMS* | | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *AIRCRAFT INVENTORY MASTER GUIDE (AIRCRAFT ONLY)* | | | | 5.120 | | Descriptive | 102 | B | Aircraft Inventory Master Guide |
| *STORAGE OF AIRCRAFT (AIRCRAFT ONLY)* | | | AR | | | Procedural | 810 | B | Flyable Storage of Aircraft |
| | | | | | | Procedural | 810 | F | Short Storage of Aircraft |
| | | | | | | Procedural | 810 | G | Intermediate Storage of Aircraft |
| *WIRING DIAGRAMS* | | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |
| **AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | | Chapter PM | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | | 5.97.2 | | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |
| *WIRING DIAGRAMS* | | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |
| **AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | | | 5.87.19 | | Procedural | 200 | K | Ammunition Maintenance |
| *AMMUNITION MARKING INFORMATION* | | | | 5.87.3.1.9<br>5.87.8.1.18<br>5.87.20 | | Procedural | 067 | C | Ammunition Marking |
| *FOREIGN AMMUNITION (NATO)* | | | | 5.87.21 | | Procedural | 011 | B | Foreign Ammunition |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **PARTS INFORMATION**<br>DMWR, NMWR<br>DMWR w/Parts, NMWR w/Parts | P<br>R | P<br>R | P<br>R | | | | | | |
| *INTRODUCTION* | R | R R | | 5.93.4 | | Descriptive | 018 | E | Parts Introduction |
| *REPAIR PARTS LIST* | R | R R | | 5.93.5<br>5.97.3.1.4.10<br>5.122.1.11.3 | | IPD | 607 | E | Repair Parts Information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | | 5.93.7 | Chapter PM | IPD | 607 | B | Repair Parts for Special Tools |
| *KIT PARTS LIST* | | | | 5.93.8 | | IPD | 607 | C | Kit Parts List |
| *BULK ITEMS* | | | | 5.93.9 | | IPD | 603 | B | Bulk Items |
| *SPECIAL TOOLS LIST* | | | | 5.93.10 | | IPD | 604 | B | Special Tools List |
| *NSN INDEX* | R | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross Reference Index |
| *PART NUMBER INDEX* | R | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **SUPPORTING INFORMATION** | R | R R | | 5.106.1 | | | | | |
| *REFERENCES* | R | R R | | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R R | | 5.93.15 | | Descriptive | 070 | D | Expendable and Durable Items List |
| *TOOL IDENTIFICATION LIST* | R | R R | | 5.103.1 | Chapter PM | Descriptive | 062 | B | Tool Identification List |
| *MANDATORY REPLACEMENT PARTS* | R | R R | | 5.93.16 | | Descriptive | 075 | D | Mandatory Replacement Parts |
| *CRITICAL SAFETY ITEMS (CSI)* | R | R R | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |



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**TABLE A-IX. DMWR & NMWR IETP requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | DWO & DOR Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *SUPPORT ITEMS* | | | | 5.97.5.1.5.2.4<br>5.106.1.1.3<br>5.122.1.17 | | Descriptive | 061 | B | Support Equipment and Tools |
| *ADDITIONAL SUPPORTING INFORMATION* | | | | 5.106.1.1.4 | | Descriptive | PD | | |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | R | R | R | 5.86.3.1.6 | | | | | |
| List of Abbreviations/ Acronyms | R | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | | | | 5.86.3.1.8 | | | | | |
| Calibration | | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | P | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | AR | AR | AR | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Equipment Improvement Recommendations (EIR) | R | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | | 5.86.4.1.6 | | | | | |
| Quality of Material | P | R | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | AR | AR | AR | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | R | 5.86.5 | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | R | R | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components | R | R | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | R | R | R | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | R | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. OPERATOR INSTRUCTIONS** | R | R | R | 5.85 | Chapter PM | | | | |
| *DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATOR* | R | R | R | 5.85.3 | | Descriptive | 111 | A | Controls and indicators |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *OPERATION UNDER USUAL CONDITIONS* | R | R | R | 5.85.4 | | | | | |
| Security Measures for Electronic Data | AR | AR | AR | 5.85.4.1.2 | | Descriptive | 990 | D | Security measures for electronic data |
| Siting | AR | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter | AR | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Assembly and Preparation for Use | AR | AR | AR | 5.85.4.1.5 | | Procedural | 710 | B | Assembly and preparation for use |
| Initial Adjustments, Before Use and Self-Test | AR | AR | AR | 5.85.4.1.6 | | Procedural | 121 | B | Initial adjustments, before use and self-test |
| Operating Procedures | R | R | R | 5.85.4.1.7 | | Procedural | 131 | A | Normal operation procedures |
| Operating Auxiliary Equipment | AR | AR | AR | 5.85.4.1.9 | | Procedural | 131 | A | Normal operation procedures |
| Preparation for Movement | AR | AR | AR | 5.85.4.1.10 | | Procedural | 131 | S | Preparation for movement |
| Decals and Instruction Plates | AR | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and instruction plates |
| *OPERATION UNDER UNUSUAL CONDITIONS* | R | R | R | 5.85.5 | | | | | |
| Security Measures for Electronic Data | AR | AR | AR | 5.85.5.1.1 | | Descriptive | 990 | C | Security measures for electronic data (Unusual conditions) |
| Unusual Environment / Weather | R | R | R | 5.85.5.1.2 | | Procedural | 142 | B | Unusual environment/weather |
| Fording and Swimming | AR | AR | AR | 5.85.5.1.3 | | Procedural | 131 | R | Fording and swimming |
| Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures | AR | AR | AR | 5.85.5.1.4 | | Procedural | 139 | B | Interim Chemical, Biological, Radiological, and Nuclear (CBRN) decontamination procedures |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Jamming and Electronic Countermeasures (ECM) Procedures | AR | AR | AR | 5.85.5.1.5 | | Procedural | 144 | A | Jamming and Electronic Countermeasures (ECM) procedures |
| Degraded Operation Procedures | AR | AR | AR | 5.85.5.1.6 | | Procedural | 142 | C | Degraded operation procedures |
| Decals and Instruction Plates | AR | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and Instruction Plates |
| *EMERGENCY* | | | | 5.85.6 | | Procedural | 140 | B | Operation under emergency conditions |
| *STOWAGE AND DECAL / DATA PLATE GUIDE* | | | | 5.85.7 | | Descriptive | 067 | B | Stowage and Decal / Data plate guide |
| *ON-VEHICLE EQUIPMENT LOADING PLAN* | | | | 5.99.1.1 | | Descriptive | 160 | C | On-vehicle equipment loading plan |
| **CHAPTER X. TROUBLESHOOTING MASTER INDEX** | | | | 5.88.4.1.4 | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | | | | 5.88.4.1.4 | | Descriptive | 410 | D | Master index |
| **CHAPTER X. TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included.* | | R | R | 5.88 | Chapter PM | | | | |
| *TROUBLESHOOTING INTRODUCTION* | | | | 5.88.3 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TROUBLESHOOTING INDEX* | | | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | | | Descriptive | 410 | B | Symptom index |
| | | | | | | Descriptive | 410 | C | System/subsystem index |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **OPERATIONAL CHECKOUT* | AR | AR | AR | 5.88.7 | | 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 |
| **TROUBLESHOOTING PROCEDURES* | AR | AR | AR | 5.88.8 | | Descriptive | 018 | C | Troubleshooting introduction |
| | | | | | | Procedural | PD | | |
| | | | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | | | Fault | 421 | B | Troubleshooting procedure |
| | | | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | AR | AR | AR | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **CHAPTER X. PMCS MAINTENANCE INSTRUCTIONS** *NOTE: PMCS is required as a minimum in one maintenance chapter.* | R | R | R | 5.87.4 | Chapter PM | | | | |
| *PMCS INTRODUCTION* | R | R | R | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS, INCLUDING LUBRICATION INSTRUCTIONS* | R | R | R | 5.87.6 | | Checklist | 200 | B | PMCS |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** *NOTE: PMCS is required as a minimum in one maintenance chapter.* | R | R | R | 5.87 | | | | | |
| *SERVICE UPON RECEIPT* | R | R | R | 5.87.3 | | | | | |
| Siting | AR | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | R | R | R | 5.87.3.1.2 | | | | | |
| Unpacking | R | R | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | R | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | R | R | 5.87.3.1.2.3 | Chapter PM | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | R | R | R | 5.87.3.1.3 | | | | | |
| Assembly of equipment | R | R | R | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | R | R | R | 5.87.3.1.3.2 | | Procedural | 710 | A | Install procedure |
| Special application installation instructions | R | R | R | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | R | R | R | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | AR | AR | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | AR | AR | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Preliminary calibration of equipment | AR | AR | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | AR | AR | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | AR | AR | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | AR | AR | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | AR | AR | AR | 5.87.3.1.12 | | Procedural | 276 | G | Procedures to activate ammunition |
| Additional maintenance task | P | AR | AR | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | P | AR | AR | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT / USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | AR | AR | AR | 5.97.1 | | Procedural | 913 | B | Equipment/User fitting instructions |
| *PMCS INTRODUCTION* | R | R | R | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS* | R | R | R | 5.87.6 | | Checklist | 200 | B | PMCS |
| *MAINTENANCE* | R | R | R | 5.87 | | | | | |
| Inspect | AR | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | AR | AR | AR | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | P | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | AR | AR | AR | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | AR | AR | AR | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Inspection-acceptance and rejection criteria | AR | AR | AR | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Parking | AR | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | 5.97.2 | Chapter PM | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | | 5.97.2 | | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | 5.87.19 | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | | | 5.87.19 | | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | | | 5.87.21 | | Procedural | 011 | C | Foreign ammunition |
| **CHAPTER X. PARTS INFORMATION** | | | | 5.93 | Chapter PM | | | | |
| Operator, Field and Sustainment Manuals | P | P | P | | | | | | |
| Operator, Field and Sustainment Manuals with parts | P | R | R | | | | | | |
| *INTRODUCTION* | P | R | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | P | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *REPAIR PARTS FOR SPECIAL TOOLS* | P | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | P | | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEM* | P | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | P | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | P | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | P | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | P | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE**<br>*NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | | | 5.101.3 | Chapter PM | | | | |
| Introduction | | | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | | | 5.101.3.1.6.7 | | | | | |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | | | |
| Parts List | | | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | R | | | | | | |
| *REFERENCES* | R | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *INTRODUCTION FOR NON-AVIATION MAC* | P | R | R | 5.94.1 | | Descriptive | 018 | D | MAC introduction |
| *MAINTENANCE ALLOCATION CHART* | P | R | R | 5.94.3 | | Schedule | 916 | A | MAC |
| *COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS* | R | R | R | 5.93.12<br>5.93.13 | | Descriptive | 105 | D | Components of End Item (COEI) list |
| | | | | | | Descriptive | 105 | C | Basic Issue Items (BII) list |
| *ADDITIONAL AUTHORIZATION LIST (AAL)* | | | | 5.93.14 | Chapter PM | Descriptive | 104 | C | Additional Authorization List (AAL) |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |
| *MANDATORY REPLACEMENT PARTS* | | | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS* | | | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |



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**Table A-X. Operator's Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *ADDITIONAL SUPPORTING INFORMATION* | | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | 5.86.3.1.6 | | | | | |
| List of Abbreviations | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | 5.86.3.1.8 | | | | | |
| Calibration | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | 5.86.4.1.8 | | | | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Quality Assurance<br>Non-aviation<br>Aviation | <br>P<br>R | 5.86.4.1.9 | | | | | |
| Critical Safety Items<br>Non-Aviation<br>Aviation | <br>P<br>R | 5.86.4.1.10 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | 5.86.5 | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. TROUBLESHOOTING MASTER INDEX** | | | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | | 5.88.4.1.4 | | Descriptive | 410 | D | Master Index |
| **CHAPTER X. TROUBLESHOOTING PROCEDURES**<br>*NOTE: The notation (*) indicates that at least one of these content items shall be included.* | R | 5.88 | Chapter PM | | | | |
| *INTRODUCTION* | | 5.88.8.1.2 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TROUBLESHOOTING INDEX* | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | Descriptive | 410 | B | Symptom index |
| | | | | Descriptive | 410 | C | System/Subsystem index |
| **OPERATIONAL CHECKOUT* | | 5.88.7 | | Descriptive | 018 | V | Operational checkout introduction |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | Procedural | 320 | C | Operational checkout test procedure |
| | | | | Descriptive | 410 | G | Message index |
| | | | | Descriptive | 410 | J | Fault code reference index |
| | | | | Procedural | 334 | C | Post-operational checkout shutdown procedures |
| **TROUBLESHOOTING PROCEDURES* | | 5.88.1.18 | | 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 shutdown procedures |
| **DIAGNOSTICS* | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **CHAPTER X. PMCS MAINTENANCE INSTRUCTIONS** | | | Chapter PM | | | | |
| *PMCS INTRODUCTION* Non-aviation / Aviation | AR / P | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS, INCLUDING LUBRICATION INSTRUCTIONS* Non-aviation / Aviation | AR / P | 5.87.6 | | Checklist | 200 | B | PMCS |
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** | R | | Chapter PM | | | | |
| *SERVICE UPON RECEIPT( FIELD LEVEL ONLY)* | P | 5.87.3 | | | | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *EQUIPMENT / USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | 5.97.1 | | Procedural | 913 | B | Equipment/User fitting instructions |
| *PREVENTIVE MAINTENANCE INSPECTION*<br>Non-Aviation<br>Aviation | <br><br>P<br>R | 5.119 | | Checklist | 200 | D | Preventive maintenance inspection |
| *MAINTENANCE* | R | 5.87.8 | | | | | |
| Inspect | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Unpack | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | 5.87.8.1.29 | | | | | |
| Towing | | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | 5.87.9 | | Procedural | PD | | |
| *OVERHAUL AND RETIREMENT SCHEDULE*<br>Non-Aviation<br>Aviation | <br>P<br>R | 5.87.13 | | Descriptive | 288 | A | Overhaul and retirement schedule |
| *GENERAL MAINTENANCE* | | 5.87.10 | | Procedural | PD | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *LUBRICATION INSTRUCTIONS* | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *AIRCRAFT INVENTORY MASTER GUIDE*<br>Non-Aviation<br>Aviation | P | 5.120 | | Descriptive | 102 | B | Aircraft inventory master guide |
| *STORAGE OF AIRCRAFT*<br>Non-Aviation<br>Aviation | P | 5.121 | | Procedural | 810 | B | Flyable storage of aircraft |
| | | | | Procedural | 810 | F | Short storage of aircraft |
| | | | | Procedural | 810 | G | Intermediate storage of aircraft |
| *WEIGHING AND LOADING*<br>Non-Aviation<br>Aviation | P<br>R | 5.95.1 | | Procedural | 106 | B | Weighing and loading |
| *WIRING DIAGRAMS* | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | 5.97.2 | Chapter PM | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS** | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | 5.87.19 | | Procedural | 200 | K | Ammunition maintenance |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *AMMUNITION MARKING INFORMATION* | | 5.87.3.1.9<br>5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **AIRCRAFT PMS/PMD** | | | Chapter PM | | | | |
| *GENERAL INFORMATION* | | 5.86.7 | | Descriptive | 010 | D | General information |
| *PMS/PMD INSPECTION* | | 5.117 | | Checklist | 310 | E | PMS inspection |
| | | | | Checklist | 310 | P | PMD inspection |
| **AIRCRAFT PHASED MAINTENANCE** | | | Chapter PM | | | | |
| *GENERAL INFORMATION* | | 5.86.8 | | Description | 010 | E | General information |
| *PM INSPECTION* | | 5.118 | | Checklist | 310 | F | PM inspection |
| **CHAPTER X. PARTS INFORMATION**<br>w/out parts<br>w/parts | <br><br>P<br>R | | Chapter PM | | | | |
| *INTRODUCTION* | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | 5.93.5<br>5.97.3.1.4.10 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEMS* | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **DESTRUCTION TO PREVENT ENEMY USE**<br>*NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | 5.101.3 | Chapter PM | | | | |
| Introduction | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | 5.101.3.1.6.3 | | | | | |
| Reporting Destruction | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | |
| Parts List | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures – Classified equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | | Chapter PM | | | | |
| *REFERENCES* | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *EXPENDABLE AND DURABLE ITEMS* | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |
| *MANDATORY REPLACEMENT PARTS* | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS*<br>Non-Aviation<br>Aviation | P | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |
| *ADDITIONAL SUPPORTING INFORMATION* | | 5.106.1.1.4 | | Descriptive | PD | | |



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**Table A-XI. Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General Information |
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | R | 5.86.4.1.7 | | | | | |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.5 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | Descriptive | 000 | B | Equipment description and data |
| Location and Description of Major Components | R | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. TROUBLESHOOTING MASTER INDEX** | | | | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | R | R | 5.88.4.1.4 | | Descriptive | 410 | D | Master index |
| **CHAPTER X. TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of the these content items shall be included.* | R | R | | | | | | |
| *TROUBLESHOOTING INTRODUCTION* | | | 5.88.3 | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | | Descriptive | 410 | B | Symptom index |
| | | | | | Descriptive | 410 | C | System/subsystem index |
| **OPERATIONAL CHECKOUT* | | | 5.88.7 | | Descriptive | 018 | V | Operational checkout introduction |
| | | | | | Procedural | 331 | B | Pretest setup procedures |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| | | | | | 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 |
| **TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | Descriptive | 018 | C | Troubleshooting introduction |
| | | | | | Procedural | PD | | |
| | | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | | Fault | 421 | B | Troubleshooting procedure |
| | | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **CHAPTER X. PMCS MAINTENANCE INSTRUCTIONS** *NOTE: PMCS is required as a minimum in one maintenance chapter.* | | | | Chapter PM | | | | |
| *PMCS INTRODUCTION* | AR | AR | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |
| *PMCS, INCLUDING LUBRICATION INSTRUCTIONS* | AR | AR | 5.87.6 | | Checklist | 200 | B | PMCS |
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** | R | R | | Chapter PM | | | | |
| *SERVICE UPON RECEIPT* | R | R | 5.87.3 | | | | | |
| Siting | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | R | R | 5.87.3.1.2 | | | | | |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Unpacking | R | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | R | R | 5.87.3.1.3 | | | | | |
| Assembly of equipment | R | R | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | R | R | 5.87.3.1.3.2 | | Procedural | 720 | A | Install procedure |
| Special application installation instructions | R | R | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | R | R | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | AR | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | AR | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | AR | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | AR | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | AR | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | AR | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | AR | AR | 5.87.3.1.12 | | Procedural | 276 | G | Procedures to activate ammunition |
| Additional maintenance task | AR | AR | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT / USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | | 5.97.1 | | Procedural | 913 | B | Equipment/user fitting instructions |
| *PMCS INTRODUCTION* | AR | AR | 5.87.5 | | Descriptive | 018 | F | PMCS introduction |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *PMCS, INCLUDING LUBRICATION INSTRUCTIONS* | AR | AR | 5.87.6 | | Checklist | 200 | B | PMCS |
| *MAINTENANCE* | R | R | 5.87.8 | | | | | |
| Inspect | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | AR | AR | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | AR | AR | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | AR | AR | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | AR | AR | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | AR | AR | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | 5.87.8.1.11 | | Procedural | 720 | G | Install procedure |
| Replace | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | 5.87.8.1.16 | | Procedural | 664 | A | Rebuild |
| Lubricate | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Assemble | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | 5.97.2 | | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | | 5.87.19 | | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | | 5.87.21 | | Procedural | 011 | B | Foreign Ammunition |
| **CHAPTER X. PARTS INFORMATION** w/out parts / w/ parts | P / R | P / R | | Chapter PM | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit parts list |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *BULK ITEMS* | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE**<br>*NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | | 5.101.3 | Chapter PM | | | | |
| Introduction | | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | | |
| Parts List | | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | | Chapter PM | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *MAC INTRODUCTION* | R | R | 5.94.1<br>5.94.2 | | Descriptive | 018 | D | MAC introduction |



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**Table A-XII. Field and Sustainment Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B & M2P Req. | MM4, M4B & M4P Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *MAINTENANCE ALLOCATION CHART* | R | R | 5.94.3 | | Schedule | 916 | A | MAC |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | | 5.103.1 | | Descriptive | 062 | B | Tool identification List |
| *MANDATORY REPLACEMENT PARTS* | | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS (CSI)* | | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |
| *SUPPORT EQUIPMENT AND TOOLS (SUPPORT ITEMS)* | | | 5.106.1.1.3 | | Descriptive | 061 | B | Special equipment and tools |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | 5.86.3.1.8 | | | | | |
| Calibration | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | 5.86.4 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | 5.86.4.1.8 | | | | | |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Quality Assurance (QA) | | 5.86.4.1.9 | | | | | |
| Critical Safety Items (CSI) (aircraft only) | R | 5.86.4.1.10 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | R | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **TROUBLESHOOTING MASTER INDEX** | | | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | R | 5.88.4.1.4 | | Descriptive | 410 | D | Master index |
| **TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that at least one of these content items shall be included.* | R | | Chapter PM | | | | |
| *TROUBLESHOOTING INDEX* | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | Descriptive | 410 | B | Symptom index |
| | | | | Descriptive | 410 | C | System/Subsystem index |
| **OPERATIONAL CHECKOUT* | | 5.88.7 | | 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 checkout shutdown procedures |
| **TROUBLESHOOTING* | | 5.88.1.18 | | Descriptive | 018 | C | Troubleshooting introduction |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *PROCEDURES* | | | | Procedural | PD | | General troubleshooting procedures and precautions |
| | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | Fault | 421 | B | Troubleshooting procedure |
| | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **AIRCRAFT MAINTENANCE INSTRUCTIONS** | R | | Chapter PM | | | | |
| *SERVICE UPON RECEIPT* | R | 5.87.3 | | | | | |
| Siting | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | R | 5.87.3.1.2 | | | | | |
| Unpacking | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | AR | 5.87.3.1.3 | | | | | |
| Assembly of equipment | AR | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | AR | 5.87.3.1.3.2 | | Procedural | 710 | A | Install procedure |
| Special application installation instructions | AR | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | AR | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Classification of defects | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | AR | 5.87.3.1.12 | | Procedural | 120 | G | Procedures to activate ammunition |
| Additional maintenance task | AR | 5.87.3.1.13 | | Procedural | PD | | |
| Follow-on maintenance | AR | 5.87.9 | | Procedural | PD | | |
| *EQUIPMENT / USER FITTING INSTRUCTIONS (PERSONAL USE EQUIPMENT)* | | 5.97.1 | | Procedural | 913 | B | Equipment/User fitting instructions |
| *PREVENTIVE MAINTENANCE INPECTION* | | 5.119 | | Procedural | 200 | D | Preventive maintenance inspection |
| *MAINTENANCE* | R | 5.87.8 | | | | | |
| Inspect | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Rebuild | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | 5.87.9 | | Procedural | PD | | |
| *ADDITIONAL MAINTENANCE TASK* | AR | 5.87.8.2 | | Procedural | PD | | |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *FOLLOW-ON MAINTENANCE* | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | 5.87.10 | | Procedural | PD | | |
| *OVERHAUL AND RETIREMENT SCHEDULE (AIRCRAFT ONLY)* | R | 5.87.13 | | Procedural | 288 | A | Overhaul and retirement schedule. |
| *LUBRICATION INSTRUCTIONS* | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *AIRCRAFT INVENTORY MASTER GUIDE* | | 5.120 | | Descriptive | 102 | B | Aircraft inventory master guide |
| *STORAGE OF AIRCRAFT (AIRCRAFT ONLY)* | | | | Procedural | 810 | B | Flyable storage of aircraft |
| | | | | Procedural | 810 | F | Short storage of aircraft |
| | | | | Procedural | 810 | G | Intermediate storage of aircraft |
| *WEIGHING AND LOADING* | R | 5.95.1 | | Procedural | 160 | B | Weighing and loading |
| *WIRING DIAGRAMS* | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | 5.97.2 | Chapter PM | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | | | | |
| *AMMUNITION MAINTENANCE* | | 5.87.19 | Chapter PM | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | 5.87.3.1.9<br>5.87.8.1.18<br>5.87.20 | | Procedural | 067 | C | Ammunition marking |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *FOREIGN AMMUNITION (NATO)* | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **PARTS INFORMATION**<br>Field and Field Sustainment<br>Field w/Parts and Field Sustainment w/Parts | <br>P<br>R | | Chapter PM | | | | |
| *INTRODUCTION* | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | 5.93.5<br>5.97.3.1.4.10<br>5.122.1.11.3 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | 5.93.8 | | IPD | 607 | C | Kit Parts list |
| *BULK ITEMS* | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE**<br>*NOTE: If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | 5.101.3 | Chapter PM | | | | |
| Introduction | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | 5.101.3.1.6.7 | | | | | |



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**Table A-XIII. Aviation Field Maintenance Manual (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | MM2, M2B, MM4 & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | |
| Parts List | | 5.101.3.1.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - Classified equipment |
| **SUPPORTING INFORMATION** | R | | | | | | |
| *REFERENCES* | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *INTRODUCTION FOR AVIATION MAC* | R | 5.94.1<br>5.94.2 | | Descriptive | 018 | D | MAC introduction |
| Maintenance Allocation Chart | R | | | Schedule | 916 | B | Aviation MAC |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | 5.93.15 | Chapter PM | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |
| *MANDATORY REPLACEMENT PARTS* | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS (CSI)* | | 5.93.17 | | Descriptive | 075 | E | Critical safety items (CSI) |
| *ADDITIONAL SUPPORTING INFORMATION* | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XIV. Parts and Special Tools List (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | M0P Req. | Ref. | PM Type | Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. REPAIR PARTS AND SPECIAL TOOLS LIST FOR (ENTER EQUIPMENT NAME)** | R | 5.93 | Chapter PM | | | | |
| *INTRODUCTION* | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | 5.93.5<br>5.97.3.1.4.10 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEMS* | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | AR | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General Data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General Information |
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |
| Quality Assurance (QA) | | | 5.86.4.1.9 | | | | | |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Critical Safety Items (CSI) (Aircraft Only) | | | 5.86.4.1.10 | | | | | |
| Engineering Change Proposals (ECP) | R | R | 5.86.4.1.11 | | | | | |
| Modifications | | | 5.86.4.1.12 | | | | | |
| Deviations and Exceptions | R | R | 5.86.4.1.13 | | | | | |
| Mobilization Requirements | R | R | 5.86.4.1.14 | | | | | |
| Cost Considerations | R | R | 5.86.4.1.15 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.5 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | Descriptive | 000 | B | Equipment Description and Data |
| Location and Description of Major Components | R | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the Use, Transportation, Handling, Storage, or Disposal |
| *THEORY OF OPERATION* | AR | AR | 5.86.6 | | Descriptive | 042 | F | Theory of Operation |
| **CHAPTER X. DMWR/NMWR TROUBLESHOOTING PROCEDURES** | R | R | 5.88 | | | | | |
| *TROUBLESHOOTING INDEX* | | | 5.88.3 | Chapter PM | Descriptive | 410 | F | Malfunction Index |
| | | | | | Descriptive | 410 | B | Symptom Index |
| | | | | | Descriptive | 410 | C | System/ Subsystem Index |
| *PRESHOP ANALYSIS* | R | R | 5.88.5 | | Procedural | 341 | C | Preshop Analysis |
| *COMPONENT CHECKLIST* | | | 5.88.6 | | Descriptive | 341 | B | Component Checklist |
| *OPERATIONAL CHECKOUT* | | | 5.88.7 | | Descriptive | 018 | V | Operational checkout introduction |
| | | | | | Procedural | 331 | B | Pretest Setup Procedures |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| | | | | | 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 |
| *TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | 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 Shutdown Procedures |
| **CHAPTER X. TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included.* | | | | | | | | |
| *TROUBLESHOOTING INDEX* | | | 5.88.4.1.4 | | Descriptive | 410 | D | Master Index |
| **OPERATIONAL CHECKOUT* | | | 5.88.7 | Chapter PM | Procedural | 331 | B | Pretest Setup Procedures |
| **TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | 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 Shutdown Procedures |
| **DIAGNOSTICS* | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. DEPOT MAINTENANCE INSTRUCTIONS** | R | R | | | | | | |
| *MAINTENANCE :* | R | R | | | | | | |
| Inspect | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | P | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | 5.87.8.1.6 | Chapter PM | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Assemble | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |
| *OVERHAUL AND RETIREMENT SCHEDULE (AIRCRAFT ONLY)* | R | R | 5.87.13 | | Procedural | 288 | A | Overhaul and retirement schedule. |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *LUBRICATION INSTRUCTIONS* | | | 5.87.11 | | Procedural | 240 | B | Lubrication Instructions |
| *FACILITIES* | | | 5.87.12 | | Descriptive | 915 | A | Facilities |
| *OVERHAUL INSPECTION PROCEDURES* | | | 5.87.14 | | Procedural | 310 | C | Overhaul Inspection Procedures |
| *DEPOT MOBILIZATION REQUIREMENTS* | | | 5.87.15 | | Descriptive | 800 | K | Depot Mobilization Requirements |
| *QUALITY ASSURANCE REQUIREMENTS* | R | R | 5.87.16 | | Descriptive | 315 | A | Quality Assurance Requirements |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |
| *AIRCRAFT INVENTORY MASTER GUIDE (AIRCRAFT ONLY)* | | | 5.120 | | Descriptive | 102 | B | Aircraft Inventory Master Guide |
| *STORAGE OF AIRCRAFT (AIRCRAFT ONLY)* | | | 5.121 | | Procedural | 810 | B | Flyable Storage of Aircraft |
| | | | | | Procedural | 810 | F | Short Storage of Aircraft |
| | | | | | Procedural | 810 | G | Intermediate Storage of Aircraft |
| *WEIGHING AND LOADING (AIRCRAFT ONLY)* | | | 5.95.1 | | Procedural | 160 | B | Weighing and Loading |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |
| **CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | 5.97.2 | Chapter PM | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| *AMMUNITION MAINTENANCE* | | | 5.87.19 | | Procedural | 200 | K | Ammunition Maintenance |
| *AMMUNITION MARKING INFORMATION* | | | 5.87.3.1.9<br>5.87.8.1.18<br>5.87.20 | | Procedural | 067 | C | Ammunition Marking |
| *FOREIGN AMMUNITION (NATO)* | | | 5.87.21 | | Procedural | 011 | B | Foreign Ammunition |
| **CHAPTER X. PARTS INFORMATION** | | | | Chapter PM | | | | |
| DMWR, NMWR | P | P | | | | | | |
| DMWR With Parts, NMWR With Parts | R | R | | | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | | Descriptive | 018 | E | Parts Introduction |
| *REPAIR PARTS LIST* | R | R | 5.93.5<br>5.97.3.1.4.10<br>5.122.1.11.3 | | IPD | 607 | E | Repair Parts Information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair Parts for Special Tools |
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit Parts List |
| *BULK ITEMS* | | | 5.93.9 | | IPD | 603 | B | Bulk Items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special Tools List |
| *NSN INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross Reference Index |
| *P/N INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | | Chapter PM | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and Durable Items List |



