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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 9089 AREA TMSS

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FOREWORD

1. This standard is approved for use by the Department of the Army and Headquarters Marine Corps and is available for use by all Departments and Agencies of the Department of Defense (DoD).
2. This standard establishes the business rules to be used with S1000D Issue 4.0 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).
3. Comments, suggestions, or questions should be addressed to USAMC Logistics Support Activity, ATTN: AMXLS-AP, Redstone Arsenal, Al 35898-7466 or emailed 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 http://assist.daps.dla.mil/.

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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 Issue 4.0 for major weapon systems, and their related systems, subsystems, equipment, weapons replacement assemblies (WRAs), and shop replacement assemblies (SRAs). 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 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.

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 Technology Working Group.

1.8 Applicability business rules.

The business rules for applicability are not fully developed and will be provided at a later date. The only requirements for applicability are in S1000D and are very flexible. Caution should be used when applying them to your IETPs.

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.

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-PRF-28000	—	Digital Representation for Communication of Product Data: IGES Application Subsets and IGES Application Protocols
MIL-PRF-28002	—	Raster Graphics Representation in Binary Format, Requirements for

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)
MIL-STD-1840	—	Automated Interchange of Technical Information

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

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	—	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-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.)

DoD 5200.1-R	—	Information Security Program
DoD 5220.22-M	—	National Industrial Security Program Operating Manual (NISPOM)
DoD 5230.24	—	Distribution Statements on Technical Documents
DoD 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
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.)

2.3 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 Issue 4.0	—	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, (online: 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, (online: http://www.astm.org/.)

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, (online: www.w3c.org.)

2.4 Order of precedence.

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

3 DEFINITIONS

3.1 General.

This standard is only applicable when used with S1000D Issue 4.0. 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
AECMA	European Association for Aerospace Industries
AIA	Aerospace Industries Association of America
AMC	Army Materiel Command
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
C-E LCMC	Communications-Electronics/Life Cycle Management Command
CAGE (C)	Commercial and Government Entity (Code)
CALS	Continuous Acquisition and Life-cycle Support
CAWG	Civil Air Working Group
CBRN	Chemical, Biological, Radiological, and Nuclear

CCSS	Commodity Command Standard System
CD	Compact Disk
CD-ROM	Compact Disk Read Only Memory
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
DMWR	Depot Maintenance Work Requirements
DoD	Department of Defense
DODISS	Department of Defense Index of Specifications and Standards
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
e.g.	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

FSCAP	Flight Safety Critical Aircraft Parts
GL	Grade Level
GS	General Support
HAP	Hazardous Air Pollutants
HCI	Hardness Critical Item
HCP	Hardness Critical Process
HR	Hand Receipt
i.e.	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
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	Nondestructive 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
PDA	Personal Digital Assistant
PI	Parts Information
PMA	Portable Maintenance Aid
PMAC	Preliminary Maintenance Allocation Chart
PMCS	Preventive Maintenance Checks and Services
PMI	Phased Maintenance Inspection
PMS	Preventive Maintenance Services
PNG	Portable Network Graphic
PSA	Preshop Analysis
QA	Quality Assurance
QTY	Quantity
RAM	Reliability, Availability, Maintainability
RCM	Reliability Centered Maintenance
RMS	Reliability, Maintainability, and Supportability
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
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
WRAs	Weapons Replacement Assemblies
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 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.

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 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.

3.3.16 Commercial and Government Entity (CAGE) code.

A five character code assigned to commercial activities that manufacture or supply items used by the Federal Government and to Government activities that control design or are responsible for the development of certain specifications, standards, or drawings which control the design of Government items. CAGE Code assignments are listed in the H4/H8 CAGE Publications.

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 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.

3.3.20 Component.

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

3.3.21 Components of End Item (COEI).

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

3.3.22 Comprehensibility.

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

3.3.23 Computer Graphics Metafile (CGM).

A standard digital form for graphics preparation.

3.3.24 Continuous Acquisition Life-cycle Support (CALS).

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

3.3.25 Continuous Acquisition Life-cycle Support (CALS) raster.

Compressed scanned raster images (CCITT, Group 4) in accordance with MIL-PRF-28002

3.3.26 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.

3.3.27 Degradation.

The reduction in systems/subsystems/components performance capability.

3.3.28 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.

3.3.29 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.

3.3.30 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.

3.3.31 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.

3.3.32 Digital graphics forms.

A standard graphics form acceptable for graphics preparation under this standard. These forms include Computer Graphics Metafile (CGM), CALS raster, and Initial Graphics Exchange Specification (IGES).

3.3.33 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 an SMR code for the category of maintenance under consideration).

3.3.34 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.

3.3.35 Electronic Countermeasures (ECM).

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

3.3.36 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.

3.3.37 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).

3.3.38 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.

3.3.39 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.

3.3.40 Equipment nomenclature.

The official name of the equipment as shown in AMDF.

3.3.41 Essential.

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

3.3.42 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.

3.3.43 Expendable items.

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

3.3.44 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.

3.3.45 Extensible Style sheet Language (XSL).

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

3.3.46 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. It covers crew, unit, and selected DS maintenance tasks. 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.

3.3.47 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.

3.3.48 Footer.

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

3.3.49 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.

3.3.50 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).

3.3.51 Graphic(s).

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

3.3.52 HAP-Free.

HAP-free means a material that contains no more than 0.1 percent by mass of any individual HAP that is an 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.

3.3.53 Hardness Critical Item (HCI).

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

3.3.54 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.

3.3.55 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.

3.3.56 Header.

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

3.3.57 Icon.

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

3.3.58 Illustration.

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

3.3.59 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.

3.3.60 Initial Graphics Exchange Specification (IGES).

A standard digital form for graphics preparation. Defined by MIL-PRF-28000.

3.3.61 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).

3.3.62 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. See 3.4.5.

3.3.63 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.

3.3.64 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 JTCI, the Joint Technical Committee for Information Technology.

3.3.65 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.

3.3.66 Legend.

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

3.3.67 Limited repair.

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

3.3.68 Linear 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.

3.3.69 List of Applicable Publications (LOAP).

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

3.3.70 Logic tree.

Diagram comprised of a branching series of questions, resulting in a "yes" or "no" answer, leading to determination and resolution of problem.

3.3.71 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.