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**Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWR & DWP Req. | NWR & NWP Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *TOOL IDENTIFICATION LIST* | | | 5.103.1 | | Descriptive | 062 | B | Tool Identification List |
| *MANDATORY REPLACEMENT PARTS* | | | 5.93.16 | | Descriptive | 075 | D | Mandatory Replacement Parts |
| *CRITICAL SAFETY ITEMS (CSI)* | | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/Acronyms | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |
| Quality Assurance (QA) | | | 5.86.4.1.9 | | | | | |
| Critical Safety Items (CSI) (Aircraft Only) | | | 5.86.4.1.10 | | | | | |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Engineering Change Proposals (ECP) | R | R | 5.86.4.1.11 | | | | | |
| Modification list | | | 5.86.4.1.12 | | | | | |
| Deviations and Exceptions | R | R | 5.86.4.1.13 | | | | | |
| Mobilization Requirements | R | R | 5.86.4.1.14 | | | | | |
| Cost Considerations | R | R | 5.86.4.1.15 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.5 | | Descriptive | 000 | B | Equipment description and data |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | | | | |
| Location and Description of Major Components | R | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | AR | AR | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that, if required, at least one of these content items shall be included* | | | 5.88 | | | | | |
| *INTRODUCTION* | | | 5.88.3 | Chapter PM | Descriptive | 018 | C | Troubleshooting introduction |
| *TROUBLESHOOTING INDEX* | | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | | Descriptive | 410 | B | Symptom index |
| | | | | | Descriptive | 410 | C | System/ subsystem index |
| *PRESHOP ANALYSIS* | R | R | 5.88.5 | | Procedural | 341 | C | Preshop analysis |
| *COMPONENT CHECKLIST* | | | 5.88.6 | | Descriptive | 341 | B | Component checklist |
| **OPERATIONAL CHECKOUT* | | | 5.88.7 | | Descriptive | 018 | V | Operational checkout introduction |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| | | | | | 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 |
| **TROUBLESHOOTING PROCEDURES* | | | 5.88.1.18 | | Descriptive | 018 | C | Troubleshooting introduction |
| | | | | | Procedural | PD | | |
| | | | | | Procedural | 331 | B | Pretest setup procedures |
| | | | | | Fault | 421 | B | Troubleshooting procedure |
| | | | | | Procedural | 334 | B | Post-troubleshooting shutdown procedures |
| **DIAGNOSTICS* | | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **CHAPTER X. DEPOT MAINTENANCE INSTRUCTIONS** | R | R | | | | | | |
| *MAINTENANCE* | R | R | 5.87.8 | | | | | |
| Inspect | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | | | 5.87.8.1.4 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | P | P | 5.87.8.1.4.2 | Chapter PM | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Remove | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | A | Parking |
| Mooring | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Preparation for shipment and storage | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | 5.87.8.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *FACILITIES* | | | 5.87.12 | | Descriptive | 915 | A | Facilities |
| *OVERHAUL INSPECTION PROCEDURES* | | | 5.87.14 | | Procedural | 310 | C | Overhaul inspection procedures |
| *DEPOT MOBILIZATION REQUIREMENTS* | R | R | 5.87.15 | | Descriptive | 800 | K | Depot mobilization requirements |
| *QUALITY ASSURANCE REQUIREMENTS* | R | R | 5.87.16 | | Descriptive | 315 | A | Quality assurance requirements |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *AIRCRAFT INVENTORY MASTER GUIDE (AIRCRAFT ONLY)* | | | 5.120 | | Descriptive | 102 | B | Aircraft inventory master guide |
| *STORAGE OF AIRCRAFT (AIRCRAFT ONLY)* | | | 5.121 | | Procedural | 810 | B | Flyable storage of aircraft |
| | | | | | Procedural | 810 | F | Short storage of Aircraft |
| | | | | | Procedural | 810 | G | Intermediate storage of aircraft |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS** | | | | | | | | |
| *AUXILIARY EQUIPMENT MAINTENANCE* | | | 5.97.2 | Chapter PM | Procedural | PD | | |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS** | | | | | | | | |
| *AMMUNITION MAINTENANCE* | | | 5.87.19 | Chapter PM | Procedural | 200 | K | Ammunition maintenance |
| *AMMUNITION MARKING INFORMATION* | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| *FOREIGN AMMUNITION (NATO)* | | | 5.87.21 | | Procedural | 011 | B | Foreign ammunition |
| **CHAPTER X. PARTS INFORMATION** | | | | | | | | |
| DMWR With Overhaul Standards | P | P | | | | | | |
| DMWR With Overhaul Standards With Parts | R | R | | | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | Chapter PM | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEMS* | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | R | 5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | R | 5.93.11.1.6 | | | | | |



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**Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | DWO Req. | DOR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *REFERENCE DESIGNATOR INDEX* | | | 5.93.11.1.7 | | | | | |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | | | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | | 5.103.1 | Chapter PM | Descriptive | 062 | B | Tool identification list |
| *MANDATORY REPLACEMENT PARTS* | | | 5.93.16 | | Descriptive | 075 | D | Mandatory replacement parts |
| *CRITICAL SAFETY ITEMS (CSI)* | | | 5.93.17 | | Descriptive | 075 | E | Critical Safety Items (CSI) |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XVII. Aviation Field Troubleshooting (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | TTM Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER X. AVIATION TROUBLESHOOTING PROCEDURES** *NOTE: The notation (*) indicates that at least one of these content items shall be included.* | R | | Chapter PM | | | | |
| *INTRODUCTION* | R | 5.88.3 | | Descriptive | 018 | C | Troubleshooting introduction |
| *TECHNICAL DESCRIPTION* | | 5.116 | | Descriptive | 011 | C | Technical description |
| Equipment Description and Data | | 5.116.1.2 | | | | | |
| Controls and Indicators | | 5.116.1.3 | | | | | |
| Theory of Operation | | 5.116.1.4 | | | | | |
| *TROUBLESHOOTING INDEX* | | 5.88.4 | | Descriptive | 410 | F | Malfunction index |
| | | | | Descriptive | 410 | B | Symptom index |
| | | | | Descriptive | 410 | C | System/Subsystem index |
| **OPERATIONAL CHECKOUT* | | 5.88.7 | | 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 |
| **TROUBLESHOOTING PROCEDURES* | | 5.88.1.18 | | 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 shutdown procedures |
| **DIAGNOSTICS* | | 5.88.8.1.6.2 | | Process | 429 | A | Diagnostics |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XVIII. Aircraft Preventive Maintenance (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | PMD/ MSM Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.7 | | Descriptive | 010 | D | General Information |
| Maintenance Activities | R | 5.86.7.1.2 | | | | | |
| General Information | R | 5.86.7.1.3 | | | | | |
| **CHAPTER X. PMS/PMD INFORMATION** | R | 5.117 | Chapter PM | | | | |
| *GENERAL INFORMATION* | | 5.86.7 | | Descriptive | 010 | D | General information |
| *PMS/PMD INSPECTION* | | 5.117 | | Checklist | 310 | E | PMS inspection |
| | | | | Checklist | 310 | P | PMD inspection |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XIX. Aircraft Phased Maintenance Inspection Checklist (Excluding Conventional and Chemical Ammunition) requirements matrix for _____.**

| Content Requirement | PMI Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION** | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.8 | | Descriptive | 010 | E | General information |
| **CHAPTER X. PHASED MAINTENANCE INSPECTION MAINTENANCE INFORMATION** | R | | Chapter PM | | | | |
| *PM INSPECTION* | R | 5.118 | | Checklist | 310 | F | PM inspection |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | R | | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | R | 5.86.3 | | Descriptive | 010 | A | General Data |
| Scope | R | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/ Acronyms | | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | AR | AR | AR | 5.86.3.1.8 | | | | | |
| Calibration | | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | P | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | | | | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | R | 5.86.4 | | Descriptive | 010 | B | General Information |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Equipment Improvement Recommendations (EIR) | R | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | | 5.86.4.1.6 | | | | | |
| Quality of Material | P | AR | AR | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | R | 5.86.4.2.2 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | R | R | 5.86.5.1.2 | | Descriptive | **000** | B | Equipment Description and Data |
| Location and Description of Major Components | | | | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the Use, Transportation, Handling, Storage, or Disposal |
| **CHAPTER X. OPERATOR INSTRUCTIONS** | R | R | R | 5.85 | | | | | |
| *DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS* | R | R | R | 5.85.3 | Chapter PM | Descriptive | 111 | A | Controls and Indicators |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *OPERATION UNDER USUAL CONDITIONS* | R | R | R | 5.85.4 | | | | | |
| Security Measures for Electronic Data | AR | AR | AR | 5.85.4.1.2 | | Descriptive | 990 | D | Security Measures for Electronic Data |
| Siting | AR | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter | AR | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |
| Assembly and Preparation for Use | AR | AR | AR | 5.85.4.1.5 | | Procedural | 710 | B | Assembly and Preparation for Use |
| Initial Adjustments, Before Use and Self-Test | AR | AR | AR | 5.85.4.1.6 | | Procedural | 121 | B | Initial Adjustments, Before Use and Self-Test |
| Operating Procedures | R | R | R | 5.85.4.1.7 | | Procedural | 131 | A | Normal Operation Procedures |
| Operating Auxiliary Equipment | AR | AR | AR | 5.85.4.1.9 | | Procedural | 131 | A | Normal Operation Procedures |
| Decals and Instruction Plates | AR | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and Instruction Plates |
| Preparation for Movement | AR | AR | AR | 5.85.4.1.10 | | Procedural | 131 | S | Preparation for Movement |
| *OPERATION UNDER UNUSUAL CONDITIONS* | R | R | R | 5.85.5 | | | | | |
| Security Measures for Electronic Data | AR | AR | AR | 5.85.5.1.1 | | Descriptive | 990 | C | Security Measures for Electronic Data (Unusual Conditions) |
| Unusual Environment / Weather | R | R | R | 5.85.5.1.2 | | Procedural | 142 | B | Unusual Environment/ Weather |
| Fording and Swimming | AR | AR | AR | 5.85.5.1.3 | | Procedural | 131 | R | Fording and Swimming |
| Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures | AR | AR | AR | 5.85.5.1.4 | | Procedural | 139 | B | Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Jamming and Electronic Countermeasures (ECM) Procedures | AR | AR | AR | 5.85.5.1.5 | | Procedural | 144 | A | Jamming and Electronic Countermeasures (ECM) Procedures |
| Degraded Operation Procedures | AR | AR | AR | 5.85.5.1.6 | | Procedural | 142 | C | Degraded Operation Procedures |
| Decals and Instruction Plates | AR | AR | AR | 5.85.4.1.11 | | Descriptive | 067 | A | Decals and Instruction Plates |
| *EMERGENCY* | | | | 5.85.6 | | Procedural | 140 | B | Operation Under Emergency Conditions |
| *STOWAGE AND DECAL/ DATA PLATE GUIDE* | | | | 5.85.7 | | Descriptive | 067 | B | Stowage and Decal / Data Plate Guide |
| *ON-VEHICLE EQUIPMENT LOADING PLAN* | | | | 5.99.1.1 | | Descriptive | 160 | C | On-Vehicle Equipment Loading Plan |
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** *NOTE: PMCS is required as a minimum in one maintenance chapter.* | R | R | R | | | | | | |
| *SERVICE UPON RECEIPT* | P | R | R | 5.87.3 | | | | | |
| Siting | P | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | P | AR | AR | 5.85.4.1.4 | Chapter PM | Procedural | 123 | A | Shelter |
| Service upon receipt of materiel | P | R | R | 5.87.3.1.2 | | | | | |
| Unpacking | P | R | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | P | R | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking Unpacked Equipment |
| Processing unpacked equipment | P | R | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing Unpacked Equipment |
| Installation instructions | P | R | R | 5.87.3.1.3 | | | | | |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Assembly of equipment | P | R | R | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | | AR | AR | 5.87.3.1.3.2 | | Procedural | 710 | A | Assembly procedure |
| Special application installation instructions | | AR | AR | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | P | AR | AR | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | P | AR | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | P | AR | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | P | AR | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | P | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | P | AR | AR | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | P | AR | AR | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | P | AR | AR | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | P | AR | AR | 5.87.3.1.12 | | Procedural | 120 | G | Procedure to activate ammunition |
| Additional maintenance task | P | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | P | AR | AR | 5.87.9 | | Procedural | PD | | |
| *MAINTENANCE*<br>*NOTE: PMCS is required as a minimum in one maintenance chapter.* | R | R | R | | | | | | |
| Inspect | | | | 5.87.8.1.4 | | | | | |
| Test and inspection | | | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Inspection of conventional and chemical ammunition or components containing radioactive materials | | | | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | | | | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | | | | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | | | | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Clean | AR | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | | 5.87.10 | | Procedural | PD | | |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| *OVERHAUL AND RETIREMENT SCHEDULE (AIRCRAFT ONLY)* | R | R | R | 5.87.13 | | Procedural | 288 | A | Overhaul and retirement schedule. |
| *GENERAL MAINTENANCE* | | | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | | | 5.87.11 | | Procedural | 240 | B | Lubrication Instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | | 5.87.17 | | Descriptive | 670 | E | Illustrated List of Manufactured Items |
| *TORQUE LIMITS* | P | | | 5.87.18 | | Procedural | 711 | B | Torque Limits |
| *WIRING DIAGRAMS* | P | | | 5.92 | | Descriptive | 051 | A | Wiring Diagrams |
| **CHAPTER X. TEST AND INSPECTION MAINTENANCE INSTRUCTIONS** | R | R | R | | Chapter PM | | | | |
| Test and Inspection | P | R | R | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and Inspection |
| **CHAPTER X. SHIPMENT/MOVEMENT AND STORAGE MAINTENANCE INSTRUCTIONS** | P | R | R | | Chapter PM | | | | |
| Preparation for Storage or Shipment | P | R | R | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for Storage or Shipment |
| **CHAPTER X. AMMUNITION MARKING MAINTENANCE INSTRUCTIONS** | | R | R | | Chapter PM | | | | |
| Ammunition Marking Information | | R | R | 5.87.3.1.9<br>5.87.8.1.18<br>5.87.20 | | Procedural | 067 | C | Ammunition Marking |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| **CHAPTER X. PARTS INFORMATION** | | | | | | | | | |
| Operator, Field and Sustainment Manuals | P | P | P | | | | | | |
| Operator, Field and Sustainment Manuals With Parts | P | R | R | | | | | | |
| *INTRODUCTION* | P | R | R | 5.93.4 | Chapter PM | Descriptive | 018 | E | Parts Introduction |
| *REPAIR PARTS LIST* | P | R | R | 5.93.5 | | IPD | 607 | E | Repair Parts Information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | P | | | 5.93.7 | | IPD | 607 | B | Repair Parts for Special Tools |
| *KIT PARTS LIST* | P | | | 5.93.8 | | IPD | 607 | C | Kit Parts List |
| *BULK ITEM* | P | | | 5.93.9 | | IPD | 603 | B | Bulk Items |
| *SPECIAL TOOLS LIST* | P | | | 5.93.10 | | IPD | 604 | B | Special Tools List |
| *NSN INDEX* | P | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross Reference Index |
| *P/N INDEX* | P | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | P | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **CHAPTER X. DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE** | | | | | | | | | |
| Scope | | | | 5.101.3.1.6.2 | Chapter PM | Descriptive | 997 | D | Destruction General Information |
| Authorization | | | | 5.101.2.1.6.2 | | | | | |
| Reporting Destruction | | | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | | | 5.101.3.1.6.5 | | | | | |
| Degree of Damage | | | | 5.101.3.1.6.6 | | | | | |



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**Table A-XX. Conventional and Chemical Ammunition Operator's Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | MM3 & M3B Req. | MM1 & M1B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|---|
| Essential Components and Spare Parts | | | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction Procedures |
| Classified Equipment and Documents | | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction Procedures - Classified Equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | R | | | | | | |
| *REFERENCES* | R | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *INTRODUCTION FOR STANDARD MAC* | P | R | R | 5.94.1<br>5.94.2 | | Descriptive | 018 | D | MAC Introduction |
| *MAINTENANCE ALLOCATION CHART* | P | R | R | 5.94.3 | | Schedule | 916 | A | MAC |
| *COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS* | R | R | R | 5.93.12 | | Descriptive | 105 | D | Components of End Item (COEI) List |
| | | | | 5.93.13 | Chapter PM | Descriptive | 105 | C | Basic Issue Items (BII) List |
| *ADDITIONAL AUTHORIZATION LIST (AAL)* | | | | 5.93.14 | | Descriptive | 104 | C | Additional Authorization List (AAL) |
| *EXPENDABLE AND DURABLE ITEMS LIST* | R | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and Durable Items List |
| *TOOL IDENTIFICATION LIST* | P | | | 5.103.1 | | Descriptive | 062 | B | Tool Identification List |
| *ADDITIONAL SUPPORTING INFORMATION* | | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | AR | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | 5.86.3.1.6 | | | | | |
| List of Abbreviations | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | R | 5.86.3.1.8 | | | | | |
| Calibration | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | AR | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |
| Reporting Equipment Improvement Recommendations (EIR) | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Manuals | | 5.86.4.1.4 | | | | | |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Corrosion Prevention and Control (CPC) | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | 5.86.4.1.6 | | | | | |
| Quality of Material | R | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | 5.86.5 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | 5.86.5.1.2 | | Descriptive | 000 | B | Equipment description and data |
| Location and Description of Major Components | R | 5.86.5.1.3 | | | | | |
| Differences Between Models | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| THEORY OF OPERATION | | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** | R | 5.87 | | | | | |
| *SERVICE UPON RECEIPT* | P | 5.87.3 | | | | | |
| *MAINTENANCE* | R | 5.87 | | | | | |
| Inspect | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | AR | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | AR | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | AR | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Inspection of installed items | AR | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | AR | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |
| Assemble and prepare for use | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Sling loading | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | 5.87.10 | | Procedural | PD | | |
| *LUBRICATION INSTRUCTIONS* | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. TEST AND INSPECTION MAINTENANCE INSTRUCTIONS** | | | Chapter PM | | | | |
| Test and Inspection | | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| **CHAPTER X. SHIPMENT/ MOVEMENT AND STORAGE MAINTENANCE INSTRUCTIONS** | P | | Chapter PM | | | | |
| Preparation for Storage or Shipment | P | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **CHAPTER X. AMMUNITION MARKING MAINTENANCE INSTRUCTIONS** | R | | Chapter PM | | | | |
| Ammunition Marking Information | R | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| **CHAPTER X. PARTS INFORMATION**<br>Operator, Field, & Sustainment<br>Operator, Field, & Sustainment with parts | P<br>R | | Chapter PM | | | | |
| *INTRODUCTION* | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |
| *REPAIR PARTS LIST* | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEM* | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **CHAPTER X. DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE** *NOTE: If a separate destruction of material manual is not developed for this equipment then the destruction chapter must be included.* | | 5.101.3 | | | | | |
| Introduction | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | 5.101.3.1.6.3 | | | | | |
| Reporting Destruction | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | | | | | |
| Parts List | | 5.101.3.1.6.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - classified equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | | Chapter PM | | | | |
| *REFERENCES* | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *EXPENDABLE AND DURABLE ITEMS* | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |



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**Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM0 & M0B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *ADDITIONAL SUPPORTING INFORMATION* | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION** | R | R | 5.86 | Chapter PM | | | | |
| *GENERAL INFORMATION* | R | R | 5.86.3 | | Descriptive | 010 | A | General data |
| Scope | R | R | 5.86.3.1.2 | | | | | |
| Ozone Depleting Substances (ODS) | | | 5.86.3.1.3 | | | | | |
| Destruction of Army Materiel to Prevent Enemy Use | R | R | 5.86.3.1.4 | | | | | |
| Preparation for Storage or Shipment | R | R | 5.86.3.1.5 | | | | | |
| Nomenclature Cross-Reference List | | | 5.86.3.1.6 | | | | | |
| List of Abbreviations/ Acronyms | R | R | 5.86.3.1.7 | | | | | |
| Safety, Care, and Handling | R | R | 5.86.3.1.8 | | | | | |
| Calibration | | | 5.86.3.1.9 | | | | | |
| Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment | | | 5.86.3.1.10 | | | | | |
| Copyright Credit Line | AR | AR | 5.86.3.1.11 | | | | | |
| Maintenance Forms, Records, and Reports | R | R | 5.86.4.1.2 | | Descriptive | 010 | B | General information |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Reporting Equipment Improvement Recommendations (EIR) | R | R | 5.86.4.1.3 | | | | | |
| Hand Receipt (HR) Information | | | 5.86.4.1.4 | | | | | |
| Corrosion Prevention and Control (CPC) | R | R | 5.86.4.1.5 | | | | | |
| Warranty Information | | | 5.86.4.1.6 | | | | | |
| Quality of Material | | | 5.86.4.1.7 | | | | | |
| Nuclear Hardness | | | 5.86.4.1.8 | | | | | |
| *EQUIPMENT DESCRIPTION AND DATA* | R | R | 5.86.4.2.2 | | | | | |
| Equipment Characteristics, Capabilities, and Features | R | R | 5.86.5.1.2 | | Descriptive | 000 | B | Equipment description and data |
| Location and Description of Major Components | | | 5.86.5.1.3 | | | | | |
| Differences Between Models | | | 5.86.5.1.4 | | | | | |
| Equipment Data | R | R | 5.86.5.1.5 | | | | | |
| Instructions for the Use, Transportation, Handling, Storage, or Disposal | R | R | 5.86.5.1.6 | | Procedural | 800 | L | Instructions for the use, transportation, handling, storage, or disposal |
| *THEORY OF OPERATION* | | | 5.86.6 | | Descriptive | 042 | F | Theory of operation |
| **CHAPTER X. MAINTENANCE INSTRUCTIONS** | R | R | 5.87 | | | | | |
| *SERVICE UPON RECEIPT* | R | R | 5.87.3 | Chapter PM | | | | |
| Siting | AR | AR | 5.85.4.1.3 | | Procedural | 122 | A | Siting |
| Shelter requirements | AR | AR | 5.85.4.1.4 | | Procedural | 123 | A | Shelter |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Service upon receipt of materiel | R | R | 5.87.3.1.2 | | | | | |
| Unpacking | R | R | 5.87.3.1.2.1 | | Procedural | 840 | B | Unpacking |
| Checking unpacked equipment | R | R | 5.87.3.1.2.2 | | Checklist | 870 | B | Checking unpacked equipment |
| Processing unpacked equipment | R | R | 5.87.3.1.2.3 | | Procedural | 870 | C | Processing unpacked equipment |
| Installation instructions | R | R | 5.87.3.1.3 | | | | | |
| Assembly of equipment | R | R | 5.87.3.1.3.1 | | Procedural | 710 | C | Assembly of equipment |
| Installation of the equipment | R | R | 5.87.3.1.3.2 | | Procedural | 710 | A | Install procedure |
| Special application installation instructions | R | R | 5.87.3.1.3.3 | | Procedural | 720 | B | Special application installation instructions |
| Van and shelter procedure | R | R | 5.87.3.1.3.4 | | Procedural | 123 | C | Van and shelter procedure |
| Preliminary servicing of equipment | AR | AR | 5.87.3.1.4 | | Procedural | 200 | F | Preliminary servicing |
| Preliminary checks and adjustment of equipment | AR | AR | 5.87.3.1.5 | | Procedural | 271 | B | Preliminary checks and adjustment of equipment |
| Preliminary calibration of equipment | AR | AR | 5.87.3.1.6 | | Procedural | 273 | D | Preliminary calibration of equipment |
| Circuit alignment | AR | AR | 5.87.3.1.7 | | Procedural | 272 | B | Circuit alignment |
| Ammunition markings | R | R | 5.87.3.1.9 | | Procedural | 067 | C | Ammunition marking |
| Classification of defects | R | R | 5.87.3.1.10 | | Procedural | 350 | C | Classification of defects |
| Ammunition handling | R | R | 5.87.3.1.11 | | Procedural | 170 | E | Handling ammunition |
| Procedures to activate ammunition | R | R | 5.87.3.1.12 | | Procedural | 276 | G | Procedures to activate ammunition |
| Additional maintenance task | AR | AR | 5.87.3.2.1 | | Procedural | PD | | |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *MAINTENANCE* | R | R | 5.87 | | | | | |
| Inspect | AR | AR | 5.87.8.1.4 | | | | | |
| Test and inspection | AR | AR | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| Inspection of conventional and chemical ammunition or components containing radioactive materials | AR | AR | 5.87.8.1.4.2 | | Procedural | 310 | A | Visual examinations |
| Pre-embarkation inspection | AR | AR | 5.87.8.1.4.3 | | Procedural | 310 | N | Pre-embarkation inspection |
| Inspection of installed items | AR | AR | 5.87.8.1.4.4 | | Procedural | 310 | J | Inspection of installed items |
| Inspection-acceptance and rejection criteria | AR | AR | 5.87.8.1.4.5 | | Procedural | 310 | D | Inspection – Acceptance and rejection criteria |
| Test | AR | AR | 5.87.8.1.5 | | Procedural | 340 | C | Testing |
| Service | AR | AR | 5.87.8.1.6 | | Procedural | 200 | A | Servicing |
| Adjust | AR | AR | 5.87.8.1.7 | | Procedural | 271 | A | Adjust |
| Align | AR | AR | 5.87.8.1.8 | | Procedural | 272 | A | Align |
| Calibrate | AR | AR | 5.87.8.1.9 | | Procedural | 273 | A | Calibrate |
| Remove | AR | AR | 5.87.8.1.10 | | Procedural | 520 | A | Removal procedure |
| Install | AR | AR | 5.87.8.1.11 | | Procedural | 720 | A | Install procedure |
| Replace | AR | AR | 5.87.8.1.12 | | Procedural | 685 | C | Replace |
| Repair | AR | AR | 5.87.8.1.13 | | Procedural | 685 | A | Repair |
| Paint | AR | AR | 5.87.8.1.14 | | Procedural | 257 | B | Painting |
| Overhaul | AR | AR | 5.87.8.1.15 | | Procedural | 664 | B | Overhaul procedure |
| Rebuild | AR | AR | 5.87.8.1.16 | | Procedural | 664 | C | Rebuild |
| Lubricate | AR | AR | 5.87.8.1.17 | | Procedural | 240 | A | Lubrication |
| Mark | AR | AR | 5.87.8.1.18 | | Procedural | 067 | D | Mark |
| Pack | AR | AR | 5.87.8.1.19 | | Procedural | 713 | A | Pack procedure |
| Unpack | AR | AR | 5.87.8.1.20 | | Procedural | 840 | B | Unpacking |
| Preserve | AR | AR | 5.87.8.1.21 | | Procedural | 810 | A | Preservation procedure |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Assemble and prepare for use | AR | AR | 5.87.8.1.22 | | Procedural | 710 | B | Assembly and preparation for use |
| Assemble | AR | AR | 5.87.8.1.23 | | Procedural | 710 | A | Assembly procedure |
| Disassemble | AR | AR | 5.87.8.1.24 | | Procedural | 530 | A | Disassembly procedure |
| Clean | AR | AR | 5.87.8.1.25 | | Procedural | PD | | |
| Non-destructive inspection | AR | AR | 5.87.8.1.26 | | Procedural | 350 | B | Non-destructive testing inspection |
| Radio interference suppression | AR | AR | 5.87.8.1.27 | | Procedural | 143 | A | Radio interference suppression |
| Place in service | AR | AR | 5.87.8.1.28 | | Procedural | 870 | P | Placing in service |
| Ground handling | AR | AR | 5.87.8.1.29 | | | | | |
| Towing | AR | AR | 5.87.8.1.29.1 | | Procedural | 174 | A | Towing |
| Jacking | AR | AR | 5.87.8.1.29.2 | | Procedural | 172 | A | Jacking |
| Parking | AR | AR | 5.87.8.1.29.3 | | Procedural | 175 | B | Parking |
| Mooring | AR | AR | 5.87.8.1.29.4 | | Procedural | 17A | A | Mooring |
| Covering | AR | AR | 5.87.8.1.29.5 | | Procedural | 170 | B | Covering |
| Hoisting | AR | AR | 5.87.8.1.29.6 | | Procedural | 171 | B | Hoisting |
| Sling loading | AR | AR | 5.87.8.1.29.7 | | Procedural | 178 | B | Sling loading |
| External power | AR | AR | 5.87.8.1.29.8 | | Procedural | 170 | C | External power |
| Preservation, packaging, and marking | AR | AR | 5.87.8.1.30 | | Procedural | 810 | H | Preservation, packaging, and marking |
| Preparation for shipment and storage | AR | AR | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| Arm | AR | AR | 5.87.8.1.32 | | Procedural | 120 | G | Procedures to activate ammunition |
| Load | AR | AR | 5.87.8.1.33 | | Procedural | PD | | |
| Unload | AR | AR | 5.87.8.1.34 | | Procedural | PD | | |
| Software maintenance | AR | AR | 5.87.8.1.35 | | Procedural | PD | | |
| Additional maintenance task | AR | AR | 5.87.8.2.2 | | Procedural | PD | | |
| Follow-on maintenance | AR | AR | 5.87.9 | | Procedural | PD | | |
| *GENERAL MAINTENANCE* | | | 5.87.10 | | Procedural | PD | | |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *LUBRICATION INSTRUCTIONS* | | | 5.87.11 | | Procedural | 240 | B | Lubrication instructions |
| *ILLUSTRATED LIST OF MANUFACTURED ITEMS* | | | 5.87.17 | | Descriptive | 670 | E | Illustrated list of manufactured items |
| *TORQUE LIMITS* | | | 5.87.18 | | Procedural | 711 | B | Torque limits |
| *WIRING DIAGRAMS* | | | 5.92 | | Descriptive | 051 | A | Wiring diagrams |
| **CHAPTER X. TEST AND INSPECTION MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| Test and Inspection | R | R | 5.87.8.1.4.1 | | Procedural | 300 | B | Test and inspection |
| **CHAPTER X. SHIPMENT/ MOVEMENT AND STORAGE MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| Preparation for Storage or Shipment | R | R | 5.87.8.1.31 | | Procedural | 810 | C | Preparation for storage or shipment |
| **CHAPTER X. AMMUNITION MARKING MAINTENANCE INSTRUCTIONS** | | | | Chapter PM | | | | |
| Ammunition Marking Information | | | 5.87.20 | | Procedural | 067 | C | Ammunition marking |
| **CHAPTER X. PARTS INFORMATION** | | | | Chapter PM | | | | |
| Operator, Field, & Sustainment | P | | 5.93 | | | | | |
| Operator, Field, & Sustainment with parts | R | | | | | | | |
| *INTRODUCTION* | R | R | 5.93.4 | | Descriptive | 018 | E | Parts introduction |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *REPAIR PARTS LIST* | R | R | 5.93.5 | | IPD | 607 | E | Repair parts information |
| *REPAIR PARTS FOR SPECIAL TOOLS* | | | 5.93.7 | | IPD | 607 | B | Repair parts for special tools |
| *KIT PARTS LIST* | | | 5.93.8 | | IPD | 607 | C | Kit parts list |
| *BULK ITEM* | | | 5.93.9 | | IPD | 603 | B | Bulk items |
| *SPECIAL TOOLS LIST* | | | 5.93.10 | | IPD | 604 | B | Special tools list |
| *NSN INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.5 | | Descriptive | 942 | D | Cross reference index |
| *P/N INDEX* | R | R | 5.93.11.2.1<br>5.93.11.1.6 | | | | | |
| *REFERENCE DESIGNATOR INDEX* | | | 5.93.11.2.1<br>5.93.11.1.7 | | | | | |
| **CHAPTER X. DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE**<br>*NOTE If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.* | | | 5.101.3 | Chapter PM | | | | |
| Introduction | | | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction general information |
| Authorization | | | 5.101.3.1.6.3 | | | | | |
| Reporting Destruction | | | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | | | 5.101.3.1.6.5 | | | | | |
| Degree of Destruction | | | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | | | 5.101.3.1.6.7 | | | | | |
| *SPECIFIC DESTRUCTION PROCEDURES* | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |



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**Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manual requirements matrix for _____.**

| Content Requirement | MM2 & M2B Req. | MM4, & M4B Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Parts List | | | 5.101.3.1.6.7 | | Descriptive | 907 | B | Parts list |
| Specific Destruction Procedures | | | 5.101.3.1.8 | | Procedural | 997 | B | Destruction procedures |
| Classified Equipment and Documents | | | 5.101.3.1.9 | | Procedural | 997 | C | Destruction procedures - classified equipment |
| **CHAPTER X. SUPPORTING INFORMATION** | R | R | | | | | | |
| *REFERENCES* | R | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| *INTRODUCTION FOR NON-AVIATION MAC* | R | R | 5.94.1 | | Descriptive | 018 | D | MAC introduction |
| *MAINTENANCE ALLOCATION CHART* | R | R | 5.94.3 | Chapter PM | Schedule | 916 | A | MAC |
| *EXPENDABLE AND DURABLE ITEMS* | R | R | 5.93.15 | | Descriptive | 070 | D | Expendable and durable items list |
| *TOOL IDENTIFICATION LIST* | | | 5.103.1 | | Descriptive | 062 | B | Tool identification list |
| *ADDITIONAL SUPPORTING INFORMATION* | | | 5.106.1.1.4 | | Descriptive | PD | | |
| **REAR MATTER** | R | R | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXIII. Hand Receipt Technical Manual requirements matrix for _____.**

| Content Requirement | HDR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| *SECTION I - INTRODUCTION* | R | 5.93.18.1.2 | Section PM | Descriptive | 018 | A | Introduction |
| *SECTION II - HAND RECEIPT* | | | Section PM | | | | |
| Hand receipt | R | 5.93.18.1.3 | | Descriptive | 105 | D | Components of End Item (COEI) list |
| | | | | Descriptive | 105 | C | Basic Issue Items (BII) list |
| | | | | Descriptive | 104 | C | Additional Authorization List (AAL) |



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**Table A-XXIV. Supplemental Information for Commercial Off-the-Shelf (COTS) Manual requirements matrix for _____.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | Front Matter PM | | | | |
| Destruction of Military Materiel to Prevent Enemy Use | R | 5.101.3.1.6.1 | Chapter PM | Descriptive | 997 | D | Destruction general information |
| Lubrication Instructions | R | 5.97.3.1.4.3 | | Procedural | 240 | B | Lubrication instructions |
| Preventive Maintenance Checks and Services (PMCS) | AR | 5.87.4 | | Checklist | 200 | B | PMCS |
| Maintenance Allocation Chart (MAC) | R | 5.94.3 | Chapter PM | Maintenance Planning | 916 | A | MAC |
| Components of End Item (COEI) and Basic Issue Items (BII) List | R | 5.93.12<br>5.93.13 | | Descriptive | 105 | D | Components of End Item (COEI) list |
| | | | | Descriptive | 105 | C | Basic Issue Items (BII) list |
| Additional Authorization List (All) | R | 5.93.14 | | Descriptive | 104 | C | Additional Authorization List (AAL) |
| Expendable Supplies and Materials List | R | 5.93.15<br>5.102.1.9 | | Descriptive | 070 | D | Expendable and durable items list |
| Repair Parts List | R | 5.93.5<br>5.97.3.1.4.10<br>5.122.1.11.3 | | IPD | 607 | E | Repair parts information |
| Warranty Information | | 5.97.3.1.4.12 | | Descriptive | 023 | E | Warranty information |
| Copyright | | 5.97.3.1.4.13 | | Descriptive | 021 | A | Copyright |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXV. Preventive Maintenance Checklist requirements matrix for _____.**

| Content Requirement | PMC Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT COVER** | R | 5.128.1.1.3 | Generated from PM metadata | | N/A | N/A | Front Cover |
| **CHECKLIST** | R | 5.87.7 | | Checklist | 200 | J | Preventive maintenance checklist |



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**Table A-XXVI. Modification Work Order (MWO) requirements matrix for _____.**

| Content Requirement | MWO Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | Front Matter PM | | | | |
| Text | | 5.101.1.1.2 | Chapter PM | | | | |
| Paragraph 1 – Purpose | R | 5.101.1.1.3 | | Descriptive | 018 | A | Introduction |
| Paragraph 2 – Priority | R | | | | | | |
| Paragraph 3 - End Item(s) or System(s) to Be Modified | R | 5.101.1.1.4 | | 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 | 5.101.1.1.5 | | Descriptive | 670 | D | Modification Application |
| Paragraph 7 - Technical Publications Affected/Changed | R | 5.101.1.1.6 | | Descriptive | 017 | N | Technical Publications Affected/Changed |
| Paragraph 8 - MWO Kit(s)/Part(s) and Their Disposition. | R | 5.101.1.1.7 | | Descriptive | 607 | C | Kit Parts List |
| Paragraph 9 - Special Tools; Tool Kits: Jigs: TMDE: and Fixtures Required | R | 5.101.1.1.8 | | Descriptive | 304 | B | Special Support Equipment and Tools |
| Paragraph 10 - Modification Procedures | R | 5.101.1.1.9 | | Procedural | 670 | B | Modification Procedures |
| Paragraph 11 - Calibration Requirements | R | 5.101.1.1.10 | | Descriptive | 017 | E | Calibration Requirements |
| Paragraph 12 - Weight and Balance Data | R | 5.101.1.1.11 | | Descriptive | 169 | F | Weight and Balance Data |
| Paragraph 13 - Quality Assurance Requirements | R | 5.101.1.1.12 | | Descriptive | 315 | A | Quality Assurance Requirements |
| Paragraph 14 - Recording and Reporting of the Modification | R | 5.101.1.1.13 | | Descriptive | 670 | C | Recording and Reporting of the Modification |
| Paragraph 15 - Materiel Change (MC) Number | R | | | | | | |
| Paragraph 16 - Modification Identification | R | | | | | | |



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**Table A-XXVII. Battle Damage Assessment and Repair (BDAR) requirements matrix for _____.**

| Content Requirement | BDR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| General Information | R | 5.102.1.4 | Chapter PM | Descriptive | 018 | G | BDAR Introduction |
| Assessing Battlefield Damage - General Fault Assessment Tables | R | 5.102.1.5 | | Descriptive | 410 | E | General Fault Assessment Tables |
| General Repair - Repair Procedure | R | 5.102.1.6.1 | | Procedural | PD | | |
| Major Functional Groups - Repair Procedure | R | 5.102.1.6.3 | | Procedural | PD | | |
| Auxiliary Equipment - Repair Procedure | R | 5.102.1.6.4 | | Procedural | PD | | |
| References | R | 5.102.1.7 | Chapter PM | Descriptive | 017 | B | References |
| Special or Fabricated Tools | R | 5.102.1.8 | Chapter PM | Descriptive | 605 | B | Support Equipment and Tools |
| Expendable and Durable Supplies and Materials | R | 5.102.1.9 | Chapter PM | Descriptive | 070 | D | Expendable and Durable Items List |
| Substitute Materials/Parts | R | 5.102.1.10 | Chapter PM | Descriptive | 607 | D | Substitute Materials/Parts |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | Descriptive | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. INTRODUCTION** | R | 5.122.1.4 | Chapter PM | | | | |
| *SECTION I - PURPOSE AND SCOPE* | R | 5.122.1.4.1 | | Descriptive | 018 | A | Introduction |
| *SECTION II - GENERAL* | R | 5.122.1.4.2 | | | | | |
| Description and Use of This Manual | R | 5.122.1.4.2 | | Descriptive | 018 | B | How to Use This Manual |
| Classified Materials | R | 5.122.1.4.2.3 | | | | | |
| Warnings, Cautions, and Notes | R | 5.122.1.4.2.4 | | | | | |
| Deviations | R | 5.122.1.4.2.5 | | | | | |
| *SECTION III- AIRCRAFT DESCRIPTION* | R | 5.122.1.4.3 | | Descriptive | 040 | B | Description |
| *SECTION IV - SHIPPING CHARACTERISTICS* | R | 5.122.1.4.4 | | Descriptive | 800 | B | Shipping Characteristics |
| *SECTION V - GROUND HANDLING* | R | 5.122.1.4.5 | | Descriptive/ Procedural | 170 | F | Ground Handling |
| *SECTION VI – SAFETY* | R | 5.122.1.4.6 | | Descriptive | 012 | J | Safety Summary |
| *SECTION VII - PRESERVATION/ DEPRESERVATION CHECK SHEETS* | R | 5.122.1.4.7 | | Descriptive | 810 | E | Preservation/Depreservation Check Sheets |
| **CHAPTER 2. SHIPMENT BY CARGO AIRCRAFT** | | 5.122.1.5 | Chapter PM | | | | |
| *SECTION I - GENERAL* | R | 5.122.1.5.1 | | | | | |
| Types of Shipment | R | 5.122.1.5.1.1 | | Descriptive | 812 | B | Shipment of Aircraft - General |
| Functions of Cargo Aircraft Crew/Operator | R | 5.122.1.5.1.2 | | | | | |
| Functions of the Army Loading Team | R | 5.122.1.5.1.3 | | | | | |
| Facility Requirements | R | 5.122.1.5.1.4 | | | | | |
| Weight and Balance | R | 5.122.1.5.1.5 | | | | | |
| Safety | R | 5.122.1.5.1.7 | | | | | |
| Security | R | 5.122.1.5.1.6 | | | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *SECTION II – SHIPMENT BY C-5 AIRCRAFT* | R | 5.122.1.5.2 | | | | | |
| Characteristics | R | 5.122.1.5.2.1 | | Descriptive | 800 | C | Shipping Characteristics – C-5 |
| Preparing the Aircraft | R | 5.122.1.5.2.2 | | | | | |
| Loading | R | 5.122.1.5.2.3 | | Procedural | 831 | B | Loading – C-5 |
| Tiedown | R | 5.122.1.5.2.4 | | Procedural | 811 | G | Tiedown – C-5 |
| Unloading | R | 5.122.1.5.2.5 | | Procedural | 841 | B | Unloading – C-5 |
| Depreservation and Reassembly | R | 5.122.1.5.2.6 | | Procedural | 870 | F | Depreservation and Reassembly – C-5 |
| *SECTION III - SHIPMENT BY C-17 AIRCRAFT* | R | 5.122.1.5.2 | | | | | |
| Characteristics | R | 5.122.1.5.2.1 | | Descriptive | 800 | D | Shipping Characteristics – C-17 |
| Preparing the Aircraft | R | 5.122.1.5.2.2 | | | | | |
| Loading | R | 5.122.1.5.2.3 | | Procedural | 831 | C | Loading – C-17 |
| Tiedown | R | 5.122.1.5.2.4 | | Procedural | 811 | H | Tiedown – C-17 |
| Unloading | R | 5.122.1.5.2.5 | | Procedural | 841 | C | Unloading – C-17 |
| Depreservation and Reassembly | R | 5.122.1.5.2.6 | | Procedural | 870 | G | Depreservation and Reassembly – C-17 |
| *SECTION IV - SHIPMENT BY C-130 AIRCRAFT* | R | 5.122.1.5.2 | | | | | |
| Characteristics | R | 5.122.1.5.2.1 | | Descriptive | 800 | F | Shipping Characteristics – C-130 |
| Preparing the Aircraft | R | 5.122.1.5.2.2 | | Procedural | 800 | R | Preparing the aircraft |
| Loading | R | 5.122.1.5.2.3 | | Procedural | 831 | E | Loading – C-130 |
| Tiedown | R | 5.122.1.5.2.4 | | Procedural | 811 | K | Tiedown – C-130 |
| Unloading | R | 5.122.1.5.2.5 | | Procedural | 841 | E | Unloading – C-130 |
| Depreservation and Reassembly | R | 5.122.1.5.2.6 | | Procedural | 870 | J | Depreservation and Reassembly – C-130 |
| **CHAPTER 3. SHIPMENT BY VESSEL** | | 5.122.1.6 | | | | | |
| *SECTION I - GENERAL* | R | 5.122.1.6.1.1 | | | | | |
| Types of Shipment | R | 5.122.1.6.1.2 | Chapter PM | Descriptive | 812 | B | Shipment of Aircraft - General |
| Responsibilities of Military Traffic Management Command (MTMC) | R | 5.122.1.6.1.3 | | | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Functions of Marine Terminal Personnel | R | 5.122.1.6.1.4 | | | | | |
| Functions of the Army Loading Team | R | 5.122.1.6.1.5 | | | | | |
| Equipment Requirements | R | 5.122.1.6.1.6 | | | | | |
| Material Requirements | R | 5.122.1.6.1.7 | | | | | |
| Manpower Requirements | R | 5.122.1.6.1.8 | | | | | |
| Facility Requirements | R | 5.122.1.6.1.9 | | | | | |
| Aircraft Security | R | 5.122.1.6.1.10 | | | | | |
| Safety | R | 5.122.1.6.1.11 | | | | | |
| Characteristics | R | 5.122.1.6.1.12 | | | | | |
| *SECTION II - TACTICAL SHIPMENT* | R | 5.122.1.6.2 | | | | | |
| Preparing the Aircraft | R | 5.122.1.6.2.1 | | Descriptive | 800 | S | Preparing the Aircraft – Vessel, Tactical |
| Loading | R | 5.122.1.6.2.2 | | Procedural | 831 | F | Loading – Vessel, Tactical |
| Tiedown | R | 5.122.1.6.2.3 | | Procedural | 811 | L | Tiedown – Vessel, Tactical |
| Unloading | R | 5.122.1.6.2.4 | | Procedural | 841 | F | Unloading – Vessel, Tactical |
| Depreservation and Reassembly | R | 5.122.1.6.2.5 | | Procedural | 870 | K | Depreservation and Reassembly – Vessel, Tactical |
| *SECTION III - LOGISTICAL SHIPMENT* | R | 5.122.1.6.3 | | | | | |
| Preparing the Aircraft | R | 5.122.1.6.3.1 | | Descriptive | 800 | T | Preparing the Aircraft – Vessel, Logistical |
| Loading | R | 5.122.1.6.3.2 | | Procedural | 831 | G | Loading – Vessel, Logistical |
| Tiedown | R | 5.122.1.6.3.3 | | Procedural | 811 | M | Tiedown – Vessel, Logistical |
| Unloading | R | 5.122.1.6.3.4 | | Procedural | 841 | G | Unloading – Vessel, Logistical |
| Depreservation and Reassembly | R | 5.122.1.6.3.5 | | Procedural | 870 | L | Depreservation and Reassembly – Vessel, Logistical |
| *SECTION IV - SHIPMENT BY US NAVY AIR CAPABLE SHIPS* | R | 5.122.1.6.4 | | | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Preparing the Aircraft | R | 5.122.1.6.4.1 | | Descriptive | 800 | U | Preparing the Aircraft – Vessel, US Navy Capable |
| Loading | R | 5.122.1.6.4.2 | | Procedural | 831 | H | Loading – Vessel, US Navy Capable |
| Tiedown | R | 5.122.1.6.4.3 | | Procedural | 811 | N | Tiedown – Vessel, US Navy Capable |
| Unloading | R | 5.122.1.6.4.4 | | Procedural | 841 | H | Unloading – Vessel, US Navy Capable |
| Depreservation and Reassembly | R | 5.122.1.6.4.5 | | Procedural | 870 | M | Depreservation and Reassembly – Vessel, US Navy Capable |
| **CHAPTER 4. SHIPMENT BY TRUCK** | R | 5.122.1.7 | Chapter PM | | | | |
| *SECTION I - GENERAL* | R | 5.122.1.7 | | | | | |
| Types of Truck Shipments | R | 5.122.1.7.1.2 | | Descriptive | 812 | B | Shipment of Aircraft - General |
| Responsibilities of the Shipper | R | 5.122.1.7.1.3 | | | | | |
| Equipment Requirements | R | 5.122.1.7.1.4 | | | | | |
| Material Requirements | R | 5.122.1.7.1.5 | | | | | |
| Manpower Requirements | R | 5.122.1.7.1.6 | | | | | |
| Facility Requirements | R | 5.122.1.7.1.7 | | | | | |
| Safety Requirements | R | 5.122.1.7.1.8 | | | | | |
| *SECTION II - AIRCRAFT RECOVERY AND TACTICAL TRANSPORT* | R | 5.122.1.7.2 | | | | | |
| Drawings | R | 5.122.1.7.2.1 | | Descriptive | 800 | G | Shipping Characteristics – Aircraft Recovery |
| Dimensions | R | 5.122.1.7.2.1.2 | | | | | |
| Capabilities | R | 5.122.1.7.2.1.3 | | | | | |
| Limitations | R | 5.122.1.7.2.1.4 | | | | | |
| Load Characteristics | R | 5.122.1.7.2.1.5 | | | | | |
| Highway Permits | R | 5.122.1.7.2.1.6 | | | | | |
| Preparing the Aircraft | R | 5.122.1.7.2.2 | | Procedural | 800 | X | Preparing the Aircraft – Aircraft Recovery and Tactical Transport |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *SECTION III - LOGISTICAL (LONG HAUL) TRANSPORT BY TRUCK* | R | 5.122.1.7.3 | | Descriptive | 812 | E | Shipment of Aircraft - Truck (Long Haul) |
| **CHAPTER 5. CRATED AND INTERMODAL CONTAINER SHIPMENT** | R | 5.122.1.8 | Chapter PM | | | | |
| *SECTION I - CRATED SHIPMENT* | R | 5.122.1.8.1 | | | | | |
| Characteristics | R | 5.122.1.8.1.2 | | Descriptive | 800 | H | Shipping Characteristics - Crated |
| Handling Methods | R | 5.122.1.8.1.3 | | | | | |
| Security Requirements | R | 5.122.1.8.1.4 | | | | | |
| Facility Requirements | R | 5.122.1.8.1.5 | | | | | |
| Equipment | R | 5.122.1.8.1.6 | | | | | |
| Consumable Materials | R | 5.122.1.8.1.7 | | | | | |
| Manpower Requirements | R | 5.122.1.8.1.8 | | | | | |
| Aircraft Preparation | R | 5.122.1.5.2.1 | | Procedural | 800 | C | Preparing the Aircraft - Crated |
| Crating | | 5.122.1.8.1.9.1 | | Procedural | 830 | B | Crating |
| Unpacking and Reassembly | R | 5.122.1.8.1.10 | | Procedural | 870 | D | Unpacking and Reassembly |
| *SECTION II - INTERMODAL CONTAINER SHIPMENT* | R | 5.122.1.8.2 | | | | | |
| Characteristics | R | 5.122.1.8.2.2 | | Descriptive | 800 | J | Shipping Characteristics – Intermodal Container |
| Drawings | R | 5.122.1.8.2.3 | | | | | |
| Security Requirements | R | 5.122.1.8.2.4 | | | | | |
| Facility Requirements | | 5.122.1.8.2.5 | | | | | |
| Safety Requirements | R | 5.122.1.8.2.6 | | | | | |
| Equipment Requirements | R | 5.122.1.8.2.7 | | | | | |
| Consumable Materials | R | 5.122.1.8.2.8 | | | | | |
| Manpower Requirements | R | 5.122.1.8.2.9 | | | | | |
| Aircraft Preparation | R | 5.122.1.8.2.10 | | Procedural | 800 | W | Preparing the Aircraft – Intermodal Container |
| Loading | R | 5.122.1.8.2.11 | | Procedural | 831 | J | Loading – Intermodal Container |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Tiedown | R | 5.122.1.8.2.12 | | Procedural | 811 | P | Tiedown – Intermodal Container |
| Unloading | R | 5.122.1.8.2.13 | | Procedural | 841 | J | Unloading – Intermodal Container |
| Depreservation and Reassembly | R | 5.122.1.8.2.14 | | Procedural | 870 | N | Depreservation and Reassembly – Intermodal Container |
| **CHAPTER 6. PRESERVATION AND PACKAGING** | R | 5.122.1.9 | Chapter PM | | | | |
| *SECTION I - GENERAL* | R | 5.122.1.9.1 | | Descriptive | 810 | H | Preservation, Packaging, and Marking |
| *SECTION II - AIRCRAFT CLEANING* | R | 5.122.1.9.2 | | | | | |
| General | R | 5.122.1.9.2 | | Procedural | 811 | E | Aircraft Cleaning |
| Equipment Requirements | R | 5.122.1.9.2 | | | | | |
| Materials | R | 5.122.1.9.2 | | | | | |
| Manpower | R | 5.122.1.9.2 | | | | | |
| Procedures | R | 5.122.1.9.2 | | | | | |
| *SECTION III - PRESERVATION OF AIRCRAFT* | R | 5.122.1.9.3 | | | | | |
| General | R | 5.122.1.9.3 | | Procedural | 811 | B | Preservation of Aircraft |
| Equipment | R | 5.122.1.9.3 | | | | | |
| Materials | R | 5.122.1.9.3 | | | | | |
| Manpower | R | 5.122.1.9.3 | | | | | |
| Procedures | R | 5.122.1.9.3 | | | | | |
| *SECTION IV - PRESERVATION AND PACKAGING OF COMPONENTS* | R | 5.122.1.9.4 | | | | | |
| Procedures | R | 5.122.1.9.4 | | Descriptive | 811 | C | Preservation and Packaging of Components |
| Manpower | R | 5.122.1.9.4 | | | | | |
| Materials | R | 5.122.1.9.4 | | | | | |
| Packaging | R | 5.122.1.9.4 | | | | | |
| *SECTION V - MARKING OF AIRCRAFT/ PREPARATION OF SHIPPING DOCUMENTS* | R | 5.122.1.9.5 | | | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| Identification | R | 5.122.1.9.5 | | Descriptive | 811 | D | Marking of Aircraft/Preparation of Shipping Documents |
| Color Coding | R | 5.122.1.9.5 | | | | | |
| Preservation Information | R | 5.122.1.9.5 | | | | | |
| *SECTION VI - DEPRESERVATION AND ASSEMBLY* | R | 5.122.1.9.6 | | Procedural | 870 | E | Depreservation and Reassembly - General |
| **CHAPTER 7. TRANSPORTABILITY EQUIPMENT FABRICATED AT UNIT LEVEL** | R | 5.122.1.10 | Chapter PM | | PD | | |
| **CHAPTER 8. OPERATOR AND MAINTENANCE INSTRUCTIONS FOR TRANSPORTABILITY EQUIPMENT INCLUDING REPAIR PARTS LIST** | R | 5.122.1.11 | Chapter PM | | | | |
| *SECTION I - OPERATOR INSTRUCTIONS* | R | 5.122.1.11.1 | | Crew | 131 | A | Normal Operation Procedures |
| *SECTION II - REPAIR/OVERHAUL PROCEDURES* | R | 5.122.1.11.2 | | Procedural | 664 | B | Repair/Overhaul Procedures |
| *SECTION III - REPAIR PARTS LIST* | R | 5.122.1.11.3 | | IPD | 607 | E | Repair Parts Information |
| **CHAPTER 9. EXTERNAL TRANSPORT BY HELICOPTER (AERIAL RECOVERY)** | R | 5.122.1.12 | Chapter PM | | | | |
| *SECTION I - GENERAL* | R | 5.122.1.12.1 | | | | | |
| Types of Transport | R | 5.122.1.12.1.1 | | Descriptive | 812 | F | Aerial Recovery - General |
| Functions of Aircraft Recovery Team | R | 5.122.1.12.1.2 | | | | | |
| Safety | R | 5.122.1.12.1.3 | | | | | |
| Structurally Damaged Aircraft | R | 5.122.1.12.1.4 | | | | | |
| Drag | R | 5.122.1.12.1.5 | | | | | |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| *SECTION II - SINGLE CARGO HOOK ROTOR HEAD LIFT* | R | 5.122.1.12.2 | | | | | |
| Lift Factors | R | 5.122.1.12.2.1 | | Descriptive | 812 | G | Aerial Recovery - Lift Factors |
| Preparing the Aircraft | R | 5.122.1.12.2.2 | | Procedural | 800 | Y | Preparing the Aircraft – Aircraft Recovery, Single Cargo Hook Rotor Head Lift |
| Reassembly | R | 5.122.1.12.2.3 | | Procedural | 710 | D | Reassembly |
| *SECTION III - SINGLE CARGO HOOK HARD POINT LIFT* | R | 5.122.1.12.3 | | Procedural | 812 | H | Aerial Recovery - Single Cargo Hook Hard Point Lift |
| *SECTION IV - DUAL CARGO HOOK ROTOR HEAD LIFT* | R | 5.122.1.12.4 | | Procedural | 812 | K | Aerial Recovery - Dual Cargo Hook Rotor Head Lift |
| *SECTION V - DUAL CARGO HOOK HARD POINT LIFT* | R | 5.122.1.12.5 | | Procedural | 812 | J | Aerial Recovery - Dual Cargo Hook Hard Point Lift |
| *SECTION VI - SINGLE CARGO HOOK BELLY BAND LIFT* | R | 5.122.1.12.6 | | Procedural | 812 | M | Aerial Recovery - Single Cargo Hook Belly Band Lift |
| **APPENDIX A.** | | | Appendix PM | | | | |
| *REFERENCES* | R | 5.122.1.13 | | Descriptive | 017 | B | References |
| **APPENDIX B.** | R | | Appendix PM | | | | |
| *PRESERVATION/ DEPRESERVATION CHECK SHEETS* | R | 5.122.1.14 | | Descriptive | 810 | E | Preservation/ Depreservation Check Sheets |
| **APPENDIX C.** | | | Appendix PM | | | | |
| *WEIGHT AND BALANCE INFORMATION FOR TRANSPORTABILITY* | R | 5.122.1.15 | | Descriptive | 169 | A | Weight and Balance |
| **APPENDIX D.** | | | Appendix PM | | | | |
| *CONSUMABLE MATERIALS LIST* | R | 5.122.1.16 | | IPD | 070 | B | Consumable Materials list |
| **APPENDIX E.** | | | Appendix PM | | | | |
| *SPECIAL TOOLS AND EQUIPMENT LIST* | R | 5.122.1.17 | | IPD | 061 | B | Support Equipment and Tools |