3.3.72 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 IPD order of assembly/subassembly listings.

3.3.73 Maintenance level.

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

3.3.74 Maintenance task.

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

3.3.75 Maximum 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.

3.3.76 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 Modified able 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.

3.3.79 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.

3.3.80 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.

3.3.81 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. Mouseovers are used in navigation bars, pop-up dialog boxes, window panes, and or in form submissions.

3.3.82 National Item Identification Number (NIIN).

The last nine digits of the National/NATO 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.

3.3.83 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.

3.3.84 Next Higher Assembly (NHA).

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

3.3.85 Nomenclature.

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

3.3.86 Nondestructive Testing Inspection (NDTI).

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

3.3.87 Non-linear 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.

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

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

3.3.89 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 Logistic Management Information (LMI) and/or Maintenance Allocation Chart (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.

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 (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.

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 required of mandatory safety-of-flight items. 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 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/install.

To remove and install the same item when required to perform service or other maintenance functions. 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.

3.3.111 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, 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.

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 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 (PCB).

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. It covers selected DS tasks, GS, and Depot maintenance.

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.

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 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.

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 US-common term Interactive Electronic Technical Manual (IETM). See 3.3.62.

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 the third part of the data module code.

4 GENERAL REQUIREMENTS

4.1 General.

This standard establishes the business rules to be used with S1000D Issue 4.0 for the preparation of page-based technical publications and Interactive Electronic Technical Publications (IETP) 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 and Interactive Electronic Technical Publications. Appendix B The Functionality Matrix and 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.

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:

Chapter 1	Introduction to the specification
Chapter 1.1	Purpose
Chapter 1.2	Scope
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 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:

Chapter 2	Documentation process
Chapter 2.1	Documentation process – Overview
Chapter 2.2	Documentation process – Use of standards
Chapter 2.3	Documentation process – Relations to other processes and standards

Chapter 2.4	Documentation process – Implementation guide
Chapter 2.5	Documentation process – Business rules
Chapter 2.5.1	Business rules – Categories and layers
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:

Chapter 3	Information generation
Chapter 3.1	Information generation – Introduction
Chapter 3.2	Information generation – Data modules
Chapter 3.8	Information generation – Disassembly principles
Chapter 3.9	Information generation – Authoring
Chapter 3.9.2.5	Illustration rules and multimedia – Interactive 3D content
Chapter 3.9.2.6	Illustration rules and multimedia – e-learning and SCORM
Chapter 3.9.5	Authoring – Data modules
Chapter 3.9.5	Authoring – Data modules
Chapter 3.9.5.1.1	Identification and status section – Export control
Chapter 3.9.5.2.1	Content section – Common constructs
Chapter 3.9.5.2.8	Content section – Battle damage assessment and repair information
Chapter 3.9.5.2.13.1	Learning data module – Learning plan information type
Chapter 3.9.5.2.13.2	Learning data module – Learning overview information type
Chapter 3.9.5.2.13.3	Learning data module – Learning content information type
Chapter 3.9.5.2.13.4	Learning data module – Learning summary information type
Chapter 3.9.5.2.13.5	Learning data module – Learning assessment information type
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 Maintenance Allocation Chart (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 Technical Manuals 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 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.

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.

5.7.2.4 Identifying access points for air systems.

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

5.7.2.5 Identifying access points for surface ships and submarine systems.

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

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. TOC)
    3. Changed/new data modules
    4. Changed/new illustrations
    5. Authentication page
    6. The PIN number 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 change number located on the outer edge of the page opposite the binding side.

5.8.1.4 Change Numbers.

For new publications, the change number is always 0. When a change is prepared, the appropriate change number shall be placed in the change number column in the list of effective data modules. When a publication is revised, the change numbers shall all be reset to zero.

5.8.1.5 Changed data modules.

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

5.8.1.6 Changes to IDSTATUS only.

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

5.8.2 Project decisions.

5.8.2.1 Deleted elements.

The project shall decide whether to indicate, in display, that an element has been deleted or not.

5.8.2.2 Frequency of updates.

The project shall decide on the frequency of updates.

5.8.2.3 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 DoD 5200.1-R and DoD 5220.22-M, Executive Order 12958.

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)

5.10.2 Project decisions.

5.10.2.1 Degree of the application of 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 whether first verification rules should apply.

The project shall decide whether a set of verification rules should apply.

5.10.2.4 Application of second verification.

The project shall decide on the rules for the application of second verification.

5.10.2.5 Decide on the appropriate review cycle process.

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

5.10.2.6 In process review.

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

5.10.2.7 Applicability.

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

5.10.2.8 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.

NSNs and part numbers shall not be included in any text, tables, or illustration contained in a data module. NSN and part number information for all equipment, components, and parts shall be accessible at any point in the presentation of text, tables, and illustrations, when necessary, for the purpose of identification and parts ordering.

5.11.1.6 Military terms.

Military terms used shall be in accordance with Joint Pub 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 data base 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).

5.11.1.10 GPO Style Guide.

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 Emphasis.

Neither the element `<emphasis>` nor the attribute `emphasisType` shall be used.

5.11.1.13 Language.

Data modules shall be produced in English.

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 (eg, International System (SI) units, Imperial units, or US customary units). The standard of measurement selected (the primary units) must be used consistently throughout 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 JPEG or GIF. The JPEG format is preferred for half-tone images and photographs. For print purposes, provide 150 or 300 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.

5.13.1.5 Credit lines.

a. The photographer's or illustrator's name shall not appear on any illustration.

b. 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, ½ page, ¼ 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 illustration 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.

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 that already has been 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 be only be prepared using appropriate XML markup.

5.13.1.21 Illustrations and graphs – Air Crew Manuals.

5.13.1.21.1 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.

5.13.1.21.2 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 insure clear, legible copy.

5.13.1.21.3 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.

5.13.1.21.4 General requirements.

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).

5.13.1.21.5 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.

5.13.1.21.6 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 specification, 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.

5.13.1.21.7 Titles for graphs.

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

5.13.1.21.8 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 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.

5.13.1.21.9 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 different from the main conditions shall be given for the sub-graphs.

5.13.1.21.10 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.

5.13.1.21.11 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.

5.13.1.21.12 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.

5.13.1.21.13 Example text.

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

5.13.1.21.14 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.

5.13.1.21.15 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.