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**Table A-XXVIII. Preparation for Shipment of Army Aircraft Manual requirements matrix for _____.**

| Content Requirement | CLG Req. | Ref | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **APPENDIX F.** | | | Appendix PM | | | | |
| *QUARANTINE INSPECTION/CUSTOMS CLEARANCE* | R | 5.122.1.18 | | Procedural | 812 | L | Quarantine Inspection/Customs Clearance |
| **APPENDIX G.** | | | Appendix PM | | | | |
| *AIRCRAFT PROTECTIVE COVERING* | R | 5.122.1.19 | | | | | |
| Safety | R | 5.122.1.19.1 | | Procedural | 812 | Q | Preparation of Aircraft - Protective Covering |
| Aircraft Preparation | R | | | | | | |
| Application of Film | R | 5.122.1.19.1.2 | | | | | |
| Fuel and Battery Vents | R | 5.122.1.19.1.3 | | | | | |
| Installation of Ventilators | R | 5.122.1.19.1.4 | | | | | |
| Hoisting | R | 5.122.1.19.2 | | Procedural | 812 | R | Hoisting |
| Tiedown | R | 5.122.1.19.3 | | Procedural | 811 | F | Tiedown - General |
| Enroute Maintenance | R | 5.122.1.19.4 | | Procedural | 664 | | Repair/Overhaul Procedures |
| Removal of Shrink Film | R | 5.122.1.19.5 | | Procedural | 812 | S | Shipment of Aircraft - Protective Covering, Removal |
| *TOOLS AND EQUIPMENT* | R | 5.122.1.19.6 | | Descriptive | 802 | A | List of Materials Associated With Storage |
| Consumable Materials | R | 5.122.1.19.6.2 | | | | | |
| Manpower | | 5.122.1.19.6.3 | | | | | |
| *SAFETY CHECK SHEET* | R | 5.122.1.19.7 | | Descriptive | 012 | C | Safety Check Sheet |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXIX. DMWRs for Maintenance/Demilitarization of Conventional and Chemical Ammunition requirements matrix for _____.**

| Content Requirement | DWR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. INTRODUCTION** | | 5.87.22.1.3 | Chapter PM | | | | |
| Scope | R | 5.87.22.1.3.1 | | Descriptive | 018 | A | Introduction |
| Forms, Records, and Reports | R | 5.87.22.1.3.2 | | | | | |
| Deviations, Waivers, and Exceptions | R | 5.87.22.1.3.3 | | | | | |
| Corrosion Prevention and Control (CPC) | R | 5.87.22.1.3.4 | | | | | |
| Work Planning | R | 5.87.22.1.3.5 | | | | | |
| Disposition | R | 5.87.22.1.3.6 | | | | | |
| Safety Requirements | R | 5.87.22.1.3.7 | | | | | |
| Protection Against Pentachlorophenol (Penta)-Treated Materials | R | 5.87.22.1.3.8 | | | | | |
| Protection Against Specific Hazards | R | 5.87.22.1.3.9 | | | | | |
| Environmental Regulation Compliance | R | 5.87.22.1.3.10 | | | | | |
| Resource Conservation and Recovery Regulations | R | 5.87.22.1.3.11 | | | | | |
| Tabulated Data | R | 5.87.22.1.3.12 | | | | | |
| **CHAPTER 2. OPERATIONAL REQUIREMENTS** | R | 5.87.22.1.4 | Chapter PM | Procedural | 130 | E | Operational Requirements |
| **CHAPTER 3. QUALITY ACCEPTANCE REQUIREMENTS** | R | 5.87.22.1.5 | Chapter PM | Descriptive | 315 | A | Quality Assurance Requirements |
| Definitions | R | 5.87.22.1.6<br>5.128.1.1.10 | | Descriptive | 006 | A | List of Terms |
| **APPENDIX A** | | | Appendix PM | | | | |
| *REFERENCES* | R | 5.87.22.1.7.1 | | Descriptive | 017 | B | References |
| **APPENDIX B** | | | Appendix PM | | | | |
| *CONSUMABLE MATERIALS* | R | 5.87.22.1.7.2 | | Descriptive | 101 | B | Consumable Materials |



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**Table A-XXIX. DMWRs for Maintenance/Demilitarization of Conventional and Chemical Ammunition requirements matrix for _____.**

| Content Requirement | DWR Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **APPENDIX C** | | | Appendix PM | | | | |
| *EQUIPMENT AND SPECIAL FACILITIES* | R | 5.87.22.1.7.3 | | Descriptive | 105 | B | Equipment and Special Facilities |
| **APPENDIX D** | | | Appendix PM | | | | |
| *TABULATED DATA, MILITARY SPECIFICATIONS, AND DRAWINGS* | R | 5.87.22.1.7.4 | | Descriptive | 00V | A | Tabulated Data, Military Specifications, and Drawings |
| **APPENDIX E** | | | Appendix PM | | | | |
| *APPROVED INTRAPLANT TRANSFER EQUIPMENT* | R | 5.87.22.1.7.5 | | Descriptive | 104 | B | Approved Intraplant Transfer Equipment |
| **APPENDIX F** | | | Appendix PM | | | | |
| *PENTACHLOROPHENOL (PENTA)-TREATED PACKING MATERIALS* | | 5.87.22.1.7.6 | | Descriptive | 820 | B | Pentachlorophenol (Penta)-Treated Packing Materials |
| **APPENDIX G** | | | Appendix PM | | | | |
| *ENVIRONMENTAL REQUIREMENTS* | R | 5.87.22.1.7.7 | | Descriptive | 030 | B | Environmental Requirements |
| **APPENDIX H** | | | Appendix PM | | | | |
| *HAZARD ANALYSIS* | R | 5.87.22.1.7.8 | | Descriptive | 012 | B | Hazard Analysis |
| **OTHER APPENDIXES** | R | | Appendix PM | Descriptive | PD | A | |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXX. Munition Equipment and Ammunition Data Sheet Manual requirements matrix for _____.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **DATA SHEETS** | | | Chapter PM | | | | |
| Photograph or Line Drawing of the Munitions Equipment or Ammunition Item | R | 5.105.1.4 | | Descriptive | 030 | D | Munition Equipment and Ammunition Data Sheets |
| Type Classification | R | 5.105.1.4.2 | | | | | |
| Use | R | 5.105.1.4.3 | | | | | |
| Description | R | 5.105.1.4.4 | | | | | |
| Functioning | R | 5.105.1.4.5 | | | | | |
| Differences Between Models | R | 5.105.1.4.6 | | | | | |
| Tabulated Data | R | 5.105.1.4.7 | | | | | |
| Performance | R | 5.105.1.4.8 | | | | | |
| Temperature Limits | R | 5.105.1.4.9 | | | | | |
| Drawings | R | 5.105.1.4.10 | | | | | |
| Unit of Issue | R | 5.105.1.4.11 | | | | | |
| Packing Data | R | 5.105.1.4.12 | | | | | |
| Shipping and Storage Data | R | 5.105.1.4.13 | | | | | |
| Limitations | R | 5.105.1.4.14 | | | | | |
| References | R | 5.105.1.4.15 | | | | | |
| Remarks | R | 5.105.1.4.16 | | | | | |
| Associated Equipment | R | 5.105.1.4.17 | | | | | |
| Kits | R | 5.105.1.4.18 | | | | | |
| **APPENDICES** | R | 5.105.1.5 | Appendix PM | | | | |
| **APPENDIX A.** | | | | | | | |
| *DELETED ITEMS* | R | 5.105.1.5.1 | | Descriptive | 003 | D | Deleted Items |
| **APPENDIX B.** | | | | | | | |
| *OPERATIONAL INDEX* | R | 5.105.1.5.2 | | Descriptive | 942 | D | Operational Index |
| **APPENDIX C.** | | | | | | | |
| *PREPARATION AND HANDLING OF AMMUNITION PECULIAR EQUIPMENT FOR SHIPMENT AND STORAGE* | R | 5.105.1.5.3 | | Descriptive | 810 | D | Preparation and Handling of Ammunition Peculiar Equipment for Shipment and Storage |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | | |
| **CHAPTER 1. INTRODUCTION** | R | 5.115.1.8 | Chapter PM | | | | | |
| General | R | 5.115.1.8 | | | Crew | 018 | A | Introduction |
| Explanation of Warnings, Cautions, and Notes | R | 5.115.1.8.1 | | | Crew | 012 | H | Explanation of Warnings, Cautions, and Notes |
| Description | R | 5.115.1.8.2 | | | Crew | 042 | F | Theory of Operation |
| Army Aviation Safety Program | R | 5.115.1.8.3 | | | Crew | 017 | B | References |
| Destruction of Army Materiel | R | 5.115.1.8.3 | | | | | | |
| Forms and Records | R | 5.115.1.8.3 | | | | | | |
| Explanation of Change Symbols | R | 5.115.1.8.4 | | | Crew | 018 | B | How to Use This Manual |
| Designator Symbols | R | 5.115.1.8.4.1 | | | | | | |
| Explanation of the Use of Shall, Should, and May | R | 5.115.1.8.4.2 | | | | | | |
| Additional Introductory Information | R | 5.115.1.8.4.3 | | | | | | |
| **CHAPTER 2. AIRCRAFT AND SYSTEMS DESCRIPTION AND OPERATION** | R | 5.115.1.9 | Chapter PM | | | | | |
| *SECTION I – AIRCRAFT* | R | 5.115.1.9.2 | | Section PM | | | | |
| General | R | 5.115.1.9.2.1 | | | Crew | 043 | J | Description |
| Illustrations and Tables | R | 5.115.1.9.2.2 | | | | | | |
| Landing Gear System | R | 5.115.1.9.2.4 | | | | | | |
| Instruments, Panels and Consoles | R | 5.115.1.9.2.5 | | | | | | |
| Canopies | AR | 5.115.1.9.2.6 | | | | | | |
| Doors | AR | 5.115.1.9.2.7 | | | | | | |
| Seats | AR | 5.115.1.9.2.8 | | | | | | |
| *SECTION II - EMERGENCY EQUIPMENT* | R | 5.115.1.9.3 | | Section PM | Crew | 043 | J | Description |
| *SECTION III - ENGINES AND RELATED SYSTEMS* | R | 5.115.1.9.4 | | Section PM | | | | |
| Engines | R | 5.115.1.9.4.1 | | | Crew | 043 | J | Description |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *SECTION IV - FUEL SYSTEM* | R | 5.115.1.9.5 | | Section PM | | | | |
| Controls and Indicators | R | 5.115.1.9.5.2 | | | Crew | 043 | J | Description |
| Fuel System Management | R | 5.115.1.9.5.3 | | | | | | |
| *SECTION V - FLIGHT CONTROL SYSTEM* | R | 5.115.1.9.6 | | Section PM | | | | |
| Automatic Flight Control System | R | 5.115.1.9.6.2 | | | Crew | 043 | J | Description |
| *SECTION VI - HYDRAULIC AND PNEUMATIC SYSTEMS* | AR | 5.115.1.9.7 | | Section PM | Crew | 043 | J | Description |
| *SECTION VII - POWERTRAIN SYSTEM* | R | 5.115.1.9.8 | | Section PM | Crew | 043 | J | Description |
| *SECTION VIII - ROTORS OR PROPELLERS* | R | 5.115.1.9.9 | | Section PM | Crew | 043 | J | Description |
| *SECTION IX - UTILITY SYSTEMS* | R | 5.115.1.9.10 | | Section PM | Crew | 043 | J | Description |
| *SECTION X – HEATING, VENTILATION, COOLING, AND ENVIRONMENTAL CONTROL SYSTEMS* | AR | 5.115.1.9.11 | | Section PM | Crew | 043 | J | Description |
| *SECTION XI - ELECTRICAL POWER SUPPLY AND DISTRIBUTION SYSTEMS* | R | 5.115.1.9.12 | | Section PM | | | | |
| DC Power Supply System | R | 5.115.1.9.12.1 | | | Crew | 043 | J | Description |
| AC Power Supply System | R | 5.115.1.9.12.2 | | | | | | |
| Breakers | R | 5.115.1.9.12.3 | | | | | | |
| *SECTION XII - AUXILIARY POWER UNIT* | R | 5.115.1.9.13 | | Section PM | Crew | 043 | J | Description |
| *SECTION XIII – LIGHTING* | R | 5.115.1.9.14 | | Section PM | Crew | 043 | J | Description |
| *SECTION XIV - FLIGHT INSTRUMENTS* | R | 5.115.1.9.15 | | Section PM | Crew | 043 | J | Description |
| *SECTION XV - SERVICING, PARKING, AND MOORING* | R | 5.115.1.9.16 | | Section PM | | | | |
| Servicing Diagram | R | 5.115.1.9.16.2 | | | Crew | 043 | J | Description |
| Servicing Information | R | 5.115.1.9.16.3 | | | | | | |
| Approved Fuels | R | 5.115.1.9.16.4 | | | | | | |
| Additional Servicing Instructions | R | 5.115.1.9.16.5 | | | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Ground Handling | R | 5.115.1.9.16.6 | | | | | | |
| Parking and Mooring | R | 5.115.1.9.16.7 | | | | | | |
| **CHAPTER 3. AVIONICS** | R | 5.115.1.10 | Chapter PM | | | | | |
| *SECTION I – GENERAL* | R | 5.115.1.10.1 | | Section PM | Crew | 018 | A | Introduction |
| *SECTION II – COMMUNICATIONS* | R | 5.115.1.10.2 | | Section PM | | | | |
| Description | R | 5.115.1.10.2.1 | | | Crew | 043 | J | Description |
| Controls and Functions | R | 5.115.1.10.2.2 | | | | | | |
| Operation | R | 5.115.1.10.2.3 | | | | | | |
| Emergency Operation (If Applicable) | R | 5.115.1.10.2.4 | | | | | | |
| Power Source (If Applicable) | R | 5.115.1.10.2.5 | | | | | | |
| *SECTION III – NAVIGATION* | R | 5.115.1.10.2 | | Section PM | | | | |
| Description | R | 5.115.1.10.2.1 | | | Crew | 043 | J | Description |
| Controls and Functions | R | 5.115.1.10.2.2 | | | | | | |
| Operation | R | 5.115.1.10.2.3 | | | | | | |
| Emergency Operation (If Applicable) | R | 5.115.1.10.2.4 | | | | | | |
| Power Source (If Applicable) | R | 5.115.1.10.2.5 | | | | | | |
| *SECTION IV - TRANSPONDER AND RADAR* | R | 5.115.1.10.2 | | Section PM | | | | |
| Description | R | 5.115.1.10.2.1 | | | Crew | 043 | J | Description |
| Controls and Functions | R | 5.115.1.10.2.2 | | | | | | |
| Operation | R | 5.115.1.10.2.3 | | | | | | |
| Emergency Operation (If Applicable | R | 5.115.1.10.2.4 | | | | | | |
| Power Source (If Applicable) | R | 5.115.1.10.2.5 | | | | | | |
| **CHAPTER 4. MISSION EQUIPMENT** | R | 5.115.1.11 | Chapter PM | | | | | |
| *SECTION I - MISSION AVIONICS* | R | 5.115.1.11.2 | | Section PM | Crew | 043 | J | Description |
| *SECTION II - ARMAMENT* | AR | 5.115.1.11.3 | | Section PM | | | | |
| Armament Control System | AR | 5.115.1.11.3.2 | | | Crew | 043 | J | Description |
| Gunnery Equipment | AR | 5.115.1.11.3.3 | | | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Rocket Equipment | AR | 5.115.1.11.3.4 | | | | | | |
| Missiles | AR | 5.115.1.11.3.5 | | | | | | |
| *SECTION III - CARGO HANDLING* | AR | 5.115.1.11.4 | | Section PM | Crew | 160 | F | Cargo Handling |
| *SECTION IV - PASSIVE DEFENSE* | R | 5.115.1.11.5 | | Section PM | Crew | 043 | A | Description |
| *SECTION V - ADDITIONAL SYSTEM COVERAGE* | AR | 5.115.1.11.5.1 | | Section PM | Crew | 043 | J | Description |
| **CHAPTER 5. OPERATING LIMITS AND RESTRICTIONS** | R | 5.115.1.12 | | | | | | |
| *SECTION I – GENERAL* | R | 5.115.1.12.2 | | Section PM | Crew | 043 | B | Operating Limits - General |
| *SECTION II - SYSTEM LIMITS* | R | 5.115.1.12.3 | | | | | | |
| Instrument, Interactive Display, or Display Operating Ranges and Markings | R | 5.115.1.12.3.1 | | Section PM | Crew | 043 | H | Operating Limits - System |
| Propeller Limitations | R | 5.115.1.12.3.2 | | | | | | |
| Rotor Limitations | R | 5.115.1.12.3.3 | | | | | | |
| Additional Limitations | R | 5.115.1.12.3.4 | | | | | | |
| *SECTION III - POWER LIMITS* | R | 5.115.1.12.4 | | Section PM | Crew | 043 | C | Operating Limits - Power |
| *SECTION IV - LOADING LIMITS* | R | 5.115.1.12.5 | Chapter PM | | | | | |
| Center-of-Gravity Limitations | R | 5.115.1.12.5.2 | | Section PM | Crew | 043 | D | Operating Limits - Loading |
| Weight Limitations | R | 5.115.1.12.5.3 | | | | | | |
| Turbulence | R | 5.115.1.12.5.4 | | | | | | |
| Other Limitations | R | 5.115.1.12.5.5 | | | | | | |
| *SECTION V - MAXIMUM AND MINIMUM AIRSPEED LIMITS* | R | | | Section PM | | | | |
| Airspeed Operating Limits Chart | R | 5.115.1.12.6 | | | Crew | 043 | E | Operating Limits - Airspeed |
| *SECTION VI - MANEUVERING LIMITS* | R | | | Section PM | | | | |
| Flight Envelope Chart | R | 5.115.1.12.7 | | | Crew | 043 | F | Operating Limits - Maneuvering |
| *SECTION VII - ENVIRONMENTAL RESTRICTIONS* | R | | | Section PM | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Flight Under Instrument Meteorological Conditions (IMC) | R | 5.115.1.12.8 | | | Crew | 043 | G | Operating Limits - Environment |
| Additional Sections | R | 5.115.1.12.8.3 | | Section PM | Crew | 043 | B | Operating Limits - General |
| **CHAPTER 6. WEIGHT/BALANCE AND LOADING** | R | 5.115.1.13 | | | | | | |
| *SECTION I – GENERAL* | R | 5.115.1.12.5 | | Section PM | | | | |
| Aircraft Compartment and Station Diagram | R | 5.115.1.13.1.2 | | | Crew | 169 | A | Weight and Balance |
| *SECTION II - WEIGHT AND BALANCE* | R | 5.115.1.13.2 | | Section PM | Crew | 169 | F | Weight and Balance Data |
| *SECTION III - FUEL/OIL* | R | | | Section PM | | | | |
| Oil Data | R | 5.115.1.13.3 | | | Crew | 169 | B | Weight and Balance - Fluids |
| *SECTION IV – PERSONNEL* | AR | 5.115.1.13.4 | | Section PM | | | | |
| Personnel Compartment and Entrances | AR | 5.115.1.13.4.2 | | | Crew | 169 | C | Weight and Balance - Personnel |
| Personnel Loading and Unloading | AR | 5.115.1.13.4.3 | | | | | | |
| Personnel Weight | AR | 5.115.1.13.4.4 | | | | | | |
| Personnel Moments | AR | 5.115.1.13.4.5 | Chapter PM | | | | | |
| *SECTION V - MISSION EQUIPMENT* | R | 5.115.1.13.5 | | Section PM | Crew | 169 | D | Weight and Balance – Mission Equipment |
| *SECTION VI - CARGO LOADING* | AR | 5.115.1.13.6 | | Section PM | | | | |
| Description and Illustrations | AR | 5.115.1.13.6.2 | | | Crew | 160 | D | Cargo Loading |
| Equipment Loading and Unloading | AR | 5.115.1.13.6.3 | | | | | | |
| Preparation of General Cargo | AR | 5.115.1.13.6.4 | | | | | | |
| Loading, Securing, and Unloading Cargo | AR | 5.115.1.13.6.5 | | | | | | |
| Cargo Center-of-Gravity | AR | 5.115.1.13.6.6 | | | | | | |
| Loading Procedure | AR | 5.115.1.13.6.7 | | | | | | |
| Securing Loads | AR | 5.115.1.13.6.8 | | | | | | |
| Unloading Procedures | AR | 5.115.1.13.6.9 | | | | | | |
| *SECTION VII - CENTER-OF-GRAVITY* | R | 5.115.1.13.7 | | Section PM | Crew | 169 | E | Center-of-Gravity |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **CHAPTER 7 . PERFORMANCE DATA** | R | 5.115.1.14 | Chapter PM | | | | | |
| *SECTION I – INTRODUCTION* | R | 5.115.1.14.13 | | Section PM | Crew | 018 | A | Introduction |
| *SECTION II - CHARTS* | R | 5.115.1.14.14 | | Section PM | Crew | 030 | E | Performance Data |
| **CHAPTER 8. NORMAL PROCEDURES** | R | 5.115.1.15 | Chapter PM | | | | | |
| *SECTION I - CREW/OPERATOR DUTIES* | R | 5.115.1.15.2 | | Section PM | Crew | 130 | E | Operational Requirements |
| *SECTION II - OPERATING PROCEDURES AND MANEUVERS* | R | 5.115.1.15.3 | | Section PM | | | | |
| Procedures | R | 5.115.1.15.3.2 | | | Crew | 131 | A | Normal Operation Procedures |
| Amplified Checklist | R | 5.115.1.15.3.3 | | | Crew | 130 | B | Amplified Checklist |
| Preflight Check | R | 5.115.1.15.3.4 | | | Crew | 131 | M | Normal operation check - Preflight |
| Before Exterior Check | | 5.115.1.15.3.5 | | | Crew | 131 | M | Normal operation check - Preflight |
| Exterior Check | R | 5.115.1.15.3.6 | | | Crew | 131 | M | Normal operation check - Preflight |
| Interior Check | R | 5.115.1.15.3.7 | | | Crew | 131 | M | Normal operation check - Preflight |
| Crew/Operator/Passenger Briefing Check | R | 5.115.1.15.3.8 | | | Crew | 131 | M | Normal Operation Check - Preflight |
| Before Starting Engine(s) | R | 5.115.1.15.3.9 | | | Crew | 131 | B | Normal Operation - Preflight |
| Starting Engine(s) | R | 5.115.1.15.3.9 | | | | | | |
| Engine Ground Operations | | 5.115.1.15.3.9 | | | | | | |
| Before Taxiing | R | 5.115.1.15.3.9 | | | | | | |
| Taxiing | R | 5.115.1.15.3.9 | | | | | | |
| Engine Run up | R | 5.115.1.15.3.9 | | | | | | |
| Before Takeoff | R | 5.115.1.15.3.9 | | | | | | |
| Lineup Check | R | 5.115.1.15.3.9.2 | | | Crew | 130 | C | Lineup Check |
| Takeoff | R | 5.115.1.15.3.10 | | | Crew | 131 | C | Normal Operation - Flight |
| After Takeoff | R | 5.115.1.15.3.10 | | | | | | |
| Climb | R | 5.115.1.15.3.10 | | | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Cruise | R | 5.115.1.15.3.10 | | | | | | |
| Descent-Arrival | R | 5.115.1.15.3.10 | | | | | | |
| Before Landing | R | 5.115.1.15.3.10 | | | | | | |
| Landing | R | 5.115.1.15.3.10 | | | | | | |
| Touch and Go Landings/Go-Around | R | 5.115.1.15.3.10 | | | | | | |
| After Landing | R | 5.115.1.15.3.11 | | | Crew | 131 | D | Normal Operation - Post Flight |
| Engine Shutdown | R | 5.115.1.15.3.11 | | | | | | |
| Before Leaving the Aircraft | AR | 5.115.1.15.3.11 | | | | | | |
| *SECTION III - INSTRUMENT FLIGHT* | R | 5.115.1.15.4 | | Section PM | Crew | 131 | G | Normal Operation - Instrument Flight |
| *SECTION IV - FLIGHT CHARACTERISTICS* | R | 5.115.1.15.5 | | Section PM | | | | |
| Stalls | R | 5.115.1.15.5.1 | | | Crew | 131 | E | Normal Operation - Flight Characteristics |
| Stall Chart (Fixed Wing Only) | | 5.115.1.15.5.2 | | | | | | |
| Spins (Fixed Wing Only) | | 5.115.1.15.5.3 | | | | | | |
| Diving | R | 5.115.1.15.5.4 | | | | | | |
| Maneuvering Flight | R | 5.115.1.15.5.5 | | | | | | |
| Flight Controls | R | 5.115.1.15.5.6 | | | | | | |
| Level Flight | R | 5.115.1.15.5.7 | | | | | | |
| External Loads | R | 5.115.1.15.5.8 | | | | | | |
| Asymmetrical Loads | R | 5.115.1.15.5.9 | | | | | | |
| *SECTION V - ADVERSE ENVIRONMENTAL CONDITIONS* | R | 5.115.1.15.6 | | Section PM | | | | |
| Cold Weather Operations | R | 5.115.1.15.6.1 | | | Crew | 131 | F | Normal Operation - Weather |
| Desert and Hot Weather Operations | R | 5.115.1.15.6.2 | | | | | | |
| Turbulence and Thunderstorm Operations | R | 5.115.1.15.6.3 | | | | | | |
| Rain | R | 5.115.1.15.6.4 | | | | | | |
| **CHAPTER 9 - EMERGENCY PROCEDURES** | R | 5.115.1.16 | Chapter PM | | | | | |
| *SECTION I - AIRCRAFT SYSTEMS* | R | 5.115.1.16.2 | | Section PM | | | | |
| Emergency Equipment and Exits | AR | 5.115.1.16.2.1 | | | Crew | 141 | B | Aircraft Systems |
| Engine | R | 5.115.1.16.2.2 | | | | | | |



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**Table A-XXXI. Aircraft Operator Manual requirements matrix for _____.**

| Content Requirement | OPI Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| Propeller/ Rotor, Transmissions, and Drive Systems | R | 5.115.1.16.2.3 | | | | | | |
| Fire | R | 5.115.1.16.2.5 | | | | | | |
| Fuel System | R | 5.115.1.16.2.6 | | | | | | |
| Electrical System | R | 5.115.1.16.2.7 | | | | | | |
| Hydraulic System | R | 5.115.1.16.2.8 | | | | | | |
| Landing and Ditching | R | 5.115.1.16.2.9 | | | | | | |
| Flight Controls | R | 5.115.1.16.2.10 | | | | | | |
| Bailout/Eject | AR | 5.115.1.16.2.11 | | | | | | |
| *SECTION II - MISSION EQUIPMENT* | AR | 5.115.1.16.3 | | Section PM | | | | |
| Emergency Jettisoning | AR | 5.115.1.16.3.1 | | | Crew | 141 | C | Mission Equipment |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | | |



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**Table A-XXXII. Aircraft Operator Checklist requirements matrix for _____.**

| Content Requirement | CCL Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | | | | | | |
| *CHECKLIST* | | 5.115.3.1.2.1 | Chapter PM | | | | | |
| General Information and Scope | R | 5.115.3.1.4.3 | | | Crew | 018 | A | Introduction |
| Normal Procedures | R | 5.115.3.1.4.4 | | | Crew | 130 | D | Normal Procedures |
| Through-flight Checklist | | 5.115.3.1.4.5 | | | Crew | 131 | T | Through-Flight Checklist |
| Emergency Procedures | R | 5.115.3.1.4.6 | | | Crew | 141 | A | Emergency Operations Procedures |
| Performance Data | R | 5.115.3.1.4.7 | | | Crew | 131 | N | Normal Operation Checklist - Performance Data |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | | |



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**Table A-XXXIII. Maintenance Test Flight Manual requirements matrix for _____.**

| Content Requirement | FMM Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | | | | | | |
| *SECTION I – INTRODUCTION* | R | | Chapter PM | Section PM | | | | |
| General | R | 5.122.1.4.1 | | | Crew | 018 | A | Introduction |
| Purpose | R | 5.115.4.1.4.2 | | | | | | |
| Definitions | R | 5.115.4.1.4.3 | | | | | | |
| General Information | R | 5.115.4.1.4.4 | | | | | | |
| Special Instructions | R | 5.115.4.1.4.5 | | | | | | |
| *SECTION 2 - MTF CHECKLIST.* | R | | | Section PM | | | | |
| General | R | 5.115.4.1.5 | | | Crew | 135 | B | MTF Checklist |
| *SECTION 3 - TROUBLESHOOTING GUIDES* | R | | | Section PM | | | | |
| General | R | 5.115.4.1.6 | | | Crew | 018 | C | Troubleshooting Introduction |
| *SECTION 4 - SPECIAL/DETAILED PROCEDURES* | R | 5.115.4.1.7 | | Section PM | Crew | PD | | |
| *SECTION 5 - CHARTS AND FORMS* | R | | | Section PM | | | | |
| General | R | 5.115.4.1.8 | | | Crew | 00Y | B | Charts and Forms |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | | |



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**Table A-XXXIV. Demilitarization of Surplus Military Items Manual requirements matrix for _____.**

| Content Requirement | Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1. INTRODUCTION** | R | 5.101.2.1.6 | Chapter PM | | | | |
| Scope | R | 5.101.2.1.6.1 | | Descriptive | 018 | A | Introduction |
| Authorization | R | 5.101.2.1.6.2 | | | | | |
| Certification | R | 5.101.2.1.6.3 | | | | | |
| Reporting Demilitarization | R | 5.101.2.1.6.4 | | | | | |
| Special Information | R | 5.101.2.1.6.5 | | | | | |
| **CHAPTER 2. METHODS OF DEMILITARIZATION** | R | 5.101.2.1.7 | Chapter PM | Descriptive | 997 | F | Methods of Demilitarization |
| **CHAPTER 3. DETAILED INSTRUCTIONS FOR DEMILITARIZATION** | R | 5.101.2.1.8 | Chapter PM | Descriptive | 997 | G | Detailed Instructions for Demilitarization |
| **APPENDIX A.** | | | Appendix PM | | | | |
| *REFERENCES* | R | 5.101.2.1.9 | | Descriptive | 017 | B | References |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXXV. Warranty Technical Bulletin (WTB) requirements matrix for _____.**

| Content Requirement | WTB Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | | 5.128 | Front Matter PM | | | | |
| *PARAGRAPH 1, GENERAL* | R | 5.106.2.1.6.1 | | Descriptive | 028 | A | Warranty Information |
| *PARAGRAPH 2, EXPLANATION OF TERMS* | R | 5.106.2.1.6.2 | | | | | |
| *PARAGRAPH 3, COVERAGE – SPECIFIC* | R | 5.106.2.1.6.3 | | | | | |
| Contractor Responsibilities | R | 5.106.2.1.6.4 | | | | | |
| Government Responsibilities/Identification | R | 5.106.2.1.6.5 | | | | | |
| Design/Performance Specifications | R | 5.106.2.1.6.6 | | | | | |
| Nullification | R | 5.106.2.1.6.7 | | | | | |
| Claim Procedures | R | 5.106.2.1.6.9 | | | | | |
| Storage/Shipment/Handling | R | 5.106.2.1.6.10 | | | | | |
| **APPENDIXES** | | 5.106.2.1.7 | Appendix PM | Descriptive | 023 | F | Warranty Tables |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXXVI. Destruction of Equipment to Prevent Enemy Use Manual requirements matrix for _____.**

| Content Requirement | DTM Req. | Ref. | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|
| **DESTRUCTION OF EQUPIPMENT TO PREVENT ENEMY USE.** *NOTE: If a separate destruction of material manual is not developed for this equipment, then a destruction chapter must be included.* | | | | | | | |
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | |
| **CHAPTER 1 . GENERAL INFORMATION** | R | | Chapter PM | | | | |
| Introduction | R | 5.101.3.1.6.2 | | Descriptive | 997 | D | Destruction General Information |
| Authorization | R | 5.101.3.1.6.3 | | | | | |
| Reporting Destruction | R | 5.101.3.1.6.4 | | | | | |
| General Destruction Information | R | 5.101.3.1.6.5 | | | | | |
| Degree of Damage | R | 5.101.3.1.6.6 | | | | | |
| Essential Components and Spare Parts | R | 5.101.3.1.6.7 | | | | | |
| **CHAPTER X. DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE** | R | | Chapter PM | | | | |
| Parts List | R | 5.101.3.1.7 | | Descriptive | 907 | B | Parts List |
| Specific Destruction Procedures | R | 5.101.3.1.8 | | Procedural | 997 | B | Destruction Procedures |
| Classified Equipment and Documents | R | 5.101.3.1.9 | | Procedural | 997 | C | Destruction Procedures - Classified Equipment |
| **CHAPTER X - SUPPORTING INFORMATION** | | 5.106.1 | Chapter PM | | | | |
| *REFERENCES* | R | 5.106.1.1.2 | | Descriptive | 017 | B | References |
| **REAR MATTER** | | 5.128.3.1 | Rear Matter PM | | | | |



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**Table A-XXXVII. Test, Measurement and Diagnostic Equipment Manual requirements matrix for _____.**

| Content Requirement | DWR Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| **FRONT MATTER** | R | 5.128 | Front Matter PM | | | | | |
| **CHAPTER 1. INTRODUCTION** | R | | Chapter PM | | | | | |
| *SECTION I - SCOPE* | R | 5.97.5.1.5.1 | | Section PM | Descriptive | 018 | H | TMDE Introduction |
| *SECTION II - DESCRIPTION AND DATA* | R | 5.97.5.1.5.2 | | Section PM | Descriptive | 040 | B | Description |
| Equipment & Accessories | R | 5.97.5.1.5.2.4 | | | Descriptive | 304 | B | Special Support Equipment and Tools |
| Publications Required | R | 5.97.5.1.5.2.4 | | | Descriptive | 017 | L | List of Publications Required |
| Consumable/expendable items | R | | | | Descriptive | 070 | D | Expendable and Durable Items |
| **CHAPTER 2. FUNCTIONAL ANALYSIS** | R | 5.97.5.1.6 | Chapter PM | | Descriptive | 042 | B | Functional Analysis |
| **CHAPTER 3. OPERATING PROCEDURES** | R | | Chapter PM | | | | | |
| *SECTION I - SETUP PROCEDURES* | R | 5.97.5.1.7.1 | | Section PM | Procedural | 125 | B | Setup Procedures |
| *SECTION II - CONTROLS AND INDICATORS* | R | 5.97.5.1.7.2 | | Section PM | Descriptive | 111 | A | Controls and Indicators |
| *SECTION III - TURN-ON AND TURN-OFF PROCEDURES* | R | 5.97.5.1.7.3 | | Section PM | Procedural | 131 | H | Turn-On and Turn-Off Procedures |
| **CHAPTER 4. MAINTENANCE REQUIREMENTS** | R | 5.97.5.1.8 | Chapter PM | | | | | |
| *SECTION I – FACILITIES, EQUIPMENT, AND MATERIAL STANDARDS* | R | 5.97.5.1.8.1 | | Section PM | | | | |
| Facilities | R | 5.97.5.1.8.1.1 | | | Descriptive | 202 | B | Facilities, Equipment, and Material Standards |
| Material Standards | R | 5.97.5.1.8.1.2 | | | | | | |
| Special Tools and Equipment | R | 5.97.5.1.8.1.3 | | | IPD | 304 | B | Special Support Equipment and Tools |



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**Table A-XXXVII. Test, Measurement and Diagnostic Equipment Manual requirements matrix for _____.**

| Content Requirement | DWR Req. | Ref. | PM Type | PM Type | DM Type | Info Code | ICV | Info Name |
|---|---|---|---|---|---|---|---|---|
| *SECTION II - PREVENTIVE MAINTENANCE* | R | 5.97.5.1.8.2 | | Section PM | Descriptive | 200 | E | Preventive Maintenance |
| *SECTION III - PRE-OPERATIONAL SPECIFICATIONS AND SELF-TEST PROCEDURE* | R | 5.97.5.1.8.3 | | Section PM | Procedural | 330 | C | Pre-Operational Specifications and Self-Test Procedure |
| *SECTION IV – TROUBLESHOOTIN G* | R | 5.97.5.1.8.4 | | Section PM | Fault | 421 | B | Troubleshooting procedure |
| *SECTION V – MAINTENANCE* | R | 5.97.5.1.8.5 | | Section PM | | | | |
| Disassembly | R | 5.97.5.1.8.5.1 | | | Procedural | 530 | A | Disassembly Procedure |
| Repair, Replace, and Adjust. | R | 5.97.5.1.8.5.1.1 | | | Procedural | 685 | B | Repair or Replacement |
| Assembly | R | 5.97.5.1.8.5.2 | | | Procedural | 710 | A | Assemble Procedure |
| **CHAPTER 5. CALIBRATION** | R | 5.97.5.1.9 | Chapter PM | | Procedural | 273 | A | Calibrate |
| **APPENDIX A** | | | Appendix PM | | | | | |
| *REFERENCES* | R | 5.97.5.1.10 | | | Descriptive | 017 | B | References |
| **APPENDIX B** | | | Appendix PM | | | | | |
| *LIST OF PARTS* | R | 5.97.5.1.11 | | | IPD | 307 | A | List of Parts |
| **APPENDIX C** | | | Appendix PM | | | | | |
| *UNIT UNDER TEST (UUT) PROCEDURES AND TEST SETUP DIAGRAMS* | R | 5.97.5.1.12 | | | Procedural | 320 | B | UUT Procedures |
| **OTHER APPENDIXES** | | 5.97.5.1.13 | Appendix PM | | Descriptive | PD | | |
| **REAR MATTER** | R | 5.128.3.1 | Rear Matter PM | | | | | |



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# 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 5.84. 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 LOGSA.

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 LOGSA.

B.4.4 Additional information variants.

Projects shall coordinate all new information code variants with LOGSA. 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.



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## B.5 DETAILED REQUIREMENTS.

**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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) |
| 003 | A | Change records and highlights | |
| 003 | B | Change records and highlights | Deleted items |
| 003 | C | Change records and 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 | |
| 007 | A | List of symbols | |
| 008 | A | Technical standard records | |
| 008 | B | Technical standard records | Technical directives |
| 009 | A | Table of contents | |
| 010 | A | General data | General data |
| 010 | B | General data | General information |
| 010 | C | General data | General information (Maintenance requirement) |
| 010 | D | General data | General information (Preventive maintenance) |
| 010 | E | General data | General information (Phased maintenance inspection) |
| 011 | A | Function | |
| 011 | B | Function | Foreign ammunition |
| 011 | C | Function | Technical description |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 | Explanation 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 |
| 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 |
| 013 | A | Numeric indexes | |
| 014 | A | Alphabetic and alphanumeric indexes | |
| 014 | B | Alphabetic and alphanumeric indexes | 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 |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 017 | N | List of related data | Technical publications affected/changed |
| 018 | A | Introduction | 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 lists | |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 019 | B | Supplier lists | List of manufacturers |
| 020 | A | Configuration | |
| 020 | B | Configuration | Modes of operation |
| 021 | A | Copyright | |
| 022 | A | 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<br>Navy: Certification sheet |
| 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 procedures |
| 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 |
| 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 |
| 034 | A | Technical data (physical breakdown) | |
| 034 | B | Technical data (physical breakdown) | System architecture description |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 043 | A | Description attributed to crew | |
| 043 | B | Description attributed to crew | Operating limits - General |
| 043 | C | Description attributed to crew | Operating limits - Power |
| 043 | D | Description attributed to crew | Operating limits - Loading |
| 043 | E | Description attributed to crew | Operating limits - Airspeed |
| 043 | F | Description attributed to crew | Operating limits - Maneuvering |
| 043 | G | Description attributed to crew | Operating limits - Environment |
| 043 | H | Description attributed to crew | Operating limits - System |
| 043 | J | Description attributed to crew | 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 |
| 050 | A | Diagram and lists | |
| 050 | B | Diagram and lists | Referenced drawings |
| 051 | A | Wiring diagrams | |
| 051 | B | Wiring diagrams | Cable running sheets |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 052 | A | Routing diagrams | |
| 053 | A | Connection lists | |
| 054 | A | Schematic diagrams | |
| 054 | B | Schematic diagrams | Architecture drawings |
| 055 | A | Location diagrams | |
| 055 | B | Location diagrams | Aircraft stations |
| 055 | C | Location diagrams | Access and inspection panels |
| 055 | D | Location diagrams | External power source connections |
| 055 | E | Location diagrams | Work area |
| 055 | F | Location diagrams | Zone description |
| 055 | G | Location diagrams | Aircraft structure visual index |
| 055 | H | Location diagrams | Inspection zone description |
| 056 | A | Equipment lists | |
| 056 | B | Equipment lists | 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 |
| 058 | A | Harness list | |
| 058 | B | Harness list | Wiring system bundle assembly identification and information |
| 058 | C | Harness list | Wire bundle assembly routings |
| 058 | D | Harness list | |
| 059 | A | Maintenance envelope diagrams | |
| 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 | |
| 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 |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 | Stowage and 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 | Material | |
| 073 | A | Expendables | |
| 074 | A | Data sheets for dangerous consumables and materials | |
| 074 | B | Data sheets for dangerous consumables and materials | Electromagnetic hazards |
| 074 | C | Data sheets for dangerous consumables and materials | Hazardous components |
| 075 | A | Parts list | |
| 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 | Fluids | |
| 077 | A | Data sheets for consumables and materials | |
| 078 | A | Fasteners | |
| 080 | A | Mixtures and solutions | |
| 081 | A | Chemical solution | |
| 082 | A | Chemical mixture | |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 090 | A | Software documentation | |
| 090 | B | Software documentation | User interface guide |
| 096 | A | Safety items and parts | |
| 00A | A | List of illustrations (normally used in front matter) | |
| 00A | B | List of illustrations (normally used in front matter) | List of figures |
| 00B | A | List of support equipment (normally used in front matter) | |
| 00B | B | List of support equipment (normally used in front matter) | Hardware interfaces |
| 00B | C | List of support equipment (normally used in front matter) | Software interfaces |
| 00B | D | List of support equipment (normally used in front matter) | Associated systems |
| 00C | A | List of supplies (normally used in front matter) | |
| 00D | A | List of spares (normally used in front matter) | |
| 00E | A | Functional items numbers technical information repository | |
| 00F | A | Circuit breakers technical information repository | |
| 00G | A | Parts technical information repository | |
| 00H | A | Zones technical information repository | |
| 00J | A | Access panels and doors technical information repository | |
| 00K | A | Organizations technical information repository | |
| 00L | A | Supplies - List of products technical information repository | |
| 00M | A | Supplies - List of requirements technical information repository | |
| 00N | A | Support equipment technical information repository | |
| 00P | A | Product cross-reference table | |
| 00Q | A | Conditions cross-reference table | |
| 00R | A | List of effective pages | (Prohibited for Army use) |
| 00R | B | List of effective pages | List of applicable checks |



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**TABLE B-I. Function, data for plans and description information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 | TDPR incorporated cards |
| 00U | A | Highlights | |
| 00V | A | List of applicable specifications and documentation | |
| 00V | B | List of applicable specifications and documentation | Tabulated data, military specifications, and drawings |
| 00W | A | Applicability cross-reference table | |
| 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 |
| 00Z | A | List of tables | |
| 0A1 | A | Functional and/or physical areas repository | (Prohibited for Army use) |
| 0A2 | A | Applicability repository | |
| 0B0 | A | Maintenance planning information | |
| 0B1 | A | Time limits | |
| 0B2 | A | System maintenance/Inspection tasks list | |
| 0B3 | A | Structure maintenance/inspection tasks lists | |
| 0B4 | A | Zonal maintenance/inspection tasks list | |
| 0B5 | A | Unscheduled check | |



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**TABLE B-II. Operation information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 transfer 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 (crew) | Controls and indicators |
| 112 | A | Modes of operation (crew) | |
| 115 | A | Displays and alerts | |
| 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 |



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**TABLE B-II. Operation information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 120 | G | Pre-operation | Procedures to activate ammunition |
| 120 | H | Pre-operation | Arming prior to launch |
| 121 | A | Pre-operation procedures (crew) | |
| 121 | B | Pre-operation procedures (crew) | Initial adjustments, before use and self-test |
| 122 | A | Siting | |
| 123 | A | Shelter | |
| 123 | C | Shelter | Van and shelter procedure |
| 125 | A | Pre-operation procedures checklist (crew) | |
| 125 | B | Pre-operation procedures checklist (crew) | Setup procedures |
| 126 | A | Conditions of readiness | Conditions of readiness |
| 126 | B | Conditions of readiness | Environmental conditioning |
| 130 | A | Normal operation | |
| 130 | B | Normal operation | Amplified checklist |
| 130 | C | Normal operation | Lineup check |
| 130 | D | Normal operation | Normal procedures |
| 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 procedures |
| 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 procedures 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 |
| 132 | A | Starting procedure (maintenance) | |
| 133 | A | Shutdown procedure (maintenance) | |
| 134 | A | Emergency procedures checklist | |
| 134 | B | Emergency procedures checklist | Error recovery |



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**TABLE B-II. Operation information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 135 | A | Normal operation procedures checklist | |
| 135 | B | Normal operation procedures checklist | MTF checklist |
| 139 | A | NBC procedures | |
| 139 | B | NBC procedures | Interim Chemical, Biological, Radiological, and Nuclear (CBRN) decontamination procedures |
| 140 | A | Emergency operations procedures - General | |
| 140 | B | Emergency operations procedures - General | Operation under emergency conditions |
| 141 | A | Emergency operations procedures | Emergency operations procedures |
| 141 | B | Emergency operations procedures | Aircraft systems |
| 141 | C | Emergency operations procedures | Mission equipment |
| 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 Countermeasures (ECM) procedures | |
| 145 | A | Emergency operation procedures checklist (crew) | |
| 146 | A | Emergency shutdown operation procedure (Checklist) | |
| 150 | A | Post-operation | |
| 151 | A | Post-operation procedures (crew) | |
| 151 | B | Post-operation procedures (crew) | Power off procedure |
| 151 | C | Post-operation procedures (crew) | Stopping and suspending work |



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**TABLE B-II. Operation information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 151 | D | Post-operation procedures (crew) | Post-operation shut down procedures |
| 151 | E | Post-operation procedures (crew) | Emergency shutdown procedures |
| 151 | F | Post-operation procedures (crew) | Disarming after landing |
| 155 | A | Post-operation procedures checklist (crew) | |
| 160 | A | Loading/Unloading procedures | |
| 160 | B | Loading/Unloading procedures | Weighing and loading |
| 160 | C | Loading/Unloading procedures | On-vehicle equipment loading plan |
| 160 | D | Loading/Unloading procedures | Cargo loading |
| 160 | E | Loading/Unloading procedures | Aircraft preparation for loading |
| 160 | F | Loading/Unloading procedures | Cargo handling |
| 160 | G | Loading/Unloading procedures | Cargo unloading |
| 160 | H | Loading/Unloading procedures | Release and control system checks |
| 160 | J | Loading/Unloading procedures | Equipment used for loading |
| 160 | K | Loading/Unloading procedures | Loading configuration |
| 160 | L | Loading/Unloading procedures | Weapon loading |
| 160 | M | Loading/Unloading procedures | Weapon unloading |
| 160 | N | Loading/Unloading procedures | After launch checks |
| 160 | P | Loading/Unloading procedures | Turnaround procedures |
| 161 | A | Special operation | |
| 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 |
| 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 procedures |
| 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 |



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**TABLE B-II. Operation information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 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 |
|---|---|---|---|
| 200 | A | Servicing | 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 | Preventive maintenance checklist |
| 200 | K | Servicing | Ammunition maintenance |
| 200 | L | Servicing | Corrosion control general information |
| 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 | |
| 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 liquids | |
| 219 | A | Fill with other gases | |
| 220 | A | Drain liquid and release pressure | |
| 221 | A | Defuel and drain fuel | |
| 222 | A | Drain oil | |



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**TABLE B-III. Servicing information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 223 | A | Release oxygen pressure | |
| 224 | A | Release nitrogen pressure | |
| 225 | A | Release air pressure | |
| 226 | A | Drain water | |
| 227 | A | Release liquid pressure | |
| 228 | A | Drain other liquids | |
| 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 agents | |
| 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 markings | |
| 257 | B | Paint and apply markings | Painting |
| 258 | A | Other procedures to clean | |
| 259 | A | Other procedures 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 | |
| 264 | A | Remove contamination | |
| 270 | A | Adjust, align and calibrate | |



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**TABLE B-III. Servicing information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 273 | A | Calibrate | |
| 273 | D | Calibrate | Preliminary calibration of equipment |
| 274 | A | Harmonize | |
| 275 | A | Grooming | |
| 276 | A | Rig | Rigging |
| 278 | A | Easily and quickly adjust after a battle damage repair | |
| 279 | A | Easily and quickly align after a battle damage repair | |
| 280 | A | Inspections | Inspection |
| 280 | B | Inspections | List of inspections |
| 280 | C | Inspections | Postloading inspection |
| 280 | D | Inspections | Inspection preparation |
| 280 | E | Inspections | Postcheck procedures |
| 281 | A | Scheduled inspections | |
| 282 | A | Unscheduled inspections | |
| 283 | A | Special regular inspections | |
| 284 | A | Special irregular inspections | |
| 285 | A | Structure inspections for allowable damage limits | |
| 286 | A | Structure inspections for repair | |
| 288 | A | Overhaul and retirement schedule | |
| 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 | |



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**TABLE B-III. Servicing information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 297 | A | Change hydrogen | |
| 298 | A | Change of other liquids | |
| 299 | A | Change of other gases | |



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**TABLE B-IV. Examinations, tests, and checks information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 300 | A | Examinations, tests & checks | |
| 300 | B | Examinations, tests & 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 | Equipment requirements |
| 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 | List of parts |
| 310 | A | Visual examinations | |
| 310 | B | Visual examinations | Inspecting and servicing the equipment |
| 310 | C | Visual examinations | Overhaul inspection procedures |
| 310 | D | Visual examinations | Inspection - Acceptance and rejection criteria |
| 310 | E | Visual examinations | PMS inspection |
| 310 | F | Visual examinations | PM inspection |
| 310 | G | Visual examinations | System cable checks |
| 310 | H | Visual examinations | Installation checkout |
| 310 | J | Visual examinations | Inspection of installed items |
| 310 | K | Visual examinations | Phase sequence control |
| 310 | L | Visual examinations | Inspection for corrosion |
| 310 | M | Visual examinations | Inspect during assembly |
| 310 | N | Visual examinations | Pre-embarkation inspection |
| 311 | A | Visual examination without special equipment | |
| 312 | A | Examination with a borescope | |
| 315 | A | Quality assurance requirements | |
| 320 | A | Operation tests | |



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**TABLE B-IV. Examinations, tests, and checks information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 320 | B | Operation tests | UUT procedures |
| 320 | C | Operation tests | 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 preparation | Preliminary operations - Test |
| 330 | C | Test preparation | Pre-operational specifications and self-test procedure |
| 331 | A | Connection of test equipment | |
| 331 | B | Connection of test equipment | Pretest setup procedures |
| 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 procedures |
| 334 | C | Removal of the unit after the test | Post-operational checkout shutdown procedures |
| 340 | A | Function tests | |
| 340 | B | Function tests | Test procedures |
| 340 | C | Function tests | Testing |
| 340 | D | Function tests | Test after repairs |
| 341 | A | Manual test | |
| 341 | B | Manual test | Component checklist |
| 341 | C | Manual test | Preshop analysis |
| 342 | A | Automatic test | |
| 343 | A | BITE test | |
| 343 | B | BITE test | Built-in test procedures |
| 344 | A | Compatibility test | |
| 345 | A | System test | |
| 346 | A | Other check | |
| 347 | A | Maintenance turn-on | |
| 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 |



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**TABLE B-IV. Examinations, tests, and checks information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 350 | E | Structure test | Non-destructive testing inspection general information |
| 351 | A | Tests for surface cracks with dye penetrant | |
| 352 | A | Tests 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 | |
| 355 | A | Test for cracks and other defects with ultrasonics | |
| 356 | A | Hardness tests | |
| 357 | A | Gamma ray | |
| 358 | A | Resonance frequency | |
| 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 | |
| 365 | A | Continuity check | |
| 366 | A | Resistance check | |
| 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 | Blade track check | |
| 374 | A | Fuel analysis | |
| 375 | A | Shooting accidental discharge analysis | |
| 376 | A | Checks post application of adhesive | |
| 377 | A | Contamination analysis | |
| 390 | A | Sample test | |



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**TABLE B-IV. Examinations, tests, and checks information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 396 | A | Flight control surface movement | |
| 397 | A | Landing gear movement | |



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**TABLE B-V. Fault reports and isolation procedures information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 400 | A | Fault reports & isolation procedures | |
| 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 of fault | |
| 420 | A | General fault isolation procedures | |
| 421 | A | Fault isolation procedures (unspecified) | |
| 421 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 422 | A | Fault isolation procedures (unspecified) | |
| 422 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |



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**TABLE B-V. Fault reports and isolation procedures information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 423 | A | Fault isolation procedures (unspecified) | |
| 423 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 424 | A | Fault isolation procedures (unspecified) | |
| 424 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 425 | A | Fault isolation procedures (unspecified) | |
| 425 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 426 | A | Fault isolation procedures (unspecified) | |
| 426 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 427 | A | Fault isolation procedures (unspecified) | |
| 427 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 428 | A | Fault isolation procedures (unspecified) | |
| 428 | B | Fault isolation procedures (unspecified) | Troubleshooting procedure |
| 429 | A | Diagnostics | |
| 430 | A | Fault isolation task supporting data | |
| 440 | A | Indexes | |
| 441 | A | Fault isolation task supporting data | |
| 441 | B | Fault isolation task supporting data | Relay, coil, switch and lamp indices |
| 441 | C | Fault isolation task supporting data | Protective device index |
| 441 | D | Fault isolation task supporting data | Redundant pluggable electronic components |
| 441 | E | Fault isolation task supporting data | Maintenance assistance modules |
| 442 | A | Maintenance message index | |



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**TABLE B-VI. Disconnect, remove, and disassemble procedures information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 500 | A | Disconnect, remove and disassemble procedures | |
| 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 procedures | |
| 520 | A | Remove procedures | Removal procedure |
| 521 | A | Return to basic configuration (Undressing) | |
| 522 | A | 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 devices | |
| 530 | A | Disassemble procedures | Disassembly procedure |
| 540 | A | Open for access procedures | |
| 550 | A | Unload software procedures | |
| 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 | |
| 562 | A | Depressurize hydraulics | |
| 563 | A | Deactivate 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 |
|---|---|---|---|
| 600 | A | Repairs & locally make procedures & 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 |
| 604 | C | List of support equipment and tools associated with repairs | Wiring system component repair tool 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.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 623 | A | Braze | |
| 624 | A | Rivet | |
| 625 | A | Solder | |
| 626 | A | Splice | |
| 627 | A | Weld | |
| 630 | A | Change the mechanical strength/Structure of materials | |
| 631 | A | Anneal | |
| 632 | A | Case harden | |
| 633 | A | Cure | |
| 634 | A | Normalize | |
| 635 | A | Shot-peen | |
| 636 | A | Temper | |
| 638 | A | Other treatments | |
| 638 | B | Other treatments | Airframe sealing |
| 638 | C | Other treatments | Fuel tank sealing |
| 638 | D | Other treatments | Corrosion control sealants |
| 639 | A | Other processes to change the mechanical strength/structure of materials | |
| 640 | A | Change the surface finish of materials | |
| 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 materials | |
| 650 | B | Remove materials | Remove paint |
| 651 | A | Abrasive blast | |
| 652 | A | Bore/Drill/Ream | |
| 653 | A | Electrical/Electro-chemical/Chemical etch | |
| 654 | A | Broach | |
| 655 | A | Grind | |
| 656 | A | Mill | |



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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 |
|---|---|---|---|
| 657 | A | Thread/Tap | |
| 658 | A | Turn | |
| 659 | A | Other processes t remove material | |
| 660 | A | Structure repair procedures and data | |
| 660 | B | Structure repair procedures and data | Transparent panel repair |
| 660 | C | Structure repair procedures and data | Honeycomb structure repair |
| 660 | D | Structure repair procedures and data | Extrusion repair |
| 660 | E | Structure repair procedures and data | Sealed area repair |
| 660 | F | Structure repair procedures and data | Formed structure repair |
| 660 | G | Structure repair procedures and data | Plastic repair |
| 660 | H | Structure repair procedures and data | New/peculiar structure repair |
| 660 | J | Structure repair procedures and data | Skin patch repair |
| 661 | A | Allowable damage | |
| 662 | A | Temporary repair procedures | |
| 663 | A | Standard repair procedures | |
| 663 | B | Standard repair procedures | Refurbishment |
| 664 | A | Special repair procedures | |
| 664 | B | Special repair procedures | Overhaul procedures |
| 664 | C | Special repair procedures | Rebuild |
| 665 | A | Fly-in repair procedures | |
| 666 | A | Material classification | |
| 667 | A | Structure classification | |
| 668 | A | Allowable damage of composite structures | |
| 669 | A | Allowable damage of mixed structures | |
| 670 | A | Locally make procedures and data | |
| 670 | B | Locally make procedures and data | Modification procedures |
| 670 | C | Locally make procedures and data | Recording and reporting of the modification |
| 670 | D | Locally make procedures and data | Modification application |
| 670 | E | Locally make procedures and data | Illustrated list of manufactured items |



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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 |
|---|---|---|---|
| 670 | F | Locally make procedures and data | Fabrication |
| 671 | A | Making of parts | |
| 680 | A | Battle-damage repair procedures 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 procedures | Repair |
| 685 | B | Repair procedures | Repair or replacement |
| 685 | C | Repair procedures | Replace |
| 686 | A | Isolation procedures | |
| 687 | A | Function tests after battle damage repair | |
| 688 | A | Battle damage repair kit | |
| 689 | A | Damage repair | |
| 690 | A | Miscellaneous | |
| 691 | A | Marking | |
| 692 | A | Connector repair | |



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**TABLE B-VIII. Assemble, install, and connect procedures information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 700 | A | Assemble, install & connect procedures | |
| 700 | B | Assemble, install & connect procedures | Bracket installation |
| 700 | C | Assemble, install & connect procedures | External components |
| 700 | D | Assemble, install & connect procedures | External tubing, cabling and clamping installation |
| 700 | E | Assemble, install & 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 procedures | Assembly procedure |
| 710 | B | Assemble procedures | Assembly and preparation for use |
| 710 | C | Assemble procedures | Assembly of equipment |
| 710 | D | Assemble procedures | Reassembly |
| 711 | A | Tighten procedures | |
| 711 | B | Tighten procedures | Torque limits |
| 712 | A | Lock procedures | |
| 713 | A | Pack procedures | Pack procedure |
| 720 | A | Install procedures | Install procedure |



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**TABLE B-VIII. Assemble, install, and connect procedures information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 720 | B | Install procedures | Special application installation instructions |
| 720 | C | Install procedures | Installation specifications |
| 720 | D | Install procedures | Add device |
| 720 | E | Install procedures | Install and configure |
| 720 | F | Install procedures | Software upgrade |
| 720 | G | Install procedures | 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 plan | |
| 728 | A | Foundation preparation | |
| 730 | A | Connect procedures | |
| 740 | A | Close after access procedures | |
| 750 | A | Load software procedures | |
| 752 | A | Data loading | |
| 760 | A | Reactivation procedure | |
| 761 | A | Energize electrical network | |
| 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 |
|---|---|---|---|
| 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 – Intermodal 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 | Package, handling, storage and transportation |
| 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 – Intermodal 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 | |
| 802 | A | List of materials associated with storage | |
| 803 | A | List of expendables associated with storage | |



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**TABLE B-IX. Storage procedures and data information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 procedures | Preservation procedure |
| 810 | B | Preservation procedures | Flyable storage of aircraft |
| 810 | C | Preservation procedures | Preparation for storage or shipment |
| 810 | D | Preservation procedures | Preparation and handling of ammunition peculiar equipment for shipment and storage |
| 810 | E | Preservation procedures | Preservation/Depreservation check sheets |
| 810 | F | Preservation procedures | Short storage of aircraft |
| 810 | G | Preservation procedures | Intermediate storage of aircraft |
| 810 | H | Preservation procedures | Preservation, packaging, and marking |
| 810 | J | Preservation procedures | Stowage |
| 811 | A | Preparation for vehicle transportation | |
| 811 | B | Preparation for vehicle transportation | Preservation of aircraft |
| 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 |
| 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 |