5.13.1.21.16 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.

5.13.1.21.17 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.

5.13.1.21.18 Grid.

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

5.13.1.21.19 Scales.

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

5.13.1.21.20 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).

5.13.1.21.21 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.

5.13.1.21.22 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
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 rid 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	Major lines
				0	Use if multiple lines

	USE	COLOR	LENGTH	WIDTH	REMARKS
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.

5.13.1.21.23 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.

5.13.1.21.24 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.

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. Fuel 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.

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.

5.17 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.

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 `vitalWarningFlag` attribute 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 (IC 012J). (JS)

5.17.1.10 Use of notes.

Notes may be used anywhere 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 `<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).

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.

5.17.2 Project decisions.

5.17.2.1 Use of attribute `warningType`.

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

5.17.2.2 Use of attribute `cautionType`.

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

5.17.2.3 Use of attribute `noteType`.

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

5.17.2.4 Use of the warnings and cautions collection.

The project shall decide whether to use the warning and caution collection 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)

5.18.2 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)

5.18.3 Project decisions.

5.18.3.1 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.

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 for a publication module.

The attributes `securityClassification` and `caveat` on the element `<security>` within `<pmStatus>` shall contain the overall classification of the publication as specified in DoD 5200 1-R. (JS)

5.19.1.5 Classification values.

See 5.59.1.29.

5.19.1.6 Use of NATO classified data.

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

5.19.1.7 Data restrictions.

The optional element `<dataRestrictions>` shall be used for all publication modules and shall not be used for data modules.

5.19.1.8 Distribution.

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

5.19.1.9 Export control.

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

5.19.1.10 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)

5.19.1.11 Destruction.

The element `<dataDestruction>` within `<restrictionInstructions>` shall contain the appropriate destruction notice as specified in DoD 5230.24 for unclassified documents and DoD 5220.22-M, for classified documents. (JS)

5.19.1.12 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)

5.19.1.13 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) 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 `<copyright>` element 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)

5.19.1.14 Lists in copyright statement.

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

5.19.1.15 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 DoD 5200.1-R. (JS)

5.19.1.16 Data conditions.

The element <dataConds> within <restrictionInfo> within <dataRestrictions> within <pmStatus> shall contain declassification and downgrade instructions for the publication as specified in DoD 5200.1-R. (JS)

5.19.1.17 Originator 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.

5.19.1.18 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)

5.19.1.19 Responsible partner company.

The element <enterpriseName>, within the element <responsiblePartnerCompany>, shall be used. It shall contain "Headquarters, Department of Army" for all Department of the Army (DA) authenticated publications or the command name for all command authenticated publications.

5.19.1.20 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.

5.19.1.21 Use of <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)

5.19.1.22 Use of the element <reasonForUpdate> and highlights.

Reason for update shall be used to automatically generate a highlights data module. It shall be used from issue "002" upwards. (JS)

5.19.1.23 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.

5.19.1.24 Content of <supersedure>.

When a publication is revised, a supersedure notice shall be included and an asterisk (*) shall prefix the supersedure notice and the PMC.

5.19.1.25 Publication title page.

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

5.19.1.26 Logo

The element <logo> shall not be used.

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 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 CAGE codes.

If the data module code extension is used, the project shall define a list of allowed CAGE codes that can be used to populate the attribute extensionProducer.

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 RPC CAGE values.

If the attribute enterpriseCode is used, projects shall define a list of acceptable responsible partner company (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 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.

5.19.2.8 Originator name.

The project shall decide the use of the attribute originatorName within the element <originator>. If used, then its use shall be consistent and made mandatory for the whole project.

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.

5.19.2.11 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>.

5.19.2.12 Authority information values.

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

5.19.2.13 The element <authorityNotes>.

If used, the project shall decide on suitable entries for the element <authorityNotes>. See 5.19.1.18.

5.19.2.14 Second verification.

The project shall decide on the requirements for second verification.

5.19.2.15 Use of applicability information.

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

5.19.2.16 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.

5.19.2.17 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.

5.19.2.18 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>.

5.19.2.19 Skill level.

The project shall decide whether the data modules will carry an indication of the skill level in the element <skillLevel>. If used, it should be applied consistently to all data modules.

5.19.2.20 Standard reasons for update.

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

5.19.2.21 RFU and the production process.

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

5.19.2.22 Use of applicability information.

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

5.19.2.23 Use of product safety.

The project shall decide whether to use the product safety element and under what circumstances.

5.19.2.24 Definition of safety label attributes.

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

5.19.2.25 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)

5.20.2 Project Decisions.

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

The project shall decide whether to use the cross-reference method for linking changes to reasons for update or not. 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 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 `<reasonForUpdate>` element, and apply meanings for them to make sure that 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 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 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 id attribute on the `<changeInline>` element.

The project shall decide if the `id` attribute is allowed to be used on the `<changeInline>` element. 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.

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 `<internalRef>` element 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 auto generated labels.

5.21.1.3 Linking to list items.

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

5.21.1.4 References to tasks, items, terms, definitions, and procedures.

The attribute `internalRefTargetType` shall be used to indicate the type of reference. The value for `internalRefTargetType` shall equal "`other`" when referencing a task, item, term, definition, or procedure.

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 Use of the attribute `internalRefTargetType`.

The the attribute `internalRefTargetType` shall be used to render text captions (e.g. "Fig", "Table").

5.21.1.7 References in titles.

Titles shall not contain references.

5.21.1.8 References.

References shall include the data module code and title, but not the issue number of the referenced data module. (JS)

5.21.1.9 Use of other information in data module references.

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

5.21.1.10 Title case in references.

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 list the precautions if it is used.

5.21.2.2 Population of the element `<refs>`.

The project shall decide if and how the element `<refs>` is to be populated. If the element is populated, the order of items in the list shall be specified in the project business rules.

5.21.2.3 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. Create business rules for this and define the case and use of punctuation.

5.21.2.4 `<internalRef>` target when addressing graphical objects.

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

5.21.2.5 `<internalRef>` destination title when addressing graphical objects.

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

5.21.2.6 Text in `<internalRef>` when addressing graphical objects.

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

5.22 S1000D Chapter 3.9.5.2.1.3 – Common constructs – Lists

5.22.1 Army business rules.

None.

5.22.2 Project Decisions.

5.22.2.1 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 or not.