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**TABLE B-IX. Storage procedures and data information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 | Procedures to remove preservation material | |
| 820 | B | Procedures to remove preservation material | Pentachlorophenol (PENTA)-treated packing materials |
| 830 | A | Procedures to put items in containers | |
| 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 items from containers | |
| 840 | B | Procedures to remove items from containers | Unpacking |
| 841 | A | Vehicle unloading | |



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**TABLE B-IX. Storage procedures and data information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 850 | A | Procedures to keep items serviceable when in storage | |
| 860 | A | Procedures to move items when in storage | |
| 870 | A | Procedures to prepare items for use after storage | |
| 870 | B | Procedures to prepare items for use after storage | Checking unpacked equipment |
| 870 | C | Procedures to prepare items for use after storage | Processing unpacked equipment |
| 870 | D | Procedures to prepare items for use after storage | Unpacking and reassembly |
| 870 | E | Procedures to prepare items for use after storage | Depreservation and reassembly – General |
| 870 | F | Procedures to prepare items for use after storage | Depreservation and reassembly – C-5 |
| 870 | G | Procedures to prepare items for use after storage | Depreservation and reassembly – C-17 |
| 870 | J | Procedures to prepare items for use after storage | Depreservation and reassembly – C-130 |
| 870 | K | Procedures to prepare items for use after storage | Depreservation and reassembly – Vessel, tactical |
| 870 | L | Procedures to prepare items for use after storage | Depreservation and reassembly – Vessel, logistical |
| 870 | M | Procedures to prepare items for use after storage | Depreservation and reassembly – Vessel, us navy capable |
| 870 | N | Procedures to prepare items for use after storage | Depreservation and reassembly – Iintermodal container |
| 870 | P | Procedures to prepare items for use after storage | Placing in service |
| 871 | A | Set on condition | |
| 880 | A | Procedures when items are got out of storage | |



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**TABLE B-IX. Storage procedures and data information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 890 | A | Life data of items when in storage | |



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**TABLE B-X. Miscellaneous information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 | Illustrations | |
| 911 | B | Illustrations | Lubrication illustrations |
| 911 | C | Illustrations | Arming illustrations |
| 912 | A | Handling procedure | (Note: All 912 information code variants are being deprecated in S1000D in favor if information code 170.) |
| 912 | B | Handling procedure | Classified component handling |
| 912 | C | Handling procedure | Hazardous material handling procedures |
| 912 | D | Handling procedure | Special handling procedures |
| 912 | E | Handling procedure | Handling ammunition |
| 912 | F | Handling procedure | Ground handling |
| 912 | G | Handling procedure | Folding and unfolding wings |
| 912 | H | Handling procedure | Cockpit entry and safety check |
| 912 | J | Handling procedure | Parking |
| 912 | K | Handling procedure | Leveling |
| 912 | L | Handling procedure | Ground safety locks and pins |
| 912 | M | Handling procedure | Carrier deck handling |
| 912 | N | Handling procedure | Preparation for catapulting |
| 912 | P | Handling procedure | Arrested landing operation |
| 912 | Q | Handling procedure | Armament handling |
| 913 | A | General maintenance procedures | |
| 913 | B | General maintenance procedures | Equipment/user fitting instructions |
| 913 | C | General maintenance procedures | Safety grounds |
| 914 | A | Container data module | |
| 915 | A | Facilities | |
| 916 | A | MAC | MAC |



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**TABLE B-X. Miscellaneous information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 916 | B | MAC | 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 | |
| 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 - IPD | |
| 942 | A | Numerical indexes (Illustrated parts data) | |
| 942 | B | Numerical indexes (Illustrated parts data) | Part number index |
| 942 | C | Numerical indexes (Illustrated parts data) | Reference designator index |
| 942 | D | Numerical indexes (Illustrated parts data) | Cross reference index |
| 942 | E | Numerical indexes (Illustrated parts data) | Operational index |
| 942 | F | Numerical indexes (Illustrated parts data) | National stock number index |
| 950 | A | Composite process | |
| 951 | A | Generic process | |
| 952 | A | Generic learning content | |
| 961 | A | Calculation worksheets | |
| 970 | A | Approved Vendor Processes | |
| 980 | A | Environmental protection, fire-fighting and rescue | |
| 981 | A | Air cleaning | |
| 982 | A | Sewage treatment | |



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**TABLE B-X. Miscellaneous information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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) |
| 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 procedures |
| 997 | C | Disposal of product | Destruction procedures - 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 | Variant | Original information name | Alternate information name |
|---|---|---|---|
| C00 | A | Computer systems general | |
| C02 | A | Training | Training |
| C03 | A | Notes | |
| C04 | A | Problem handling | |
| C05 | 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 | |
| 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 | Verify reboot | |
| C30 | A | Coordinate | Coordinate |
| C31 | A | Defragmentation | |
| C32 | A | Input/Output media | |
| C33 | A | Disk mirroring | |
| C34 | A | Clear interference | Clear interference |
| C35 | A | Time check | Time check |
| C36 | A | Compatibility check | 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 |



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**TABLE B-XI. Computer systems information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| 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 |
| 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 | Manipulate/Use image |
| 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 | |
| C71 | A | Security description | |
| C72 | A | Security information | |
| C73 | A | Security procedures | |
| C74 | A | List of security/Classification codes | |
| C75 | A | Access control | Access control |
| C91 | A | Quality assurance | Quality assurance |
| C92 | A | Vendor information | |
| C93 | A | Quick reference guide | |
| C94 | A | Maintenance requirement card | |



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**TABLE B-XI. Computer systems information codes.**

| Info Code | Variant | Original information name | Alternate information name |
|---|---|---|---|
| C95 | A | Naming conventions | |
| C96 | A | Hardware requirements | Hardware requirements |
| C96 | B | Software requirements | Software requirements |
| C96 | C | Operating system requirements | Operating system requirements |



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# 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 a description 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 tables in this appendix are available in Excel at https://www.logsa.army.mil/mil40051/S1000D.cfm.

C.4.3 Intended use.

The tables in this appendix contain the following columns:

a. Column 1 (Army BR paragraph number) – This column identifies the paragraph number in this document describing the project decision.
b. Column 2 (Army BR paragraph title) – This column provides the title of the paragraph in this document describing the project decision.
c. Column 3 (S1000D chapter context) – This column identifies the S1000D chapter that pertains to the project decision.
d. Column 4 (Text of project decision point) – This column repeats the text of the project decision point found at the paragraph number indicated in column 1.

The Excel versions of these tables (refer to https://www.logsa.army.mil/mil40051/S1000D.cfm) contain the following additional columns:

a. Column 5 (Guidance) – Where appropriate, guidance is provided in this column to assist the project with determining their business rules.
b. Column 6 (BREX) - This column indicates whether the business rule can be codifed in the project BREX file or not.
c. Column 6 (Project Decision) – This column is where the project will document their business rules which are answers to the decision points described in column 4. If a project



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business rule is lengthy, the details of the project business rule may be in a separate document.

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. Project business rule decision points - Information generation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.6.2.1 | Definitions of information sets. | S1000D Chapter 3.3 – Information generation – Information sets. | The project shall decide which information sets are used and the definition of their content. |
| 5.6.2.2 | Project specific information sets. | S1000D Chapter 3.3 – Information generation – Information sets. | The project shall define all project specific information sets. |
| 5.6.2.3 | Content selection matrices. | S1000D Chapter 3.3 – Information generation – Information sets. | The project shall complete the content selection matrices by indicating which conditional and optional content is required by the project. |
| 5.7.2.1 | Use of zoning and access. | S1000D Chapter 3.4 – Information generation – Zoning and access. | The project shall decide whether to use the zoning rules or not. |
| 5.7.2.2 | Methods for zoning air systems. | S1000D Chapter 3.4 – Information generation – Zoning and access. | The project shall decide which method of zoning to use. |
| 5.7.2.3 | General identification of access points. | S1000D Chapter 3.4 – Information generation – Zoning and access. | The project shall determine the identification system for those access points that do not have identifiers. |
| 5.7.2.3.1 | Identifying access points for air systems. | S1000D Chapter 3.4 – Information generation – Zoning and access. | The project shall decide which method of zoning access to use, if needed. |
| 5.7.2.3.2 | Identifying access points for surface ships and submarine systems. | S1000D Chapter 3.4 – Information generation – Zoning and access. | The project shall decide which method of zoning access to use, if needed. |
| 5.8.2.1 | Frequency of updates. | S1000D Chapter 3.5 – Information generation – Updating data modules. | The project shall decide on the frequency of updates. |
| 5.8.2.2 | Deleted data modules. | S1000D Chapter 3.5 – Information generation – Updating data modules. | The project shall determine the method for handling and notification of deleted data modules. |
| 5.9.2.1 | For official use only. | S1000D Chapter 3.6 – Information generation – Security and data restrictions. | The project shall determine the use of the protective marking "FOR OFFICIAL USE ONLY (FOUO)" for non-COMSEC publications. |
| 5.9.2.2 | Caveats. | S1000D Chapter 3.6 – Information generation – Security and data restrictions. | Security code words applied to security classifications shall be defined within the project. |
| 5.10.2.1 | Degree of the application of Quality Assurance (QA). | S1000D Chapter 3.7 – Information generation – Quality assurance. | The project shall decide the degree of the application of QA. |



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**TABLE C-I. Project business rule decision points - Information generation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.10.2.2 | Decide on which type of first verification to use. | S1000D Chapter 3.7 – Information generation – Quality assurance. | The project shall decide which of the types of first verification are applied to data modules/technical publications. |
| 5.10.2.3 | Decide on the appropriate review cycle process. | S1000D Chapter 3.7 – Information generation – Quality assurance. | The project shall decide on the most appropriate review cycle processes and procedures. |
| 5.10.2.4 | In process review. | S1000D Chapter 3.7 – Information generation – Quality assurance. | The project shall determine the use of an in process review. |
| 5.10.2.5 | Applicability. | S1000D Chapter 3.7 – Information generation – Quality assurance. | The project shall decide if it is permitted to differentiate QA information depending on product configuration. |
| 5.10.2.6 | Draft delivery of unverified data modules. | S1000D Chapter 3.7 – Information generation – Quality assurance. | For other than final delivery, the project shall decide on whether unverified data modules can be delivered to the customer. |



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**TABLE C-II. Project business rule decision points - Authoring.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.11.2.1 | Simplified Technical English. | S1000D Chapter 3.9.1 – Authoring – General writing rules. | The project shall decide whether to require the use of Simplified Technical English or not. |
| 5.11.2.2 | Measurements. | S1000D Chapter 3.9.1 – Authoring – General writing rules. | The project shall determine the primary and secondary units of measure. |
| 5.12.2.1 | Scope of printable data. | S1000D Chapter 3.9.2 – Authoring – Illustration rules and multimedia. | The project shall determine which parts of the documentation need to be printable. |
| 5.12.2.2 | Multimedia technologies and environment. | S1000D Chapter 3.9.2 – Authoring – Illustration rules and multimedia. | The project shall agree to the multimedia technologies used and the expected environment in which they will operate. |
| 5.13.2.1 | Portrait. | S1000D Chapter 3.9.2.1 – Illustration rules and multimedia – Illustrations, General. | 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. |
| 5.13.2.2 | Case. | S1000D Chapter 3.9.2.1 – Illustration rules and multimedia – Illustrations, General. | The project shall decide on the use of sentence case or uppercase for text annotation. |
| 5.13.2.3 | Schematics. | S1000D Chapter 3.9.2.1 – Illustration rules and multimedia – Illustrations, General. | The project shall decide if schematics derived from engineering drawings shall include the original drawing number and revision status within the illustration area. |
| 5.15.2.1 | Color. | S1000D Chapter 3.9.2.3 – Illustration rules and multimedia – Use of color and photographs. | Unless specified otherwise by the acquiring activity, black and shades of black (one color) shall be used for paper publications. Prior approval for color will be obtained by the acquiring activity from the Army Publishing Directorate (APD). The acquiring activity will provide written approval, designating color(s) to be used. |
| 5.15.2.2 | Photographs. | S1000D Chapter 3.9.2.3 – Illustration rules and multimedia – Use of color and photographs. | Photographic illustrations may be used only when prior approval has been obtained from the acquiring activity. |



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**TABLE C-II. Project business rule decision points - Authoring.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.16.2.1 | General. | S1000D Chapter 3.9.2.4 – Illustration rules and multimedia – Multimedia, 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. |
| 5.16.2.2 | Use of three-dimensional (3-D) illustrations. | S1000D Chapter 3.9.2.4 – Illustration rules and multimedia – Multimedia, General. | The project shall decide if 3-D illustrations may be used, and if so for what purposes. |
| 5.17.2.1 | Use of the warnings and cautions collection. | S1000D Chapter 3.9.3 – Authoring – Warnings, cautions and notes. | The project shall decide whether to use the warning and caution collection (`<warningsAndCautions>`) or not. |
| 5.18.2.1 | Use of the extended highlight data module. | S1000D Chapter 3.9.4 – Authoring – Front matter. | The project shall decide whether to use an extended highlight data module or not. |



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**TABLE C-III. Project business rule decision points - Identifiaction and status.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.19.2.1 | Exchange of draft data modules within the project. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide whether to allow the exchange of draft data modules or not. |
| 5.19.2.2 | Issue date. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The definition of the issue date for data modules is to be determined by the project in its business rules. This can be, for example, the input date (i.e., the release to Common Source Database (CSDB) date), or the cut-off date for the information. |
| 5.19.2.3 | Data module code extension. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide if the extended data module identification scheme has to be applied to achieve unique data module instance identities. |
| 5.19.2.4 | Define a list of Commercial and Government Entity (CAGE) codes. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | 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`**. |
| 5.19.2.5 | Deleted data module retention. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide on the length of time that they retain changed and deleted data modules. |
| 5.19.2.6 | Responsible Partner Company (RPC) Commercial and Government Entity (CAGE) values. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | 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. |
| 5.19.2.7 | Originator Commercial and Government Entity (CAGE) values. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | 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. Refer to 5.69.1.5. |
| 5.19.2.8 | Originator name. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide the use of the element **`<enterpriseName>`** within the element **`<originator>`**. If used, then its use shall be consistent and made mandatory for the whole project. Refer to 5.69.1.5. |



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**TABLE C-III. Project business rule decision points - Identifiaction and status.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.19.2.9 | Applicability. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | 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. |
| 5.19.2.10 | Technical standard. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | Project shall decide the use of the element **`<techStandard>`**. If used, it shall be used consistently throughout the entire project. |
| 5.19.2.10.1 | Technical standard, details. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | If used, the project shall decide the use of publications base line and authority exceptions within the element **`<techStandard>`**. The project shall decide the use of case, space, and punctuation with regard to <techStandard>. |
| 5.19.2.11 | Authority information values. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall define the authority information values and their use shall be consistent for the whole project. |
| 5.19.2.12 | The element **`<authorityNotes>`**. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | If used, the project shall decide on suitable entries for the element **`<authorityNotes>`**. Refer to 5.19.1.9. |
| 5.19.2.13 | Use of applicability information. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide whether to use applicability on QA information. |
| 5.19.2.14 | System breakdown or functional breakdown codes. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide on whether or not to use one of the elements **`<systemBreakdownCode>`**, **`<functionalItemCode>`**, and **`<functionalItemRef>`**. When deciding the use of these elements, projects shall establish consistent population. |
| 5.19.2.15 | Use of the attribute **`functionalItemNumber`** within the element **`<functionalItemRef>`**. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide how attribute **`functionalItemNumber`** is to be populated when the element **`<functionalItemRef>`** is used. |



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**TABLE C-III. Project business rule decision points - Identifiaction and status.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.19.2.16 | Use of manufacturer code within the element **`<functionalItemRef>`**. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide if attribute **`manufacturerCodeValue`** is used and the required contexts, when using the element **`<functionalItemRef>`**. |
| 5.19.2.17 | Standard reasons for update. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall define standard reason for update sentences to be used. |
| 5.19.2.18 | Reason for update and the production process. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide on whether the element **`<reasonForUpdate>`** is to be used during the production process. |
| 5.19.2.19 | Use of applicability information. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide if it is permitted to differentiate reasons for update depending on Product configuration. |
| 5.19.2.20 | Definition of safety label attributes. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide what safety label attributes to use and what their definitions are. |
| 5.19.2.21 | Use of applicability information. | S1000D Chapter 3.9.5.1 – Data modules – Identification and status section. | The project shall decide if it is permitted to differentiate general remarks depending on Product configuration. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.20.2.1 | Use of the cross-reference method for the reason for update. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide whether or not to use the cross-reference method for linking changes to reasons for update. The method used shall be applied consistently in the project. |
| 5.20.2.2 | Types of changes to mark up. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if the update reason types (attribute **updateReasonType**) "**urt01**" (Editorial change), "**urt03**" (Markup change), and "**urt04**" (Applicability change) are to be used. Irrespective of the decision made, all projects shall follow the rules that change markers should only be included if the change is a technical change ("**urt02**"), and editorial changes shall not be marked. Further, no change markers shall appear if the issue type is not changed. |
| 5.20.2.3 | Definition of project specific change types. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | 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. |
| 5.20.2.4 | Format of reason for update identifiers. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall define and document a format for reason for update identifiers (for example: "**rfu-001**"). |
| 5.20.2.5 | Standard statements for reason for update. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide whether to use "standard reason for update" statements or not. |
| 5.20.2.6 | Use of reason for update. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide on the use of reason for update which can be used to automatically generate the highlights data module. |
| 5.20.2.7 | Use of reason for update in conjunction with the production process. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if the element **<reasonForUpdate>** is to be used during the production process. |
| 5.20.2.8 | Use of applicability information. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if it is permitted to differentiate reasons for update depending on product configuration. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.20.2.9 | Use of the attribute **id** on the element **<changeInline>** . | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if the attribute **id** is allowed to be used on the element **<changeInline>**. The purpose of the attribute shall be defined and it is considered good practice to define a format of the identifier. |
| 5.20.2.10 | Modify and add change markers. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide the use of "modify" and "add" change markers. |
| 5.20.2.11 | Use of the value "modify." | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | 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. |
| 5.20.2.12 | Display of change markings in tables. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if change markings are to be displayed for parts of a table; for page-oriented output, the change is displayed next to the row that contains the change. |
| 5.20.2.13 | Relationship between the element **<reasonForAmendment>** and the element **<reasonForUpdate>**. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | 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. |
| 5.20.2.14 | Recording reason for amendment. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | 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. |
| 5.20.2.15 | Change attributes on individual sheets of a multi-sheet figure. | S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking. | The project shall decide if change attributes are allowed on individual sheets of a multi-sheet figure. |
| 5.21.2.1 | Use and format of the attribute **referredFragment** of element **<dmRef>**. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide on the use of the attribute **referredFragment**. The project shall state in the business rules when referredFragment will be used and shall list the precautions if it is used. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.21.2.2 | Referenced technical publications. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the format of the referenced technical publications. For example, reference technical publications should be listed by their number, then a dash followed by the title. The project shall create business rules for this and shall define the use of punctuation. |
| 5.21.2.3 | Element **`<internalRef>`** target when addressing graphical objects. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the use of the optional attribute **`referredFragment`** of element **`<internalRef>`**. |
| 5.21.2.4 | Element **`<internalRef>`** destination title when addressing graphical objects. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the use of the optional attribute **`targetTitle`** of element **`<internalRef>`**. |
| 5.21.2.5 | Text in **`<internalRef>`** when addressing graphical objects. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide on rules for what text is allowed within the element **`<internalRef>`**. |
| 5.21.2.6 | Use of the element **`<externalPubIssueInfo>`**. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the use of the element **`<externalPubIssueInfo>`** and its child element **`<externalPubIssue>`**. |
| 5.21.2.7 | Use of the element **`<externalPubRefAddressItems>`**. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the use of the element **`<externalPubRefAddressItems>`**. |
| 5.21.2.8 | Use of the element **`<shortExternalPubTitle>`**. | S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing. | The project shall decide the use of the element **`<shortExternalPubTitle>`**. |
| 5.22.2.1 | Simple or unordered lists. | S1000D Chapter 3.9.5.2.1.3 – Common constructs – Lists. | For random lists, the project shall define the use of simple and unordered lists. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.23.2.1 | Caption attributes. | S1000D Chapter 3.9.5.2.1.4 – Common constructs – Caption Groups. | Captions are used to describe the appearance of actual controls and indicators and present them within the technical data. If the element **`<caption>`** is used, the project shall decide applicable values for the following presentation attributes.<br>How to encode the attribute **`systemIdentCode`** if used.<br>Whether the attribute **`tableOfContentType`** is required.<br>If in-line captions affect the text line spacing.<br>If element **`<captionLine>`** text color should be adjusted depending on the caption color.<br>The presentation in the publication/IETP should match the equipment appearance/presentation as closely as possible. |
| 5.25.2.1 | Table foldouts. | S1000D Chapter 3.9.5.2.1.6 – Common constructs – Tables. | The project shall decide the use of the element **`<foldout>`** for tables. |
| 5.25.2.2 | Use of applicability information. | S1000D Chapter 3.9.5.2.1.6 – Common constructs – Tables. | The project shall decide if the indication of applicability information is permitted on various table sub-elements depending on the Product configuration. If permitted, then the project shall also decide on the use of the attribute **`applicRefId`** for this purpose. |
| 5.26.2.1 | Use of applicability. | S1000D Chapter 3.9.5.2.1.7 – Common constructs – Figures and foldouts. | The project shall decide whether and how to use the attribute **`applicRefId`** for complete figures and illustration sheets. |
| 5.26.2.2 | Decide on the format of the entries in the legend. | S1000D Chapter 3.9.5.2.1.7 – Common constructs – Figures and foldouts. | The project shall define:<br>whether the text in the legend is in sentence case, upper case, or mixed case.<br>whether or not the element **`<listItemTerm>`** is to contain a leading zero when using callout/item numbers.<br>how hotspots are to be used. |
| 5.26.2.3 | Use of foldout. | S1000D Chapter 3.9.5.2.1.7 – Common constructs – Figures and foldouts. | The project shall decide whether the element **`<foldout>`** is used for IETP. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.27.2.1 | Use of hotspots. | S1000D Chapter 3.9.5.2.1.8 – Common constructs – Hotspots. | The project shall decide whether or not to use hotspots. |
| 5.28.2.1 | Production management data. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the element **`<productionMaintData>`**. |
| 5.28.2.2 | Use of the element **`<thresholdInterval>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use element **`<thresholdInterval>`**. |
| 5.28.2.3 | Use of the element **`<zoneRef>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the element **`<zoneRef>`** and how to use it. |
| 5.28.2.4 | Use of the element **`<accessPointRef>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the element **`<accessPointRef>`** and how to use it. |
| 5.28.2.5 | Use of the attribute **`lsarData`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the attribute **`lsarData`**. |
| 5.28.2.6 | Use of the element **`<workArea>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the element **`<workArea>`** and how to use it. If used, projects shall decide which data module types will use it. |
| 5.28.2.7 | Use of the attributes startupDuration and closeupDuration. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide if and how the attributes startupDuration and closeupDuration shall be used. |
| 5.28.2.8 | Use of the attribute **`reqCondCategory`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide the use of the attribute **`reqCondCategory`** (refer to 5.48.1.25). |
| 5.28.2.9 | Use of list of the element **`<reqCondCircuitBreaker>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | 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 or if the circuit breaker settings are part of the steps. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.28.2.10 | Values for the attribute **`personCategoryCode`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall define a list of categories (e.g., Electrician, Propulsion Engineer, Maintainer). |
| 5.28.2.11 | Trade codes. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall define a list of trades/trade codes. |
| 5.28.2.12 | Use of the element **`<reqTechInfo>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide whether or not to use the element **`<reqTechInfo>`**. |
| 5.28.2.13 | When to use the element **`<reqTechInfo>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide when to use the element **`<reqTechInfo>`**. |
| 5.28.2.14 | Listing of common and standard tools. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide what types of common and standard tools or toolkits are to be identified and listed. |
| 5.28.2.15 | Use of the attribute **`internalRefTargetId`** of element **`<internalRef>`** and the attribute **`id`** on element **`<supportEquipDescr>`**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide to make use of cross-references from the procedure to the support equipment listed in preliminary requirements. The attribute **`internalRefTargetId`** on element **`<internalRef>`** and the attribute **`id`** on element **`<supportEquipDescr>`** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged. |
| 5.28.2.16 | Use of identification. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide which elements to use for identification and how to populate these elements. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.28.2.17 | Use of the attribute **internalRefTargetId** of element **<internalRef>** and the attribute **id** on element **<supplyDescr>**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide to make use of cross-references from the Procedure to the supplies listed in preliminary requirements. The attribute **internalRefTargetId** on element **<internalRef>** and the attribute **id** on element **<supplyDescr>** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged. |
| 5.28.2.18 | Use of the attribute **internalRefTargetId** of element **<internalRef>** and the attribute **id** on element **<spareDescr>**. | S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion. | The project shall decide to make use of cross-references from the procedure to the spares listed in preliminary requirements. The attribute **internalRefTargetId** on element **<internalRef>** and the attribute **id** on element **<spareDescr>** are used to establish the link between the two and will guarantee consistent identification throughout the procedure. The use of cross-references is encouraged. |
| 5.29.2.1 | Index. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide whether an index is required and to what level indexing should be made. |
| 5.29.2.2 | Subscript. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall determine the use of the element **<subScript>**. |
| 5.29.2.3 | Superscript. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall determine the use of the element **<superScript>**. |
| 5.29.2.4 | Acronym. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide the use of the optional element **<acronym>**. |
| 5.29.2.5 | Use of attribute **verbatimStyle**. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide the use of the available values for the attribute **verbatimStyle** (refer to 5.48.1.40) and allocate suitable definitions to them in the project or organization business rules. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.29.2.6 | Types of inline significant data to markup. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | If using paragraph significant data markup, the project shall decide which types of data to mark up and in what contexts. Refer to 5.48.1.30 for values for the attribute **`significantParaDataType`**. |
| 5.29.2.7 | Level of implementation. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide whether to use quantity data markup and to what extent it is used. |
| 5.29.2.8 | Types of quantity data to markup. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | If using quantity data markup, the project shall decide which types of data to mark up and in what contexts. |
| 5.29.2.9 | Use of unit of measure. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | If using the value and tolerance decomposition, the project shall decide at which level of the markup that the unit of measure is to be applied. |
| 5.29.2.10 | Types of unit of measure. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | If using the value and tolerance decomposition, the project shall decide which unit of measure types to allow. |
| 5.29.2.11 | Circuit breaker. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | 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. |
| 5.29.2.12 | Circuit breaker attributes. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide whether to use the attributes circuitBreakerAction and checkSum. If the attribute **`checkSum`** is used, the project shall decide how it is to be populated. If the attribute **`circuitBreakerAction`** is used, the project shall establish writing rules to ensure that authors will be consistent in paragraph text and the value of the attribute itself. |
| 5.29.2.13 | Zones and access points. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide whether or not to use the element **`<zoneRef>`** and the element **`<accessPointRef>`**. |