5.22.2.2 Simple or unordered lists.

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

5.22.2.3 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.

5.23 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 `<captionGroup>` element 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 `tableOfContentsType` is required

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.

5.23.2.2 Use of applicability information.

The project shall decide if the indication of applicability information is permitted on various `<captionGroup>` 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.

5.24 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. (JS)

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 <table> element shall not be used.

5.25.1.2 Table presentation settings.

The project shall apply the CALS table attributes frame, orient, pgwide, colsep, rowsep, etc., where they are appropriate, so that the table is displayed in accordance with the basic presentational 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.

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

5.26.2.3 Use of foldout.

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

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>`). 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.

5.28.1.2 Personnel.

The element <personnel> shall be used when the number of a certain skill is required.

5.28.1.3 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").

5.28.1.4 Person.

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

5.28.2 Project Decisions.

5.28.2.1 Production management data.

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

5.28.2.2 Use of the element `<thresholdInterval>`.

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

5.28.2.3 Use of the element `<zoneRef>`.

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

5.28.2.4 Use of the element `<accessPointRef>`.

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

5.28.2.5 Use of the attribute `lsarData`.

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

5.28.2.6 Use of the element `<workArea>`.

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

5.28.2.7 Use of the element `<taskDuration>`.

The project shall decide whether to use the `<taskDuration>` element or not, and how to use it.

5.28.2.8 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.

5.28.2.9 Values for the attribute personCategoryCode.

The project shall define a list of categories, e.g. Electrician, Propulsion engineer, Maintainer.

5.28.2.10 Trade codes.

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

5.28.2.11 Use of the element <reqTechInfo>.

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

5.28.2.12 How to use the element <reqTechInfo>.

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

5.28.2.13 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.

5.28.2.14 Use of 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 id on element <supportEquipDescr> respectively, is used to establish the link between the two and will guarantee consistent use identification throughout the Procedure. The use of cross-references is encouraged.

5.28.2.15 Use of identification.

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

5.28.2.16 Use of the attribute id on element <supplyDescr>.

The project shall decide to make use of the element <supplyDescr>.

5.28.2.17 Use of attribute responsiblePartnerCompanyCode.

The project shall decide on the use of the attribute responsiblePartnerCompanyCode for non-chapterized IPD.

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 support equipment listed in preliminary requirements. The attribute internalRefTargetId of element <internalRef> and the attribute id on element <spareDescr> respectively, are used to establish the link between the two and will guarantee consistent use identification throughout the Procedure. The use of cross-references is encouraged.

5.28.2.19 National stock number (NSN).

The project shall decide on how NSN shall be populated.

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.

5.29.2 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.

Project shall determine the use of the element `<subScript>`.

5.29.2.3 Superscript.

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` (see 5.59.1.40) and allocate suitable definitions to them in the project or organization business rules.

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.

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 this later case 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 to use the attribute controlIndicatorNumber or not.

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.

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 4 subparagraph levels.

5.32.1.3 Paragraph titles.

Primary paragraphs and subparagraphs shall have titles.

5.32.1.4 Warnings and cautions.

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

5.32.1.5 ID attribute.

The use of the attribute `id` on primary paragraphs and steps is required. The `id` attribute values shall be unique within a data module. The project may determine attribute `id` value format. (JS)

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. (JS)

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`. See 5.59.1.31.

5.33.2 Project decisions.

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

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

5.33.2.2 Check.

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

5.33.2.3 Skill levels.

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

5.33.2.6 Use of the optional attribute `keepWithNext`.

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

5.33.2.7 Use of the optional attribute `itemCharacteristic`.

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

5.33.2.8 Applicability.

The project shall decide how to use the element `<applic>` in the content section of the procedure.

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. (JS)

5.34.1.2 Skill levels.

Only the defined values are allowed for the attribute `skillLevelCode`. See 5.59.1.31.

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 the repetition of the detection and description information for the basic fault which has been correlated (element `<faultDescr>` and element `<detectionInfo>`) is used or not.

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 to use the attribute `skillLevelCode` in the element `<isolationProcedure>`, the element `<isolationStep>` and the element `<isolationProcedureEnd>` or not. See 5.59.1.31.

5.34.2.6 Use of attribute `independentCheck`.

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

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 <preliminaryRequirements>, <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 attribute function.

Only the defined values are allowed for the attribute function, refer to 5.59.1.14.

5.35.1.4 Use of the attribute maintLevelCode.

Only the defined values are allowed for the attribute maintLevelCode, refer to 5.59.1.21.

5.35.1.5 Use of the attribute skillLevelCode.

Only the defined values are allowed for the attribute skillLevelCode, refer to 5.59.1.31.

5.35.1.6 Use of the element <timeLimitCategory>.

The element <timeLimitCategory> shall not be used.

5.35.1.7 Values for the attribute limitUnitType.

The attribute shall not be used.

5.35.1.8 Values for the attribute releaseEvent.

The attribute shall not be used.

5.35.1.9 Values for the attribute markerType.

The attribute shall not be used.

5.35.1.10 Values for the attribute taskCode.

The attribute shall not be used.

5.35.1.11 Values for the attribute relatedTaskDescr.

The attribute shall not be used.

5.35.1.12 Values for the attribute sourceCriticality.

The attribute shall not be used.

5.35.1.13 Values for the attribute sourceTypeCode.

The attribute shall not be used.

5.35.1.14 Values for the attribute supervisorLevelCode.

The attribute shall not be used.

5.35.1.15 Values for the attribute `inspectionType`.

The attribute shall not be used.

5.35.1.16 Use of the attribute `sourceOfRqmt`.

The attribute shall not be used.

5.35.1.17 Use of the attribute `approval`.

The attribute shall not be used.

5.35.1.18 Use of the attribute `skillType`.

The attribute shall not be used.

5.35.1.19 Use of the attribute `worthinessLimit`.

The attribute shall not be used.

5.35.1.20 Use of the attribute `reducedMaint`.

The attribute shall not be used.

5.35.1.21 Control of the names of equipment.

The control names concept shall not be used.

5.35.1.22 Task groupings.

The task grouping concept shall not be used.

5.35.1.23 Sequence.

The sequence of tasks concept 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. See 5.59.1.38.

5.35.2.2 Use of the attribute `inWork`.

The project shall decide whether to use this attribute and to decide on which in work values are appropriate.

5.35.2.3 Use of the attribute `skillLevelCode`.

The project shall decide whether to use the attribute `skillLevelCode` or not. See 5.59.1.31.

5.35.2.4 Use of the element `<commonInfo>`.

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

5.35.2.5 Sampling rates.

The project shall decide on appropriate convention for sampling rates.

5.35.2.6 Trigger definitions.

The project shall decide on the use and definition of any triggers.

5.35.2.7 Threshold.

The project shall decide on appropriate thresholds, if used.

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>`).

5.36.1.2 Use of the attribute `skillLevelCode`.

Only the defined values are allowed for the attribute `skillLevelCode`. See 5.59.1.31.

5.36.2 Project decisions.

5.36.2.1 Skill level.

The project shall decide whether to use the attribute `skillLevelCode` or not. See 5.59.1.31.

5.36.2.2 Special conditions.

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

5.36.2.3 Check.

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

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`. See 5.59.1.9.

5.37 S1000D Chapter 3.9.5.2.7 – Content section – Parts information

5.37.1 Army business rules.

5.37.1.1 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 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.

5.37.1.2 Electrostatic discharge.

Identify Electrostatic discharge (ESD) sensitive parts. 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.

5.37.1.3 Expendable and durable items.

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

5.37.1.4 Font size.

Font sizes 8 to 10 shall be used for Illustrated Parts Data.

5.37.1.5 List order.

Items shall be listed in ascending alphanumeric sequence.

5.37.1.6 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.

5.37.1.7 Special tools.

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

5.37.1.8 Usable on code.

UOC shall be placed on the last line under the item description. The letters "UOC:" followed by the applicable UOC shall be indented.

5.37.1.9 Item entry for kits and sets.

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

5.37.1.10 Identical parts.

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

5.37.1.11 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".

5.37.1.12 Kit items list placement.

Kit items shall be listed at the end of the associated parts list.

5.37.1.13 Functional group title.

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

5.37.1.14 Bulk item functional group.

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

5.37.1.15 Bulk item presentation.

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

5.37.1.16 Item entry for kits and sets.

The Item entry shall contain "K" for KIT or "S" for SET for kit items.

5.37.1.17 Figures.

A figure element shall precede the parts list and is not optional.

5.37.1.18 Callout placement.

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

5.37.1.19 Number of callouts.

Whenever possible, the average maximum number of callouts within a 7-inch by 10-inch area should be 70.

5.37.1.20 Leader lines.

Leader lines shall not cross another leader line.

5.37.1.21 Number of items.

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

5.37.1.22 Place nuts.

Place nuts shall be illustrated.

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 quantity shall be left empty for basis of issue items.

5.37.1.25 Depot level items.

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

5.37.1.26 Special tool sets and kits.

Components of special tool sets and kits, in the description `<partIdentSegment>`, shall be listed in figure and item number sequence (`itemSeqNumberValue` attribute of `<itemSequenceNumber>` element).

5.37.1.27 Indenture.

The component shall be indented two positions and listed by item name `<partIdentSegment>`, the figure number, and the item numbers (`itemSeqNumberValue` attribute of `<itemSequenceNumber>` element).

5.37.1.28 Quantities.

Quantities of components `<quantityPerNextHigherAssy>` shall be included in BOI statement.

5.37.1.29 Kit identification.

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

5.37.1.30 Bulk item lists.

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

5.37.1.31 Service.

The first two characters for the `<service>` code shall be US. The third character shall specify the originating service of the data module as follows:

a. A - Army

b. N - Navy

c. F - Air Force

d. M - Marine Corps

e. C - Coast Guard (JS)

5.37.1.32 Basis of Issue.

Basis of Issue shall be recorded using the generic part data elements. The `genericPartDataName` attribute will be set to "`basisOfIssue`" and the value shall be identified using the `<genericPartDataValue>` element.

5.37.1.33 Quantity per End Item.

Quantity per End Item shall be recorded using the generic part data elements. The `genericPartDataName` attribute shall be set to "`qtyPerEndItem`" and the value shall be identified using the `<genericPartDataValue>` element.

5.37.2 Project decisions.

5.37.2.1 Variant segment.

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

5.37.2.2 Item Sequence number attributes.

The project shall decide use of the optional attributes for Item Sequence number `<itemSeqNumberValue>`.

5.37.2.3 Initial provisioning project.

The project shall decide use of the optional Initial provisioning project number element `<initialProvisioningProject>` and its attributes.

5.37.2.4 File identifier.

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

5.37.2.5 Initial Provisioning Project Number.

The project shall decide codification of the sixth to ninth characters of the IPPN.

5.37.2.6 Reason for selection.

The project shall decide use of the optional element `<reasonForSelection>` and the allowable values for the attribute `selectOrManufactureValue`.

5.37.2.7 Unit of issue.

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

5.37.2.8 Unit of Issue Qualification Segment.

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

5.37.2.9 Special storage.

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

5.37.2.10 Fitment code.

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

5.37.2.11 Calibration marker.

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

5.37.2.12 National stock number.

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

5.37.2.13 NSN Optional attributes.

The project shall decide use of the following optional attributes of NSN:

a. natoSupplyClass. This optional attribute is used to contain the NATO Supply Class (NSC).

b. natoCodificationBureau. This optional attribute is used to contain the first two digits of the NATO Item Identification Number (NIIN) in the format of the National Codification Bureau (NCB).

c. natoItemIdentNumberCore. This optional attribute is used to contain the third to ninth digit of the NIIN.

d. natoStockNumberValue. This optional attribute can be used to contain the complete NSN.

5.37.2.14 Applicability.

The project shall decide use of applicability. Allowable values for unit/engine numbers shall be decided on by the project.

5.37.2.15 Part Location Data Segment.

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

5.37.2.16 CSN Codification.

The project shall decide use of CSN Codification. The codes used to make up the CSN are based on the SNS. The structure and rules for the SNS and CSN shall be agreed at the start of the project.

5.37.2.17 Reason for selection.

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

5.37.2.18 Unit of measure.

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

5.37.2.19 Physical security.

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

5.37.2.20 Select or manufacture from range.

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

5.37.2.21 Usable on code equipment.

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

5.37.2.22 Usable on code assembly.

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

5.37.2.23 Interchangeability.

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

5.37.2.24 Service.

The project shall decide on a list of allowed values for the third character of the initial provisioning project.