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**TABLE C-IV. Project business rule decision points - Common constructs.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.29.2.14 | Footnote marker type. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall determine the type of footnote marker to be used. |
| 5.29.2.15 | Use of the attribute `controlIndicatorNumber`. | S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements. | The project shall decide whether or not to use the attribute `controlIndicatorNumber`. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.32.2.1 | Single subparagraphs. | S1000D Chapter 3.9.5.2.2 – Content section – Descriptive information. | The schema allows for a single subparagraph under a parent. The project shall decide whether to allow this breakdown in their descriptive data modules or to insist on a minimum of two subparagraphs. |
| 5.33.2.1 | Use of the optional element **`<commonInfo>`**. | S1000D Chapter 3.9.5.2.3 – Content section – Procedural information. | The project shall decide whether or not to use the element **`<commonInfo>`**, when to use the element, and give guidance and rules that will ensure it is consistently used. |
| 5.33.2.2 | Check. | S1000D Chapter 3.9.5.2.3 – Content section – Procedural information. | The project shall decide whether or not to use the attribute **`independentCheck`** and how to use it. |
| 5.33.2.3 | Skill levels. | S1000D Chapter 3.9.5.2.3 – Content section – Procedural information. | The project shall decide whether or not to use the attribute **`skillLevelCode`** and how to use it. |
| 5.33.2.4 | Maximum number of step levels. | S1000D Chapter 3.9.5.2.3 – Content section – Procedural information. | The project shall decide on the maximum step levels allowed. |
| 5.33.2.5 | Use of single sub-step. | S1000D Chapter 3.9.5.2.3 – Content section – Procedural information. | The schema allows for a single sub-step under a parent. The project shall decide whether to allow this breakdown in their procedural data modules or to insist on a minimum of two sub-steps. |
| 5.34.2.1 | Use of correlation. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide whether to use the correlated fault concept or not. |
| 5.34.2.2 | Correlated fault messages and warnings. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide how to populate element **`<warningMalfunction>`**, element **`<assocWarningMalfunction>`**, and element **`<bitMessage>`** when using the correlated fault concept. |
| 5.34.2.3 | Population of detection and description information elements. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide whether or not the repetition of the detection and description information for the basic fault which has been correlated (element **`<faultDescr>`** and element **`<detectionInfo>`**) is used. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.34.2.4 | Single fault isolation data module. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide whether all isolation procedures should be kept in a single data module for an item or fault or whether to refer out to other data modules. |
| 5.34.2.5 | Use of attribute **skillLevelCode**. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide whether or not to use the attribute **skillLevelCode** in the element **<isolationProcedure>**, the element **<isolationStep>**, and the element **<isolationProcedureEnd>**. Refer to 5.48.1.31. |
| 5.34.2.6 | Use of attribute **independentCheck**. | S1000D Chapter 3.9.5.2.4 – Content section – Fault information. | The project shall decide whether or not to use the attribute **independentCheck** in the element **<isolationProcedure>**, the element **<isolationStep>**, and the element **<isolationProcedureEnd>**. |
| 5.35.2.1 | Values for the attribute **thresholdUnitOfMeasure**. | S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information. | The project shall decide on the needed and available values for units of measurement. Refer to 5.48.1.38. |
| 5.35.2.2 | Use of the attribute **skilllLevelCode**. | S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information. | The project shall decide whether or not to use the attribute **skillLevelCode**. Refer to 5.48.1.31. |
| 5.35.2.3 | Use of the element **<commonInfo>**. | S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information. | The project shall decide whether or not to use this element. |
| 5.35.2.4 | Use of the element **<typeDesignation>**. | S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information. | The project shall decide whether or not the element **<typeDesignation>** shall be used. If used, it shall be used consistently throughout the MAC. |
| 5.36.2.1 | Skill level. | S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information. | The project shall decide whether or not to use the attribute **skillLevelCode**. Refer to 5.48.1.31. |
| 5.36.2.2 | Special conditions. | S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information. | The project shall decide whether or not to use the attribute **crewStepCondition**. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.36.2.3 | Check. | S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information. | The project shall decide whether or not to use the attribute **`independentCheck`**. |
| 5.36.2.4 | Use of the attribute **`keepWithNext`**. | S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information. | The project shall decide whether and how to use the attribute **`keepWithNext`** or not. |
| 5.36.2.5 | Use of crew member types. | S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information. | The project shall define needed values for the attribute **`crewMemberType`**. Refer to 5.48.1.9. |
| 5.37.2.1 | Item sequence number attributes. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the use of the optional attributes for the element **`<itemSequenceNumber>`**. |
| 5.37.2.2 | File identifier. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide use of the optional file identifier element **`<fileIdent>`**. |
| 5.37.2.3 | Unit of issue. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide use of the optional element **`<unitOfIssue>`**. |
| 5.37.2.4 | Unit of issue qualification segment. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide use of the optional element **`<unitOfIssueQualificationSegment>`**. |
| 5.37.2.5 | Use of the element **`<descrForItem>`** | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide which project-specific values are needed, if any. The values shall be documented in the project business rules and BREX. |
| 5.37.2.6 | Unit of measure. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the list of allowable values for the attribute **`unitOfMeasure`**. |
| 5.37.2.7 | Select or manufacture from range. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the list of allowable values for the element **`<selectOrManufactureFromIdent>`**. |
| 5.37.2.8 | Source, maintenance and recoverability. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the allowable values for the sixth character of this code. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.37.2.9 | Model version. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the list of allowable values for the element **`<modelVersion>`**. |
| 5.37.2.10 | Effectivity. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide the list of allowable values for unit/engine numbers. |
| 5.37.2.11 | Hotspots mechanism. | S1000D Chapter 3.9.5.2.7 – Content section – Parts information. | The project shall decide if the generic hotspots mechanism is addressed within the IPD data module content. |
| 5.38.2.1 | Use of the wiring data module. | S1000D Chapter 3.9.5.2.9 – Content section – Wiring information (and all sub-chapters). | The project may elect to use the wiring data module. If so, the project is required to coordinate efforts, including related business rules, with LOGSA. |
| 5.39.2.1 | Use of the process data module. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide when to use the process data module. |
| 5.39.2.2 | Level of context filtering. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide the level at which to apply applicability for context filtering purposes. |
| 5.39.2.3 | Model structure or expression. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide whether to use the applicability model structure for configuration items and applicability expressions for dynamic variables only or use the applicability expressions for both configuration items and dynamic variables. |
| 5.39.2.4 | Check. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide on the use of the element **`<dmSeq>`** and the attribute **`checkQualification`** to indicate that the whole sequence shall be checked by a supervisor with a given qualification. |
| 5.39.2.5 | Skill level. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide when the attribute **`skillLevelCode`** on element **`<dmSeq>`** is to be used. |
| 5.39.2.6 | Use of alternatives. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide whether to use the alternative nodes construct or not. |
| 5.39.2.7 | Use of loops. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide where and when to use the loop construct. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.39.2.8 | Dialogs associated with variables. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide if they will provide dialogs for variables in the variable declaration markup or author explicit dialogs whenever a variable in an expression might not have a value. |
| 5.39.2.9 | Menu vs. **`<userEntry>`** dialogs. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide when to use menu vs. fill-in type dialogs. |
| 5.39.2.10 | Dialog defaults. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall decide whether or not to use default choices in menus and/or default values in **`<userEntry>`** dialogs. |
| 5.39.2.11 | Variable naming and typing. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall determine authoring guidance about variable naming and typing. |
| 5.39.2.12 | Results receive method. | S1000D Chapter 3.9.5.2.10 – Content section – Process data module. | The project shall determine a consistent method of tagging variables being passed using element **`<receiveByName>`** and element **`<receiveByPosition>`**. |
| 5.40.2.1 | Use of technical information repository. | S1000D Chapter 3.9.5.2.11 Content section – Technical information repository. | The project shall decide whether or not to require the delivery of technical information repository data modules (as additional data). |
| 5.42.2.1 | Use of learning data modules. | S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules. | The project shall decide whether or not to use learning data modules. |
| 5.42.2.2 | Use of the available branches. | S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules. | If learning data modules are used, the project shall decide which of the five available branches is most appropriate for the intended content. |
| 5.43.2.1 | Use of the attribute **`checkListCategory`**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide how to populate the enumerated attribute **`checkListCategory`** (refer to 5.48.1.5). |
| 5.43.2.2 | Checklist categories. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if business rules need to be created for which XML elements to use and how to markup checklists for each category type. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.43.2.3 | Use of the element **<commonInfo>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<commonInfo>** is used in the checklist data module. |
| 5.43.2.4 | Use of the element **<preliminaryRqmts>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<preliminaryRqmts>** is used in the checklist data module. |
| 5.43.2.5 | Use of the element **<title>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<title>** is used in the checklist data module. |
| 5.43.2.6 | Use of the element **<checkListIntervals>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<checkListIntervals>** is used in the checklist data module. |
| 5.43.2.7 | Use of the element **<zoneRef>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<zoneRef>** is used in the checklist data module and how it should be populated. |
| 5.43.2.8 | Use of the element **<workArea>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<workArea>** is used in the checklist data module and how it should be populated. |
| 5.43.2.9 | Use of the optional child elements of <checkListItem>. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide which elements within **<checkListItem>** are used and how they should be populated. |
| 5.43.2.10 | Use of the element **<itemNumbers>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<itemNumbers>** is used in the checklist data module and how it should be populated. |
| 5.43.2.11 | Use of the element **<threshold>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<threshold>** is used in the checklist data module and how it should be populated. |
| 5.43.2.12 | Use of the element **<equip>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<equip>** is used in the checklist data module and how it should be populated. |
| 5.43.2.13 | Use of the element **<name>**. | S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections. | The project shall decide if the element **<name>** is used in the checklist data module and how it should be populated. |



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**TABLE C-VI. Project business rule decision points - Applicability, attribute valuess, & training.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.44.2.1 | Applicability strategy. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | The project shall determine the use of applicability and describe that approach in the business rules. |
| 5.44.2.2 | Population or generation of element **`<displayText>`**. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | If using the human readable branch of applicability, the project shall decide whether the element **`<displayText>`** is populated by the technical author or generated from the computable branch or some other source. |
| 5.44.2.3 | Use of attribute **`applicDisplayClass`**. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | If using the computable applicability annotation branch, the project shall decide whether to use the attribute **`applicDisplayClass`**. If the attribute **`applicDisplayClass`** is used, the allowable values and desired format for each value shall be documented in the project business rules. |
| 5.44.2.4 | Use of textual applicability annotations. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | If using the computable applicability annotation branch, the project shall decide if textual applicability annotations are allowed in the element **`<assert>`** or if every element **`<assert>`** should reference a declared product attribute or condition. |
| 5.44.2.5 | Consistent population. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | The project shall decide on the population of the elements and attributes of applicability and shall then enforce its consistency. |
| 5.44.2.6 | Use of attribute **`applicConfiguration`**. | S1000D Chapter 3.9.5.3 – Data modules – Applicability. | The project shall determine if the optional attribute **`applicConfiguration`** on element **`<applic>`** will be used for IPD data modules to qualify the type of applicability for a given part. |
| 5.45.2.1 | Use of pattern, enumeration, and open text. | S1000D Chapter 3.9.5.3.1 – Applicability – Applicability cross-reference table. | Projects defining product attributes shall decide whether to specify the allowable values for a product attribute achieved by using a pattern, enumeration, or both or to allow open text by not using pattern and enumeration. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.45.2.2 | Method of defining multiple values or ranges. | S1000D Chapter 3.9.5.3.1 – Applicability – Applicability cross-reference table. | If defining product attributes which contain multiple enumeration values or ranges, the project shall 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. |
| 5.45.2.3 | Use of display text. | S1000D Chapter 3.9.5.3.1 – Applicability – Applicability cross-reference table. | Projects defining product attributes shall decide whether to fill the display text (element **`<displayName>`**). |
| 5.46.2.1 | Use of conditions cross-reference table. | S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table. | The project shall decide whether to develop and deliver conditions cross reference table(s). |
| 5.46.2.2 | Use of multiple tables. | S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table. | 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. |
| 5.46.2.3 | Use of attribute **`valuePattern`**. | S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table. | A project defining conditions shall decide whether to further specify the allowable values for a condition type using the attribute **`valuePattern`** in addition to the mandatory element **`<enumeration>`**. |
| 5.46.2.4 | Method of defining multiple values or ranges. | S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table. | A project defining product attributes which contain multiple enumeration values or ranges shall 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. |
| 5.46.2.5 | Use of display text. | S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table. | Projects defining conditions shall decide whether to fill the display text (element **`<displayName>`**). |
| 5.47.2.1 | Use of the Product Cross-reference Table (PCT). | S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table. | 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. |



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**TABLE C-V. Project business rule decision points - Content section, schema specific.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.47.2.2 | Product attributes and conditions to include. | S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table. | A project using the PCT shall 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. |
| 5.48.2.1 | Application of project specific values. | S1000D Chapter 3.9.6.1 – Authoring – Project configurable attributes. | The project shall decide which project specific definitions of attribute values are needed. The project definitions shall be established and documented in the project business rules. |
| 5.49.2.1 | Use of project specific values. | S1000D Chapter 3.9.6.2 – Attributes – Fixed Values. | The project shall decide if any project specific additions of attribute values are needed. If needed, the project definitions shall be established and made known to anyone who will need the definitions to be able to interpret the produced information properly. |
| 5.50.2.1 | Scope information. | S1000D Chapter 3.9.7 – Authoring – Human performance technology and training. | The project shall decide on the scope of training information provided. |
| 5.50.2.2 | Presentation. | S1000D Chapter 3.9.7 – Authoring – Human performance technology and training. | The project shall make decisions concerning issues related to presentation of training information. |
| 5.50.2.3 | Scope of preplanning. | S1000D Chapter 3.9.7 – Authoring – Human performance technology and training. | The project shall determine the scope of the preplanning guidance. |



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**TABLE C-VII. Project business rule decision points - CSDB, DMC, ICN, & DM lists.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.54.2.1 | Data module coding strategy. | S1000D Chapter 4.3 – Information management – Data module code. | The project shall document the data module coding strategy which shall consist of all business rules associated with data module coding. |
| 5.55.2.1 | Allocation of model identification code. | S1000D Chapter 4.3.1 – Data module code – Model identification code. | The project shall decide on which model identification codes to use for the project. |
| 5.55.2.2 | Use of one or several model identification codes. | S1000D Chapter 4.3.1 – Data module code – Model identification code. | The project shall decide whether to allow the use of one or several model identification codes. |
| 5.55.2.3 | Model identification code. | S1000D Chapter 4.3.1 – Data module code – Model identification code. | The project shall decide whether to use the end item UOC as part of the model identification code. |
| 5.55.2.4 | Model identification structure. | S1000D Chapter 4.3.1 – Data module code – Model identification code. | The project shall decide on, and document, the model identification structure used on a project (e.g., engines, common systems, etc.). |
| 5.56.2.1 | System difference code. | S1000D Chapter 4.3.2 – Data module code – System difference code. | The project shall determine how to populate the system difference code and, if using Logistics Management Information (LMI) or a comparable process, define the relationship to LMI. |
| 5.56.2.2 | Usable On Code (UOC) as system difference code. | S1000D Chapter 4.3.2 – Data module code – System difference code. | The project shall decide whether or not to use UOC as the system difference code. |
| 5.57.2.1 | Material item category code. | S1000D Chapter 4.3.3 – Data module code – Standard numbering system. | The project shall determine the use of the material item category code (to indicate different types of SNS applicable to an individual project). |
| 5.57.2.2 | Sub-subsystem Standard Numbering System (SNS) allocations. | S1000D Chapter 4.3.3 – Data module code – Standard numbering system. | The project shall determine the sub-subsystem SNS allocations. |
| 5.57.2.3 | Unit or assembly portion of the Data Module Code (DMC). | S1000D Chapter 4.3.3 – Data module code – Standard numbering system. | The allocation of the unit or assembly portion of the DMC shall be clearly defined in that project's business rules. |
| 5.57.2.4 | Number of characters in unit or assembly. | S1000D Chapter 4.3.3 – Data module code – Standard numbering system. | The project shall decide if 2 or 4 characters will be used for the unit or assembly portion of the DMC. |



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**TABLE C-VII. Project business rule decision points - CSDB, DMC, ICN, & DM lists.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.58.2.1 | Alternate use of the disassembly code. | S1000D Chapter 4.3.4 – Data module code – Disassembly code. | Projects shall determine if and when the alternate use of disassembly code addressed in 5.58.1.1 is used. |
| 5.58.2.2 | Disassembly code linking. | S1000D Chapter 4.3.4 – Data module code – Disassembly code. | The project shall determine if the disassembly code should be linked to figures in IPD. |
| 5.59.2.1 | Disassembly Code Variant (DCV). | S1000D Chapter 4.3.5 – Data module code – Disassembly code variant. | The project shall decide whether to use one, two or three characters for the disassembly code variant. |
| 5.62.2.1 | Allocation of the item location code "T." | S1000D Chapter 4.3.8 – Data module code – Item location code. | The project shall decide to use the item location code "T" or to use the learn type information. |
| 5.63.2.1 | Responsible Partner Company (RPC). | S1000D Chapter 4.4 – Information management – Information Control Number. | The project shall determine how to populate RPC in an ICN for model identification code based ICNs. |
| 5.63.2.2 | Commercial and Government Entity Codes (CAGECs) for originator. | S1000D Chapter 4.4 – Information management – Information Control Number. | The project shall define a list of valid CAGECs for originator in ICN. |
| 5.63.2.3 | Illustration variant code. | S1000D Chapter 4.4 – Information management – Information Control Number. | The project shall define the use of the illustration variant code. |
| 5.63.2.4 | Issue number. | S1000D Chapter 4.4 – Information management – Information Control Number. | The project shall define the use of the issue number. |
| 5.63.2.5 | Security classification. | S1000D Chapter 4.4 – Information management – Information Control Number. | The project shall decide whether to use the project security classifications or whether the originator's classifications are allowed to be used. |
| 5.64.2.1 | Data Module Requirements List (DMRL) format. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide if the DMRL will be prepared and delivered as recommended using the S1000D DMRL schema or if some alternative, such as a spreadsheet, will be used. |
| 5.64.2.2 | Commercial and Government Entity (CAGE) codes for Data Module Requirements List (DMRL) senders. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall define the valid CAGE codes for DMRL senders for a project. |



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| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.64.2.3 | Issue date. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether the issue date of a DMRL should be the input date (i.e., the release to CSDB date), the cut-off date for the information, the planning date or some other more appropriate date. |
| 5.64.2.4 | Use of data restriction. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<dataRestriction>`** in the DMRL status section. |
| 5.64.2.5 | Use of reference. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<dmlRef>`** in the DMRL status section. |
| 5.64.2.6 | Use of data module code extension. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<identExtension>`** in the DMRL. |
| 5.64.2.7 | Use of data module issue number. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<issueInfo>`** in the DMRL. |
| 5.64.2.8 | Use of data module requirement answer. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<answer>`** in the DMRL. |
| 5.64.2.9 | Use of data module requirement remarks. | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall decide whether or not to use the element **`<remarks>`** in the DMRL. |
| 5.64.2.10 | Deleted Data Modules (DMs). | S1000D Chapter 4.5.1 – Data module lists – Data module requirement list. | The project shall specify whether deleted data modules should appear in the DMRL (value "d" of attribute **`dmEntryType`** in element **`<dmEntry>`**) or if the entries should be deleted from the DMRL entirely. |
| 5.65.2.1 | Data module issues. | S1000D Chapter 4.5.2 – Data module lists – CSDB status list. | The project shall specify in the content of the CSL whether to list all issues of data modules or just the latest issues. |
| 5.65.2.2 | CSDB (Common Source Data Base) Status List (CSL) delivery. | S1000D Chapter 4.5.2 – Data module lists – CSDB status list. | 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-VIII. Project business rule decision points - Comment, version control, and interchange.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.66.2.1 | Use of comment. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether comments should be used. |
| 5.66.2.2 | Workflow. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify workflow for commenting. |
| 5.66.2.3 | Model information code. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify how to populate model identification code in comments. |
| 5.66.2.4 | Commercial and Government Entity Codes (CAGECs) for issuing authority. | S1000D Chapter 4.6 – Information management – Comment. | The project shall define the valid CAGECs for the issuing authority of comments. |
| 5.66.2.5 | Use of titles. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether comment titles are required or not. If required, the project shall provide rules for establishing titles. |
| 5.66.2.6 | Originator. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify rules for population of **`<originator>`**, accounting for any data protection act issues with respect to content that includes names, phone numbers, etc. |
| 5.66.2.7 | Data restrictions. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether **`<dataRestriction>`** is required or not. |
| 5.66.2.8 | Priority codes. | S1000D Chapter 4.6 – Information management – Comment. | The project shall define the rules for priority codes. |
| 5.66.2.9 | Use of response codes. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether response codes should be used. |
| 5.66.2.10 | Rules for response codes. | S1000D Chapter 4.6 – Information management – Comment. | The project shall define the rules for response codes. |
| 5.66.2.11 | Remarks. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether remarks should be used. |
| 5.66.2.12 | References to attachments. | S1000D Chapter 4.6 – Information management – Comment. | The project shall specify whether reference to attachment should be used. |



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**TABLE C-VIII. Project business rule decision points - Comment, version control, and interchange.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.66.2.13 | Allowed file types. | S1000D Chapter 4.6 – Information management – Comment. | The project shall determine the allowed file types that are supported by the viewing systems. |
| 5.67.2.1 | Data module revisions. | S1000D Chapter 4.7 – Information management – Version control of data modules. | The project shall decide when data modules will be revised. |
| 5.67.2.2 | Delivery of inwork Data Modules (DMs). | S1000D Chapter 4.7 – Information management – Version control of data modules. | The project shall specify whether inwork data modules should be delivered. |
| 5.68.2.1 | File formats. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall define which packaging file formats may be used to deliver change packages between vendor and customer. |
| 5.68.2.2 | Procedures for data exchange. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall define the procedures for exchange of deliverables (e.g., periodicities, media, etc.). |
| 5.68.2.3 | Inclusion of graphics. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall specify whether all graphics referenced have to be included in the exchange package. |
| 5.68.2.4 | Non-sequential numbering. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall specify whether numerical gaps are allowed in data modules and/or illustration numbering, or if non-sequential numbering is allowed. |
| 5.68.2.5 | Mixed data. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall specify whether the content of exchange packages can include mixed data or if it should be limited to only content-related deliverables. It is conceivable that vendors include other documents (e.g., schedules, invoices, etc.) in exchange packages. |
| 5.68.2.6 | Use of photographs. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall decide for what purposes photographs will be used, if at all. |
| 5.68.2.7 | Use of multimedia formats. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall decide which multimedia formats will be used, if any at all. |



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**TABLE C-VIII. Project business rule decision points - Comment, version control, and interchange.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.68.2.8 | Raster graphic resolution. | S1000D Chapter 4.8 – Information management – Interchange of data modules. | The project shall decide the resolution to use for raster graphics. |



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**TABLE C-IX. Project business rule decision points - PM, BREX, & information management.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.69.2.1 | Volume. | S1000D Chapter 4.9.1 – Publication management – Publication module. | The project shall specify whether (and how) the attribute **volumeNumber** should be used in the element **<pubMedia>** in the publication module status section. A single volume (i.e., 1 CD or 1 DVD) is preferred. |
| 1.1.1.1 | Publication media code. | S1000D Chapter 4.9.1 – Publication management – Publication module. | The project shall determine the use of the attribute **pubMediaCode**. |
| 5.69.2.2 | Short publication module title. | S1000D Chapter 4.9.1 – Publication management – Publication module. | The project shall determine the use and population of the element **<shortPmTitle>**. |
| 5.70.2.1 | Applicability. | S1000D Chapter 4.9.2 – Publication management – Coding of publications. | The project shall specify whether applicability should be used in publication module status. |
| 5.70.2.2 | Publication number. | S1000D Chapter 4.9.2 – Publication management – Coding of publications. | The project shall document the method used for populating the attribute **pmNumber** for nested publication modules. |
| 5.70.2.3 | Nested publication module volume. | S1000D Chapter 4.9.2 – Publication management – Coding of publications. | The project shall determine the use of the attribute **pmVolume** for nested publication modules. |
| 5.71.2.1 | Simplified Technical English. | S1000D Chapter 4.10 – Information management – Business rules exchange. | The project shall decide if Simplified Technical English is to be used in the narrative content of the BREX file. |
| 5.72.2.1 | Applicable sets of business rules. | S1000D Chapter 4.10.1 – Information Business rules exchange – Coding of BREX data modules. | The project shall decide which set or sets of business rules are allowed within the given project. Accordingly, it shall decide which BREX data module or modules will be used to reflect those business rules. |
| 5.73.2.1 | Notations. | S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module. | The project may decide to exclude one or several of the notations (element **<notationRule>**) allowable by S1000D. These restrictions are to be included in the BREX data module. |
| 5.73.2.2 | System documentation. | S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module. | Projects shall document all applicable system (1st level breakdown) codes using the element **<snsSystem>**. |



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**TABLE C-IX. Project business rule decision points - PM, BREX, & information management.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.73.2.3 | Subsystem documentation. | S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module. | Projects shall document all applicable subsystem (2nd level breakdown) codes using the element **<snsSubSystem>**. |
| 5.73.2.4 | Sub-subsystem documentation. | S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module. | Projects shall document all applicable sub-subsystem (3rd level breakdown) codes using the element **<snsSubSubSystem>**. |
| 5.73.2.5 | Assembly documentation. | S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module. | Projects shall document all applicable assembly (4th level breakdown) codes using the element **<snsAssy>**. |
| 5.74.2.1 | Use of the process data module. | S1000D Chapter 4.11 – Information management – Process data module. | The project shall decide whether to use the process data module or not. |
| 5.74.2.2 | Variable naming conventions. | S1000D Chapter 4.11 – Information management – Process data module. | 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. |
| 5.76.2.1 | General use of paragraph significant data elements. | S1000D Chapter 4.13.1 – Optimizing and reuse – Paragraph significant data and quantity data. | The paragraph significant data elements are optional, and the project shall decide to use all or part of them, or not to use them. |
| 5.77.2.1 | Use of technical information repository. | S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module. | The project shall decide whether or not to require the delivery of technical information repository data modules (as additional data). |
| 5.78.2.1 | Use of container data module. | S1000D Chapter 4.13.3– Optimizing and reuse – Container data module. | The project shall decide if container data modules are used. |
| 5.78.2.2 | Identification of container data module. | S1000D Chapter 4.13.3– Optimizing and reuse – Container data module. | The project shall choose the container identification method. The chosen method shall be used systematically. |
| 5.78.2.3 | Use of applicability within container data module content. | S1000D Chapter 4.13.3– Optimizing and reuse – Container data module. | The project shall decide if applicability annotations are duplicated from the referenced data modules to the container data module or not. |



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**TABLE C-IX. Project business rule decision points - PM, BREX, & information management.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.79.2.1 | Providing the human readable part of applicability. | S1000D Chapter 4.14 – Information management – Applicability. | The project shall decide whether to provide the human readable part of applicability or rely on the viewer to build the human readable part. |
| 5.79.2.2 | Level of applicability lifecycle. | S1000D Chapter 4.14 – Information management – Applicability. | The project shall decide to what level to implement the life cycle of applicability. |
| 5.79.2.3 | Product attribute, conditions naming and identification scheme. | S1000D Chapter 4.14 – Information management – Applicability. | If using the Applicability Cross-reference Table (ACT) and Conditions Cross-reference Table (CCT) data modules, the project shall define a consistent naming and identification scheme for product attributes and conditions. |
| 5.79.2.4 | Method of displaying invalid content. | S1000D Chapter 4.14 – Information management – Applicability. | The project shall specify the method that content is presented which is not valid for the current maintenance context. |
| 5.79.2.5 | Number of Applicability Cross-reference Table (ACT), Conditions Cross-reference Table (CCT), and Product Cross-reference Table (PCT) data module instances. | S1000D Chapter 4.14 – Information management – Applicability. | A project shall decide whether to provide one instance of each data module type or to segregate the project into multiple instances of each data module type, and the method for segregation. |
| 5.80.2.1 | Use of product attributes versus conditions. | S1000D Chapter 4.14.1 – Information management – Applicability cross-reference table. | 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). |
| 5.80.2.2 | Configuration management of product attributes. | S1000D Chapter 4.14.1 – Information management – Applicability cross-reference table. | The project shall decide to what extent they configuration manage and limit editing access to the product attributes. The modification of an existing product attribute can have a significant affect to existing data. |
| 5.81.2.1 | Use of product attributes versus conditions. | S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table. | 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). |