5.37.2.25 Source maintenance and recoverability.

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

5.37.2.26 Model version.

The project shall decide the list of allowable values for the element `<modelVersion>`.

5.37.2.27 Effectivity.

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

5.37.2.28 Use of BREX for attribute `genericPartDataName`.

The project shall decide whether to use the BREX to manage data for attribute `genericPartDataName`.

5.37.2.29 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)

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` skill level 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>`.

5.40 S1000D Chapter 3.9.5.2.11 Content section – Technical information repository

5.40.1 Army business rules.

None.

5.40.2 Project decisions.

5.40.2.1 Use of technical information repository.

The project shall decide if the technical repository is to be used.

5.40.2.2 Technical information repository data module types to be used.

The project shall decide which technical information repository data module types are to be used.

5.41 S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information

5.41.1 Army business rules.

None.

5.41.2 Project decisions.

5.41.2.1 Use of the technical repository.

The project shall decide if the functional item technical repository is to be used.

5.41.2.2 Use of several part technical information repository data modules.

The project shall decide whether there is one single functional item technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.

5.41.2.3 Definition of the functional item types.

The project shall decide on the definition of the functional item types and their codification.

5.41.2.4 Definition of the functional item name.

The project shall decide on the format of the functional item name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.

5.41.2.5 Definition of the functional item relationship types.

The project shall define the types of relationships to be implemented between functional items (e.g. sub-functional items, software functional items related to a hardware functional item) and how to populate the attribute `functionalItemRefType`.

5.41.2.6 Use of an alternate number.

The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute `altNumber` and shall ensure it is consistently applied.

5.42 S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information

5.42.1 Army business rules.

None.

5.42.2 Project decisions.

5.42.2.1 Use of the technical repository.

The project shall decide if the circuit breaker technical repository is to be used.

5.42.2.2 Use of several circuit breaker technical information repository data modules.

The project shall decide whether there is one single circuit breaker technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.

5.42.2.3 Definition of the circuit breaker name.

The project shall decide on the format of the circuit breaker name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.

5.42.2.4 Use of an alternate number.

The project shall decide on the use of an alternate number or not. If used, the project or the organization shall determine how to populate the attribute `altNumber` and shall ensure it is consistently applied.

5.42.2.5 Definition of the functional item relationship types.

The project shall define the types of relationships to be implemented between a circuit breaker and functional items and how to populate the attribute `functionalItemRefType`.

5.43 S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information

5.43.1 Army business rules.

None.

5.43.2 Project decisions.

5.43.2.1 Use of the technical repository.

The project shall decide if the parts information technical repository is to be used.

5.43.2.2 Use of several part technical information repository data modules.

The project shall decide whether there is one single part technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.

5.43.2.3 Definition of the part name, element `<name>`.

The project shall decide on the format of the part name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.

5.43.2.4 Use of the part keyword, element `<partKeyword>`.

The project shall decide whether they use the over length part number or not.

5.43.2.5 Use of the usage category.

The project shall decide on the use of the part usage category or not. If used, the project shall determine how to populate the attribute `usageCategoryCode`.

5.43.2.6 Definition of the part replacement relationship codes.

The project shall define the types of relationships between parts (e.g. one-way, two-ways, with condition…) and determine how to populate the attribute `replacementCode`.

5.43.2.7 Reference mechanism.

The project shall decide whether to use the implicit or explicit reference mechanism to the part technical repository.

5.43.2.8 Use of the over length part number, element `<overLengthPartNumber>`.

The project shall decide whether they use or not the over length part number.

5.43.2.9 Use of extended twin operations, attribute `etopsFlag`.

The project shall decide whether they use the air specific extended twin operations attribute or not.

5.44 S1000D Chapter 3.9.5.2.11.4 – Technical information repository – Zone information

5.44.1 Army business rules.

None.

5.44.2 Project decisions.

5.44.2.1 Use of the zone technical information repository data modules.

The project shall decide if the zone technical information repository is used or not.

5.44.2.2 Use of several zone technical information repository data module.

The project shall decide whether there is one single zone technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.

5.44.2.3 Definition of the zone relationship types.

The project shall define the types of relationships to be implemented between zones (e.g. sub-zones) and how to populate the attribute zoneRefType.

5.44.2.4 Use of an alternate number.

The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.

5.45 S1000D Chapter 3.9.5.2.11.5 – Technical information repository – Access point information

5.45.1 Army business rules.

None.

5.45.2 Project decisions.

5.45.2.1 Use of the access point technical information repository data modules.

The project shall decide if the access point technical information repository shall be used or not.

5.45.2.2 Use of several access point technical information repository data module.

The project shall decide whether there is one single access point technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.

5.45.2.3 Definition of the access point relationship types.

The project shall define the types of relationships to be implemented between access points (e.g. sub-access points) and how to populate the attribute `accessPointRefType`.

5.45.2.4 Use of an alternate number.

The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute `altNumber` and shall ensure it is consistently applied.

5.46 S1000D Chapter 3.9.5.2.11.6 – Technical information repository – Enterprise information

5.46.1 Army business rules.

None.

5.46.2 Project decisions.

5.46.2.1 Use of the enterprise technical information repository data module.

The project shall decide if the enterprise technical information repository is to be used.

5.46.2.2 Use of several enterprise technical repository data modules.

The project shall decide whether to have one single enterprise technical information repository data module or several, depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.

5.47 S1000D Chapter 3.9.5.2.11.7 – Technical information repository – Supplies, properties

5.47.1 Army business rules.

5.47.1.1 Lowest authorized level.

Only the defined values are allowed for the attribute `lowestLevel`. See 5.59.1.20.

5.47.2 Project decisions.

5.47.2.1 Use of the supplies requirements technical information repository data modules.

The project shall decide if the supplies requirements technical information repository is used or not.

5.47.2.2 Use of several supplies requirements technical information repository data modules.

The project shall decide whether there is one single or several supply requirements technical repository data module depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.

5.47.2.3 Definition of the supply name.

The project shall decide on the format of the supply name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.

5.48 S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements

5.48.1 Army business rules.

None.