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**TABLE C-IX. Project business rule decision points - PM, BREX, & information management.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.81.2.2 | Use of the pattern. | S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table. | The project shall decide if enumeration provides enough information specifying the allowable values for a condition or whether the pattern is also needed. |
| 5.81.2.3 | Configuration management of the conditions. | S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table. | 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. |
| 5.81.2.4 | Use of the incorporation list. | S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table. | The project shall decide whether to use the incorporation status list. |
| 5.82.2.1 | Use of a published or a transient data module. | S1000D Chapter 4.14.3 – Information management – Products cross-reference table. | The project shall decide whether to publish a static issue of the data module or use the data module as a transient transfer mechanism between an external system and a viewer. |
| 5.82.2.2 | Scope of the product instances. | S1000D Chapter 4.14.3 – Information management – Products cross-reference table. | The project shall decide how many product instances are contained in a data module. |
| 5.82.2.3 | Configuration management of the product instances. | S1000D Chapter 4.14.3 – Information management – Products cross-reference table. | The project shall decide how to configuration manage the list of product instances and associated values for product attributes and conditions. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.85.2.1 | Types. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | The project shall determine which optional operator instruction information sets apply. |
| 5.85.3.2.1 | Use of the technical information repository. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | The project shall determine whether controls and indicators are prepared with descriptive DMs or technical information repository DMs. |
| 5.85.3.2.2 | Use of the tabular format. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | 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). |
| 5.85.3.2.3 | Multiple data modules. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | If the technical information repository data module method is selected, the project shall decide whether one single data module or multiple data modules are used depending on the SNS. |
| 5.85.3.2.4 | Use of the control indicator number attribute. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | If the technical information repository data module method is selected, the project shall decide whether or not to use the attribute **`controlIndicatorNumber`** when referring to the technical information repository (element **`<controlIndicatorRef>`**). |
| 5.85.4.2.1 | Optional siting features. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | The project shall determine optional siting features. |
| 5.85.4.2.2 | Optional operating procedures. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | The project shall decide if operating procedures containing the identification, loading, initializing, and downloading of applicable operational and diagnostic software shall be included. |
| 5.85.7.2.1 | Preparation instructions and information. | S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information. | The project shall determine preparation instructions and information for stowage and decal/data plate guide(s). |
| 5.86.4.2.1 | References to Quality Assurance (QA). | S1000D Chapter 5.2.1.2 – Common information sets – Description and Operation. | The project shall determine if a reference shall be made to the pertinent QA or included directly (refer to 5.86.4.1.9). |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.86.4.2.2 | Separate Hand Receipt. | S1000D Chapter 5.2.1.2 – Common information sets – Description and Operation. | The project shall determine if Hand Receipts will be part of the publications or referenced as a separate document. |
| 5.86.6.2.1 | DMWR/NWMR. | S1000D Chapter 5.2.1.2 – Common information sets – Description and Operation. | The project shall decide if DMWR/NMWR will include theory of operation data modules. |
| 5.86.6.2.2 | Introductory general information. | S1000D Chapter 5.2.1.2 – Common information sets – Description and Operation. | The project shall decide if introductory general information will precede the theory of operation narrative. |
| 5.87.3.2.1 | Other service upon receipt task. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine if additional service upon receipt task data modules shall be developed. |
| 5.87.6.2.1 | Man-hours required. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine if man-hours required to complete all prescribed lubrication services shall be included. |
| 5.87.8.2.1 | Cleaning information codes. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine the information codes used for cleaning procedure data modules. |
| 5.87.8.2.2 | Additional maintenance task. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | Additional maintenance task may be developed when the specific type of maintenance tasks are not covered as described. If additional maintenance tasks are used, proponent shall submit to LOGSA the requirements for this maintenance task type for possible incorporation within future revisions to this standard. |
| 5.87.9.2.1 | Follow-on maintenance. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall decide what follow-on maintenance instructions will be prepared. |
| 5.87.10.2.1 | General maintenance instructions. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall decide what general maintenance instructions will be prepared. |
| 5.87.14.2.1 | Overhaul Inspection Procedures (OIP) Data modules. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine if and when OIP data modules shall be prepared. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.87.15.2.1 | Mobilization requirements. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | 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. |
| 5.87.22.2.1 | Stand alone. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | Maintenance/Demilitarization of Conventional and Chemical Ammunition information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.87.22.2.2 | PENTA-treated packaging. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine the use of the PENTA-treated packing materials appendix. |
| 5.87.22.2.3 | Additional appendices. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall determine the requirements for other appendices, if they exist. |
| 5.87.22.2.4 | Appendix E. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | The project shall decide on the need for Appendix E (Intraplant transfer equipment). |
| 5.87.23.2.1 | Stand alone. | S1000D Chapter 5.2.1.3.1 – Common information sets – Maintenance procedures. | Daily preventive maintenance checklist information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.88.4.2.1 | Troubleshooting index. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall decide whether to prepare a malfunction index, a symptom index, or a system/subsystem index. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.88.5.2.1 | Preshop analysis format. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist. |
| 5.88.6.2.1 | Introduction. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine when a component checklist introduction is required. |
| 5.88.7.2.1 | Introduction. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine if and when an introduction to operational checkout is required. |
| 5.88.7.2.2 | Method. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine the method of operational checkout procedures. |
| 5.88.8.2.1 | Introduction. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine if and when troubleshooting procedures require an introduction. |
| 5.88.8.2.2 | Troubleshooting type. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine which trouble shooting type to use for each troubleshooting procedure required. |
| 5.88.8.2.3 | Use of integrated system troubleshooting procedures. | S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation. | The project shall determine if and when integrated system operational checkout and troubleshooting procedures shall be developed. |
| 5.92.2.1 | Data module size. | S1000D Chapter 5.2.1.4 – Common information sets – Wiring data. | The amount of wiring information that is prepared in a single data module is a project decision dependent on the complexity and quantity of the wiring information needed. |
| 5.92.2.2 | Single or multiple data modules. | S1000D Chapter 5.2.1.4 – Common information sets – Wiring data. | The required wiring information for introduction, wire ID, abbreviation, and wiring diagrams may be contained in a single or multiple data modules. |
| 5.92.2.3 | Use of the wiring data module. | S1000D Chapter 5.2.1.4 – Common information sets – Wiring data. | The project may elect to use the Wiring Data Module. If so, projects are required to coordinate efforts, including related business rules, with LOGSA. |
| 5.93.3.1 | Separate parts manual. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project shall decide if they will produce a separate parts manual or include parts data within other publications. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.93.4.2.1 | Parts list illustration. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | When specified by the acquiring activity, an indexed parts list illustration and legend shall be added to the end of the introduction. Complex weapon systems have numerous repair parts lists associated to the equipment and the illustration and legend assists in locating the repair parts information. The indexed parts list illustration shall provide an exploded view of the equipment with index numbers pointing to the major functional groups. The illustration shall have a legend that defines the item number, major functional group figure title and figure number. |
| 5.93.5.2.1 | Optional columns. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project shall decide on the use of the following repair part list optional columns:<br>Unit of Measure. The unit of measure for the item may be included.<br>Unit of Issue. The unit of issue for the item may be included.<br>Reference Designator. The reference designator for the item may be included.<br>Next Higher Assembly. Information on the next higher assembly may be included.<br>Parts Breakdown Reference. A reference to parts breakdown for the item may be included. |
| 5.93.11.2.1 | Cross reference index. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project may decide to prepare a single Illustrated Parts Data Publication (IPDP) cross reference table with the IPDP in lieu of separate NSN, part number, and reference designator indices. |
| 5.93.12.2.1 | Components of End Item (COEI) method. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project shall determine use of Method A or Method B for presenting COEI data. |
| 5.93.13.2.1 | Basic Issue Items (BII) method. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project shall determine use of Method A or Method B for presenting BII data. |
| 5.93.16.2.1 | Mandatory replacement parts format. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project shall determine if mandatory replacement parts tables shall be prepared, or if procedural step writing style will indicate the needed information. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.93.18.2.1 | Hand receipt data as part of a larger manual. | S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data. | The project may decide to produce hand receipt data as a stand-alone manual or as part of a larger manual or IETP. |
| 5.94.3.2.1 | Maintenance Allocation Chart (MAC) nomenclature. | S1000D Chapter 5.2.1.6 – Common information sets – Maintenance planing information. | The project shall decide and document the official nomenclature for MAC functional groups. |
| 5.94.3.2.2 | Single Maintenance Allocation Chart (MAC) data module. | S1000D Chapter 5.2.1.6 – Common information sets – Maintenance planing information. | For IETP implementations, the project shall decide if, and how, the MAC is presented in segmented screen views. If the project decided to present segmented views, the MAC shall also be available to users as a single uninterrupted (scrollable) presentation. |
| 5.97.1.2.1 | Information codes. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | The project shall decide the appropriate information code(s) to be used with Equipment/user fitting instructions content. |
| 5.97.2.2.1 | Data module types and information codes. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | The project shall decide the data module types (typically procedural) and information codes to use when preparing auxiliary equipment maintenance. |
| 5.97.3.2.1 | Determination of supplemental data. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | The project shall determine if and what COTS supplemental data is required for COTS manuals. |
| 5.97.3.2.2 | Identifying Technical Publication Sheet. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | The project shall determine if the contractor shall prepare an Identifying Technical Publication Sheet. |
| 5.97.3.2.3 | Cover contents. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | 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. |
| 5.97.3.2.4 | List of Effective Data Modules (LOEDM). | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | The project shall determine if a LOEDM that will include the basic manual and the supplemental data shall be prepared. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.97.5.2.1 | Stand alone. | S1000D Chapter 5.2.1.9 – Common information sets – Equipment information. | Army TMDE information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.101.1.2.1 | Abbreviated Modification Work Order (MWO) format. | S1000D Chapter 5.2.1.13 – Common information sets – Role change information. | The project shall determine if the MWO shall be prepared in an abbreviated format. |
| 5.101.2.2.1 | Stand alone. | S1000D Chapter 5.2.1.13 – Common information sets – Role change information. | The project shall decide if Demilitarization of Surplus Military Items information sets are to be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.101.2.2.2 | Page layout. | S1000D Chapter 5.2.1.13 – Common information sets – Role change information. | The project shall determine the page layout (portrait/landscape) and format for printed manuals. |
| 5.101.3.2.1 | Stand alone. | S1000D Chapter 5.2.1.13 – Common information sets – Role change information. | Destruction of equipment to prevent enemy use information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. |
| 5.101.3.2.2 | Generic destruction manual. | S1000D Chapter 5.2.1.13 – Common information sets – Role change information. | 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. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.102.2.1 | Format of assessment data. | S1000D Chapter 5.2.1.14 – Common information sets – Battle damage assessment and repair information. | 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). |
| 5.105.2.1 | Stand alone. | S1000D Chapter 5.2.1.17 – Common information sets – Material data. | Munition Equipment and Ammunition Data Sheets information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.105.2.2 | Photographs and line drawings. | S1000D Chapter 5.2.1.17 – Common information sets – Material data. | The project shall decide about the inclusion of a photograph or line drawing of the item on the data sheet. |
| 5.107.2.1 | Planning scope and depth. | S1000D Chapter 5.2.1.19 – Common information sets – Training. | The project shall determine the planning scope and depth. |
| 5.107.2.2 | Training information scope and depth. | S1000D Chapter 5.2.1.19 – Common information sets – Training. | The project shall determine the training information scope and depth. |
| 5.108.2.1 | One or several publication list data modules. | S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications. | The project shall decide whether to deliver the publications and documents listed in one data module or as separate data modules. |
| 5.108.2.2 | Include unpublished publications and documents. | S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications. | The project shall decide whether or not to include publications and documents that are not published. |
| 5.108.2.3 | Include the manufacturer's part no. or reference no. | S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications. | The project shall decide whether or not to include and present the manufacturer's part no. or reference no. |
| 5.108.2.4 | Markup of publication entry as a link. | S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications. | The project shall decide whether or not to markup publication entries as a links. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.108.2.5 | Use of language. | S1000D Chapter 5.2.1.20 – Common information sets – List of applicable publications. | The project shall decide whether or not to include and present the value of the attribute **language** on the element **<pmEntry>** in the LOAP. |
| 5.115.2.1 | Emergency systems. | S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information. | Emergency systems may be located in Chapter 9 (refer to 5.115.1.16) at the discretion of the acquiring activity. When this is done, include the following statement in the section "Emergency equipment information is located in Chapter 9." |
| 5.115.3.2.1 | Standard or alternate checklist. | S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information. | 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. |
| 5.115.4.2.1 | Aerodynamic report. | S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information. | 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. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.122.2.1 | Stand alone. | S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information. | Shipment of Army Aircraft information sets may be produced as either a stand-alone TM/IETP or as part of a more comprehensive publication. If this content is produced as a stand-alone publication, the chapter/section/paragraph numbering requirements apply. If the content is included in a publication with a larger scope, the content requirements apply but the chapter/section/paragraph numbering requirements do not. |
| 5.128.1.2.1 | Use of a descriptive data module to prepare table of contents. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The project shall decide if table of contents shall be prepared using a descriptive data module or some other means. |
| 5.128.1.2.2 | Part figures. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | When a publication includes the parts information chapter, the listing of part figures in the table of contents is optional. |
| 5.128.1.2.3 | Access illustrations. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The project shall decide if access illustrations should be included and what should be contained in Access illustrations. |
| 5.128.1.2.4 | List of symbols. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The project shall decide if list of symbols should be included and what should be contained in list of symbols. |
| 5.128.1.2.5 | Technical standard record. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The project shall decide if technical standard record should be included and what should be contained in technical standard record. |
| 5.128.1.2.6 | List of applicable specifications and documentation. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The project shall decide if List of applicable specifications and documentation should be included and what should be contained in List of applicable specifications and documentation. |
| 5.128.2.2.1 | "How To Use This IETP" information. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | Project shall decide whether to prepare "How To Use This IETP" information. |
| 5.128.3.1.2.1 | Alphabetical index use. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | Project shall determine the use of an alphabetical index. |



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**TABLE C-X. Project business rule decision points - Content.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.128.3.1.2.2 | Alphabetical index detail. | S1000D Chapter 5.3.1.1 – Common requirements – Front matter. | The alphabetical index may be an index of data modules only or it may be a detailed index. |



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**TABLE C-XI. Project business rule decision points - Page-based presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.137.1.2.1 | Page sizes. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | Project shall determine when to use the available page sizes. |
| 5.137.1.2.2 | Page orientation. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | 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. |
| 5.137.2.1.2.1 | Applicability. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | When applicability is used, the project shall determine the use of either applicability codes, or a human readable expression. |
| 5.137.2.2.2.1 | Double sided printing of foldout pages. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | The project shall decide whether to use double sided printing on foldout pages. |
| 5.137.3.2.1 | Use of double column text. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | The project shall decide whether or not to use double column text and under what circumstances. |
| 5.137.4.2.1 | Foldouts. | S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers. | The project shall determine if and when to use foldouts. |
| 5.138.7.2.1 | Color. | S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements. | Unless specified otherwise by the acquiring activity, black and shades of black (gray scale) shall be used for figures in page oriented publications. |
| 5.138.8.2.1 | Use of numbered notes within a data module. | S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements. | The project shall decide whether to use numbered notes within a data module or not. |



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**TABLE C-XI. Project business rule decision points - Page-based presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.138.9.2.1 | Presentation of publication module/non S1000D publication titles in the reference table. | S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements. | The project shall decide whether to present the title (**`<pmTitle>`**/**`<externalPubTitle>`**) or the short title (**`<shortPmTitle>`**/**`<shortExternalPubTitle>`**), or both, in the reference table. |
| 5.138.9.2.2 | Inline presentation of non S1000D publication titles. | S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements. | The project shall decide whether to present the external publication code (**`<externalPubCode>`**), the title (**`<externalPubTitle>`**) or the short title (**`<shortExternalPubTitle>`**) as the inline reference. |
| 5.138.9.2.3 | Presentation of name of spares, supplies and support equipment. | S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements. | The project shall decide whether to present the name (**`<name>`**) or the abbreviated alternate name (**`<shortName>`**), as the cross-reference in the text. |



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**TABLE C-XII. Project business rule decision points - IETP presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.140.3.1.2.1 | Main menu bar. | S1000D Chapter 6.3.1 – IETP – Output specification. | By project decision, the main menu bar may contain additional project functions appearing to the right of the nine mandatory functions. Additional functions may optionally be added to the additional information bar. |
| 5.140.3.1.2.2 | Additional information bar. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall decide if the inner shell will contain an additional information bar. The additional information bar can be used if additional functions are required, e.g., ordering of spares. It is presented below the main menu bar and shall include the functionality to be toggled on and off. |
| 5.140.3.3.2.1 | Additional TOC items. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall decide the use of additional items in the TOC. |
| 5.140.3.4.2.1 | General. | S1000D Chapter 6.3.1 – IETP – Output specification. | The reset area may provide the following optional functions:<br>Print screen – prints the entire screen, even content that shall be scrolled to view on screen.<br>Print Data Module – prints the entire data module, which may include more information than the screen.<br>Change to page view – displays a printable view of the data module formatted (to the extent possible) as a MIL-specification compliant printed manual.<br>Open new IETP.<br>Toggle browse mode.<br>Toggle screen panels/bars on and off – this functionality includes individual toggles for each panel or bar that can be minimized.<br>Drill up/drill down.<br>Other custom functions as determined by the acquiring activity. |



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**TABLE C-XII. Project business rule decision points - IETP presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.140.4.2.1 | Icons. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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 LOGSA Web site (https://www.logsa.army.mil/mil40051/tmspecs.cfm) are mandatory and the function text shall be presented on mouseover. |
| 5.140.4.2.2 | Printing of classified data. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall decide whether or not to allow the printing of classified data. If not allowed, the print function shall be disabled when classified data is presented in the IETP viewer. |
| 5.140.5.2.1 | Font size. | S1000D Chapter 6.3.1 – IETP – Output specification. | The minimum recommended font size is 12 pt. Based on intended viewing environment, projects may decide upon an alternate minimum font size. |
| 5.140.6.2.1 | Tool tips. | S1000D Chapter 6.3.1 – IETP – Output specification. | Controls can have 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. |
| 5.140.6.2.2 | Help. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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). |
| 5.140.6.2.3 | Display. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall specify in their project-specific business rules how the viewer will handle dialogs (pop-up vs. in-line). |
| 5.140.9.2.1 | Background. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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. |



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**TABLE C-XII. Project business rule decision points - IETP presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.140.9.2.2 | Display. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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. |
| 5.140.10.2.1 | Presentation of references. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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. |
| 5.140.11.2.1 | Acknowledgement of alerts. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall determine if acknowledgement of alerts will be required. |
| 5.140.14.2.1 | Pop up windows. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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). |
| 5.140.14.2.2 | Tool tips. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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). |
| 5.140.14.2.3 | Display. | S1000D Chapter 6.3.1 – IETP – Output specification. | 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. |
| 5.142.8.2.1 | Audit trail. | S1000D Chapter 6.3.1 – IETP – Output specification. | The project shall determine which IETP audit trail data is collected for maintenance data collection or other purposes. Maintenance data shall be exported in accordance with MIL-STD-3008. |



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**TABLE C-XII. Project business rule decision points - IETP presentation.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.143.2.1 | Optional functionalities. | S1000D Chapter 6.4.2 – Functionality – Functionality matrices. | The project shall determine which of the remaining optional functionalities will be acquired. The project shall also determine implementation requirements for these functionalities. |



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**TABLE C-XIII. Projct business rule decision points - Information processing.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.147.2.1 | Use of multimedia. | S1000D Chapter 7.3.3 – CSDB Objects – Multimedia. | The project shall determine if multimedia is suitable for the environment in which the project will operate. |
| 5.147.2.2 | Media player. | S1000D Chapter 7.3.3 – CSDB Objects – Multimedia. | Multimedia objects shall be developed and produced for the chosen project viewer or display platforms used; i.e., plug-ins and viewers, shall be defined in the project rules for non-textual data |
| 5.147.2.3 | Capture rates. | S1000D Chapter 7.3.3 – CSDB Objects – Multimedia. | To ensure consistency of a given type, the project shall determine the capture rates to be used. |
| 5.147.2.4 | Multimedia types. | S1000D Chapter 7.3.3 – CSDB Objects – Multimedia. | The project shall determine the multimedia types used. |
| 5.149.2.1 | Population of the element **`<externalPubCode>`**. | S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information. | The project shall decide the preferred syntax applied to identify legacy data by a publication code. |
| 5.149.2.2 | Use of the attribute **`pubCodingScheme`**. | S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information. | The project shall decide if the attribute will be used and, if so, the set of allowed coding schemes and the syntax used to specify those schemes. |
| 5.149.2.3 | Method to include legacy information in an Interactive Electronic Technical Publication (IETP). | S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information. | The project shall decide whether to include legacy information by encapsulating it in data modules or by referencing it as external publications using the publication module. |
| 5.149.2.4 | Interactive Electronic Technical Publication (IETP) reference format. | S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information. | The project shall decide the syntax and semantic of the links established to reference legacy data. |
| 5.150.2.1 | Use of file compression techniques. | S1000D Chapter 7.5.1 – Software interchange – File based transfer. | The project shall decide whether to use compression techniques on files being transferred or not. |
| 5.150.2.2 | Defined file formats. | S1000D Chapter 7.5.1 – Software interchange – File based transfer. | The project shall decide on the allowable file formats, if any, beyond those given in S1000D Chapter 7.5.1. |
| 5.150.2.3 | Use of multimedia. | S1000D Chapter 7.5.1 – Software interchange – File based transfer. | The project shall decide on the use of multimedia. |



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**TABLE C-XIII. Projct business rule decision points - Information processing.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.150.2.4 | Media options. | S1000D Chapter 7.5.1 – Software interchange – File based transfer. | A variety of computer media are available and in widespread use for the interchange of technical information. The most appropriate medium, or combination of media, shall be agreed at the project level. Whichever interchange medium is selected, file naming, file types and file structure shall be implemented as described in S1000D. |
| 5.150.2.5 | Training Data Module Code (DMC) extensions. | S1000D Chapter 7.5.1 – Software interchange – File based transfer. | The project shall decide whether to use the learn code and learn event code or not. |
| 5.151.2.1 | Inclusion of Resource Description Framework/Dublin Core (RDF/DC) metadata. | S1000D Chapter 7.5.3 – Information interchange – RDF/DC metadata. | The project shall decide whether to include RDF/DC metadata in data dispatch notes, data module lists and comments or not. It is recommended that inclusion is applied consistently across all CSDB objects, including data modules. |
| 5.153.2.1 | Generation of display text. | S1000D Chapter 7.8 – Information processing – Applicability. | The project or shall decide whether to populate the element **`<displayText>`** within the applicability annotation or to rely on the publication engine and/or IETP viewer to generate the displayed applicability annotation from the computable applicability annotation. |
| 5.153.2.2 | Format of generated display text. | S1000D Chapter 7.8 – Information processing – Applicability. | The project shall determine the format for generating the displayed applicability annotation from the computable applicability annotation that will best fulfill industry and/or customer display requirements. |



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**TABLE C-XIV. Project business rule decision points - SNS & information codes.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.155.2.1 | Use of Standard Numbering System (SNS). | S1000D Chapter 8.1 – SNS, information and learn codes – General. | The project shall decide whether to use the maintained SNS, the example SNS or to write their own. |
| 5.156.2.1 | Use of the generic Standard Numbering System (SNS). | S1000D Chapter 8.2.1 – Maintained SNS – Generic. | Within the constraints of 5.156.1.1, the project shall decided if and how to use the generic SNS provided in S1000D Chapter 8.2.1. |
| 5.156.2.2 | Definitions. | S1000D Chapter 8.2.1 – Maintained SNS – Generic. | If the Generic SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.157.2.1 | Use of the support and training equipment Standard Numbering System (SNS). | S1000D Chapter 8.2.2 – Maintained SNS – Support and training equipment. | The project shall decided if and how to use the support and training equipment SNS provided in S1000D Chapter 8.2.2. |
| 5.157.2.2 | Definitions. | S1000D Chapter 8.2.2 – Maintained SNS – Support and training equipment. | If the support and training equipment SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.158.2.1 | Use of the ordnance Standard Numbering System (SNS). | S1000D Chapter 8.2.3 – Maintained SNS – Ordnance. | The project shall decided if and how to use the ordnance SNS provided in S1000D Chapter 8.2.3. |
| 5.158.2.2 | Definitions. | S1000D Chapter 8.2.3 – Maintained SNS – Ordnance. | If the ordnance SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.159.2.1 | Use of the general communications Standard Numbering System (SNS). | S1000D Chapter 8.2.4 – Maintained SNS – General communications. | The project shall decided if and how to use the general communications SNS provided in S1000D Chapter 8.2.4. |
| 5.159.2.2 | Definitions. | S1000D Chapter 8.2.4 – Maintained SNS – General communications. | If the general communications SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.160.2.1 | Use of the air vehicle Standard Numbering System (SNS). | S1000D Chapter 8.2.5 – Maintained SNS – Air vehicle, engines and equipment. | The project shall decided if and how to use the air vehicle SNS provided in S1000D Chapter 8.2.5. |
| 5.160.2.2 | Definitions. | S1000D Chapter 8.2.5 – Maintained SNS – Air vehicle, engines and equipment. | If the air vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |



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**TABLE C-XIV. Project business rule decision points - SNS & information codes.**

| MIL-STD-3031 paragraph reference | MIL-STD-3031 paragraph title | S1000D chapter context | Text of project decision point |
|---|---|---|---|
| 5.161.2.1 | Use of the tactical missiles Standard Numbering System (SNS). | S1000D Chapter 8.2.6 – Maintained SNS – Tactical missiles. | The project shall decided if and how to use the tactical missiles SNS provided in S1000D Chapter 8.2.6. |
| 5.161.2.2 | Definitions. | S1000D Chapter 8.2.6 – Maintained SNS – Tactical missiles. | If the tactical missiles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.162.2.1 | Use of the surface vehicles Standard Numbering System (SNS). | S1000D Chapter 8.2.7 – Maintained SNS – General surface vehicles. | The project shall decided if and how to use the surface vehicles SNS provided in S1000D Chapter 8.2.7. |
| 5.162.2.2 | Definitions. | S1000D Chapter 8.2.7 – Maintained SNS – General surface vehicles. | If the surface vehicles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.163.2.1 | Use of the sea vehicle Standard Numbering System (SNS). | S1000D Chapter 8.2.8 – Maintained SNS – General sea vehicles. | The project shall decided if and how to use the sea vehicle SNS provided in S1000D Chapter 8.2.8. |
| 5.163.2.2 | Definitions. | S1000D Chapter 8.2.8 – Maintained SNS – General sea vehicles. | If the sea vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects." |
| 5.164.2.1 | Use of the example Standard Numbering System (SNS). | S1000D Chapter 8.3 – SNS, information codes – Example SNS. | The project shall decided if and how to use the example SNS provided at http://www.s1000d.org. |



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# 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, the functionality matrix is a tool to define the intended use and capabilities of the project's data. The IETP functionality matrix provides a standard format for documenting the functional needs of the project. S1000D Chapter 6.4 also 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 Tables 1-10 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 required functionalities are pre-populated with an "R" (indicating Required) in the Requirement column. The column titled Functionality Type indicates if the functionality is a function of the viewer (V), the data (D), or of an external process (E). 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.logsa.army.mil/mil40051/S1000D.cfm. The matrix can be tailored by individual projects to match additional required information sets.

D.4.3 Collaboration.

The matrix should be completed in a collaborative effort with input from representatives of all project stakeholder organizations. The matrix is available in Microsoft Excel format to facilitate collaboration (https://www.logsa.army.mil/mil40051/S1000D.cfm). 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.



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**D.5 DETAILED REQUIREMENTS.**

**TABLE D-I. S1000D Functionality Matrix.**

| Functionality | Functionality Type | Complexity | Requirement | All data sets | Front Matter | Rear Matter | General Information, Theory of Operation | Operator Instructions | Aircraft Operator | Aircraft Operator Checklist | Aircraft MTF | Troubleshooting | PMCS | Maintenance | Ammunition Maintenance | Parts Information | Supporting Information | Aircraft Maintenance | Depot Maintenance | Depot Troubleshooting | Aviation Troubleshooting | Preventive Maintenance | Phased Maintenance | BDAR | Destruction to Prevent Enemy Use | Auxiliary Equipment Maintenance | Hand Receipt | Supplemental Information for COTS | Preventive Maintenance Checklists | Preparation for Shipment of Aircraft | Standard Generator Set - Operator/Unit | Standard Generator Set - Intermediate & Depot | DMWRs – Conventional and Munition and Ammunition Data | Demilitarization of Surplus Items | WTB | Depot Test Equipment | Lubrication Orders |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Functionality Category: Access | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Login | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Suspend and restart | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exit | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Annotation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Action complete indicator (checkbox) | D | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Local data annotation | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Personal annotation | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Redlining text | V | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Redlining graphics | V | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Delivery and Distribution | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Printed publication | E | 5 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Physical media | E | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Network distribution | E | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Diagnostics and Prognostics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diagnostics - User determined entry to data | D | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Diagnostics - Software driven entry to data | D | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dynamic diagnostics | E | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wire/Fluid system tracing | E | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System simulation | E | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prognostics | E | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| Functionality | Functionality Type | Complexity | Requirement | All data sets | Front Matter | Rear Matter | General Information, Theory of Operation | Operator Instructions | Aircraft Operator | Aircraft Operator Checklist | Aircraft MTF | Troubleshooting | PMCS | Maintenance | Ammunition Maintenance | Parts Information | Supporting Information | Aircraft Maintenance | Depot Maintenance | Depot Troubleshooting | Aviation Troubleshooting | Preventive Maintenance | Phased Maintenance | BDAR | Destruction to Prevent Enemy Use | Auxiliary Equipment Maintenance | Hand Receipt | Supplemental Information for COTS | Preventive Maintenance Checklists | Preparation for Shipment of Aircraft | Standard Generator Set - Operator/Unit | Standard Generator Set - Intermediate & Depot | DMWRs – Conventional and Munition and Ammunition Data | Demilitarization of Surplus Items | WTB | Depot Test Equipment | Lubrication Orders |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Functionality Category: External Processes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmittal | E | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Retrieval | E | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parts ordering | E | 3 | R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deficiency/ Improvement report transmittal | E | 3 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maintenance data collection | E | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operator debriefing | E | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Resource scheduling | E | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Knowledge management | E | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Graphics Functionality | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pan, zoom, expand, magnify | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assembly/ Disassembly | D | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Locator graphics | D | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3D modeling | D | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Linking | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| External reference | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Internal references | D | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot reference | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Link to separate parts data | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOC, lists of figures, tables and photos | D | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hot spotting | D | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Navigation and Tracking | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| Functionality | Functionality Type | Complexity | Requirement | All data sets | Front Matter | Rear Matter | General Information, Theory of Operation | Operator Instructions | Aircraft Operator | Aircraft Operator Checklist | Aircraft MTF | Troubleshooting | PMCS | Maintenance | Ammunition Maintenance | Parts Information | Supporting Information | Aircraft Maintenance | Depot Maintenance | Depot Troubleshooting | Aviation Troubleshooting | Preventive Maintenance | Phased Maintenance | BDAR | Destruction to Prevent Enemy Use | Auxiliary Equipment Maintenance | Hand Receipt | Supplemental Information for COTS | Preventive Maintenance Checklists | Preparation for Shipment of Aircraft | Standard Generator Set - Operator/Unit | Standard Generator Set - Intermediate & Depot | DMWRs – Conventional and | Munition and Ammunition Data | Demilitarization of Surplus Items | WTB | Depot Test Equipment | Lubrication Orders |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Next and previous | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Return (Chronological) | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| History of traversed links | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| User creation of bookmarks | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System/Subsystem navigation | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Restore initial navigation view | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Audit trail | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Graphical navigation | V | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dialog-driven interaction | D | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Voice-Activated commands | V | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Search - Full text | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Search - User defined Boolean | V | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Search - Across multiple databases/files | V | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Search - Context | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Search - Key word | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Filter content per applicability | D | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Simultaneous display of multiple content objects | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tear off window | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Printing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Print screen | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data module specific printing | V | 2 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Print linked data | V | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fully formatted/book version | E | 5 | | A | | | | R[1] | R[1] | R[1] | R[1] | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Special Content | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front matter | D | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supporting technical data | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alerts | D | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Emergency procedures | D | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Photos | D | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Audio | D | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motion video | D | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Animation | D | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Content sensitive help (Tech data help) | D | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Context sensitive help (Viewer) | V | 2 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| User training | D | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality Category: Updates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Passive change indications and markings | D | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Active change indications and markings | D | 2 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full change | E | 1 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block cycle and urgent changes | E | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Near real time updates | E | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| Functionality | Functionality Type | Complexity | Requirement | All data sets | Front Matter | Rear Matter | General Information, Theory of Operation | Operator Instructions | Aircraft Operator | Aircraft Operator Checklist | Aircraft MTF | Troubleshooting | PMCS | Maintenance | Ammunition Maintenance | Parts Information | Supporting Information | Aircraft Maintenance | Depot Maintenance | Depot Troubleshooting | Aviation Troubleshooting | Preventive Maintenance | Phased Maintenance | BDAR | Destruction to Prevent Enemy Use | Auxiliary Equipment Maintenance | Hand Receipt | Supplemental Information for COTS | Preventive Maintenance Checklists | Preparation for Shipment of Aircraft | Standard Generator Set – Operator/Unit | Standard Generator Set – Intermediate & Depot | DMWRs – Conventional and Munition and Ammunition Data | Demilitarization of Surplus Items | WTB | Depot Test Equipment | Lubrication Orders |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Functionality Category: User Operation Mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Web browser viewable | V | 3 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stand alone mode | V | 1 | R | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Network connectivity | E | 2 | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

[1] Printed operator's manuals are required per AR 25-30.



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CONCLUDING MATERIAL

| Custodians: | Preparing Activity: |
|---|---|
| Army - TM | Army - TM |
| Marine Corps - MC | |
| Review Activities: | Project Number: |
| Army - AC, AR, AT, AV, CR,EA, MI, PT | TMSS 2011-001 |

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.daps.dla.mil/online/start/.



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