5.48.2 Project decisions.

5.48.2.1 Use of the supplies requirements technical information repository data modules.

The project shall decide if the supplies requirements technical information repository shall be used or not.

5.48.2.2 Use of several supplies requirements technical information repository data modules.

The project shall decide whether there is one single or several supplies requirements technical repository data module depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.

5.48.2.3 Definition of the material categories.

The project shall define the different material categories and how to populate the attribute `materialCategory`.

5.48.2.4 Definition of the supply requirement numbers.

The project shall define the codification of the supply requirement identifiers and how to populate the attributes `supplyReqNumber`.

5.48.2.5 Reference mechanism.

The project shall decide whether to use the implicit or explicit reference mechanism to the supply technical repository.

5.48.2.6 Definition of the supply requirement alternative name.

The project shall decide on the format of the supply requirement alternative name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.

5.49 S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information

5.49.1 Army business rules.

None.

5.49.2 Project decisions.

5.49.2.1 Use of the support equipment technical information repository data modules.

The project shall decide if the support equipment technical information repository shall be used or not.

5.49.2.2 Use of several support equipment technical information repository data modules.

The project shall decide whether there is one single support equipment technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.

5.49.2.3 Use of the over length support equipment number element `<overLengthPartNumber>`.

The project shall decide whether they use or not the over length part number.

5.49.2.4 Definition of the tool relationship types.

The project shall define the types of relationships to be implemented between tools (e.g. symmetry, replacement relationships) and how to populate the attribute `toolRefType`.

5.49.2.5 Use of an alternate number.

The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute `altNumber` and shall ensure it is consistently applied.

5.49.2.6 Use of the tool task category.

The project shall decide on the use of a tool task category (e.g. servicing, maintenance, overhaul, repair etc) or not. If used, the project shall determine how to populate the attribute `taskCategoryCode`.

5.50 S1000D Chapter 3.9.5.2.11.10 – Technical information repository – Functional and/or physical area information

5.50.1 Army business rules.

5.50.1.1 Use of the technical repository.

The physical/functional technical repository shall not be used.

5.50.2 Project decisions.

None.

5.51 S1000D Chapter 3.9.5.2.11.11 – Technical information repository – Controls and indicators

5.51.1 Army business rules.

None.

5.51.2 Project decisions.

5.51.2.1 Use of the controls and indicators technical information repository.

The project shall decide whether to use the controls and indicators technical information repository or not.

5.51.2.2 Use of several controls and indicators technical information repository data modules.

The project shall decide whether there is one single control and indicator technical information repository data module or several depending of the SNS or not. In this case, granularity of these data modules is determined by the application of the SNS.

5.51.2.3 Implicit reference mechanism.

The project shall decide whether to use implicit references or not.

5.51.2.4 Explicit reference mechanism.

The project shall decide whether to use explicit references or not.

5.52 S1000D Chapter 3.9.5.2.12 – Content section – Container data module

5.52.1 Army business rules.

None.

5.52.2 Project Decisions.

5.52.2.1 Use of container data modules.

The project shall decide whether to develop and deliver container data modules.

5.52.2.2 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.

5.53 S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules

5.53.1 Army business rules.

5.53.1.1 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 with LOGSA.

5.53.2 Project decisions.

5.53.2.1 Use of learning data modules.

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

5.53.2.2 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.

5.53.2.3 Use of the available branches.

The project shall decide which of the five available branches is most appropriate for the intended content.

5.54 S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections

5.54.1 Army business rules.

None.

5.54.2 Project decisions.

5.54.2.1 Use of the attribute `checkListCategory`.

The project shall decide how to populate the enumerated attribute `checkListCategory`.

5.54.2.2 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.

5.54.2.3 Use of the element `<commonInfo>`.

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

5.54.2.4 Use of the element `<preliminaryRqmts>`.

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

5.54.2.5 Use of the element `<title>`.

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

5.54.2.6 Use of the element `<checkListIntervals>`.

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

5.54.2.7 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.

5.54.2.8 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.

5.54.2.9 Use of the optional elements `<checkListItem>`.

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

5.54.2.10 Item number.

The project shall decide if item number will be used or not.

5.54.2.11 Threshold.

The project shall decide on the appropriate thresholds, if used.

5.54.2.12 Equipment.

The project shall decide if equipment will be used or not.

5.54.2.13 Nomenclature.

The project shall decide if nomenclature will be used or not.

5.54.2.14 Zone references.

The project shall decide if zone references will be used or not.

5.54.2.15 Remarks.

The project shall decide if remarks will be used or not.

5.55 S1000D Chapter 3.9.5.3 – Data modules – Applicability

5.55.1 Army business rules.

None.

5.55.2 Project decisions.

5.55.2.1 Applicability strategy.

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

5.55.2.2 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.

5.55.2.3 Use of `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.

5.55.2.4 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.

5.55.2.5 Consistent population.

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

5.55.2.6 Use of inline applicability annotations.

The project shall decide if inline applicability annotations are to be included in the text by adding the element `<applic>` to the context concerned, or if such annotations will be collected in element `<inlineapplics>` contained in the status section with a reference to them by use of attribute `refapplic` from the concerned substructure of the data module.

5.55.2.7 Use of `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.

5.56 S1000D Chapter 3.9.5.3.1 – Applicability – Applicability cross-reference table

5.56.1 Army business rules.

None.

5.56.2 Project Decisions.

5.56.2.1 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, both or to allow open text by not using pattern and enumeration.

5.56.2.2 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.

5.56.2.3 Use of display text.

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

5.57 S1000D Chapter 3.9.5.3.2 – Applicability – Conditions cross-reference table

5.57.1 Army business rules.

None.

5.57.2 Project Decisions.

5.57.2.1 Use of conditions cross-reference table.

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

5.57.2.2 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.

5.57.2.3 Use of `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>`.

5.57.2.4 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.

5.57.2.5 Use of display text.

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

5.58 S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table

5.58.1 Army business rules.

None.

5.58.2 Project Decisions.

5.58.2.1 Use of the product cross reference table.

The project shall decide whether to develop and deliver product cross reference table data modules. If used, the project shall decide which product sets are referenced in the product cross reference table.

5.58.2.2 Product attributes and conditions to include.

A project using the product cross reference table shall decide which product attributes and conditions to include in the product cross reference table. Conditions that represent operational or environmental properties will usually not be included in the product cross reference table as they are not associated with a product instance.

5.59 S1000D Chapter 3.9.6.1 – Authoring – Project configurable attributes

5.59.1 Army business rules.

5.59.1.1 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

5.59.1.2 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
`at04`	Spec
`at05 – at50`	Not available for projects
`at51 – at55`	Reserved for Army
`at56 – at99`	Available for projects

5.59.1.3 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

5.59.1.4 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

5.59.1.5 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`	PMCS
`clc03`	Schematics
`clc04 - clc50`	Not available for projects
`clc51 - clc55`	Reserved for Army
`clc56 - clc99`	Available for projects

5.59.1.6 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

5.59.1.7 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

5.59.1.8 Commercial security classification – attribute `commercialClassification`.

See 5.9.1.3.

5.59.1.9 Type of crew member required for drill or procedural step – attribute `crewMemberType`.

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

Table X. Attribute values – `crewMemberType`

Allowable values	Army interpretation
cm01	All
cm02	Pilot

Allowable values	Army interpretation
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

5.59.1.10 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)
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

5.59.1.11 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	Consumables
dic05 – dic21	Not available for projects

Allowable values	Army interpretation
dic22	Special Tool
dic23	Part
dic24	Basic Issue Item
dic25	Components of End Item
dic26	Tool
dic27	Additional Authorization List Item
dic28 – dic50	Not available for projects
dic51 – dic55	Reserved for Army
dic56 – dic99	Available for projects

5.59.1.12 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

5.59.1.13 Type of emphasis – attribute emphasisType.

See 5.11.1.12.

5.59.1.14 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 Maintenance Allocation charts only.

Table XIV. Attribute values – function

Allowable values	Army interpretation

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 – ft99	Reserved for Army

5.59.1.15 Type of equipment install location – attribute `installationLocationType`. Attribute values shall be used as defined in the following table.

Table XV. 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

5.59.1.16 Item characteristic – attribute `itemCharacteristic`.

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

Table XVI. 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

5.59.1.17 Origin of an equipment or harness or wire – attribute `itemOriginator`.

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

Table XVII. 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

5.59.1.18 Limit type – attribute `limitUnitType`.

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

Table XVIII. Attribute values – `limitUnitType`

Allowable values	Army interpretation
`lt01`	Time between overhaul
`lt02`	Hard time
`lt03`	Since last maintenance
`lt04`	Out time limit
`lt05`	On condition
`lt06`	Check maintenance

Allowable values	Army interpretation
`lt07`	Functional check
`lt08 - lt50`	Not available for projects
`lt51 - lt55`	Reserved for Army
`lt56 - lt99`	Available for projects

5.59.1.19 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

5.59.1.20 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/ASB maintenance can remove, replace, and use the item.
`la04`	Below depot sustainment maintenance can remove, replace, and use the item.
`la05`	Specialized repair activity/TASMG can remove, replace, and use the item.

Allowable values	Army interpretation
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, replace, or used at any maintenance level
la09	Depot can remove, replace, and use the item.
la10 – la50	Not available for projects
la51	AMC
la52 – la60	Reserved for Army
la61 – la99	Available for projects

5.59.1.21 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

5.59.1.22 Part characteristic – attribute `partCharacteristic`.

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

Table XXII. Attribute values – `partCharacteristic`

Allowable values	Army interpretation

Allowable values	Army interpretation
pc01	Used to indicate a hardness critical item
pc02	Used to indicate flight safety and critical aircraft parts
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

5.59.1.23 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

5.59.1.24 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
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

5.59.1.25 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

5.59.1.26 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

5.59.1.27 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

5.59.1.28 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

5.59.1.29 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 – 99	Reserved for Army

5.59.1.30 Paragraph significant data type – attribute `significantParaDataType`.

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

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 – psd65	Reserved for Army
psd66 – psd99	Available for projects

5.59.1.31 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

5.59.1.32 Personnel skill category – attribute `skillType`.

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

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

5.59.1.33 Source criticality – attribute `sourceCriticality`.

The attribute shall not be used.

5.59.1.34 Source type code – attribute `sourceTypeCode`.

The attribute shall not be used.

5.59.1.35 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

5.59.1.36 Supervisor level – attribute `supervisorLevelCode.`

The attribute shall not be used.

5.59.1.37 Task code – attribute `taskCode.`

The attribute shall not be used.

5.59.1.38 Unit of measurement for the threshold interval – attribute `thresholdUnitOfMeasure.`

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

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 charge
`th13`	Landing gear change
`th14`	Wheel change

Allowable values	Army interpretation
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
th59	Kilometers
th60	Miles
th61	Starts
th62	Intermediate

Allowable values	Army interpretation
th63	Periodic
th64	Before
th65	During
th66	After
th67	Weekly
th68	Monthly
th69	Quarterly
th70	Semiannually
th71	Annually
th72	Manhour/Day
th73	Phased
th74	Other
th75 – th79	Reserved for Army
th80 – th99	Available for projects

5.59.1.39 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

5.59.1.40 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

5.59.2 Project decisions.

5.59.2.1 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.

5.60 S1000D Chapter 3.9.6.2 – Attributes – Fixed Values

5.60.1 Army business rules.

None.

5.60.2 Project decisions.

5.60.2.1 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.

5.61 S1000D Chapter 3.9.7 – Authoring – Human performance technology and training

5.61.1 Army business rules.

None.

5.61.2 Project decisions.

5.61.2.1 Scope information.

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

5.61.2.2 Presentation.

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

5.61.2.3 Scope of preplanning.

The project shall determine the scope of the preplanning guidance.

5.62 S1000D Chapter 4 – Information Management

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

Chapter 4	Information management
Chapter 4.1	Information management – Introduction
Chapter 4.2.2	Common source database – Related standards for the CSDB
Chapter 4.3.4	Data module code – Disassembly code
Chapter 4.3.9	Data module code – Learning code
Chapter 4.3.10	Data module code – Learning event code
Chapter 4.3.11	Data module code – Summary
Chapter 4.5	Information management – Data module lists
Chapter 4.9	Information management – Publication and SCO management
Chapter 4.9.3	Publication and SCO management – Building of publications and SCOs
Chapter 4.9.4	Publication and SCO management – Updating of publications
Chapter 4.9.5	Publication and SCO management – SCO module
Chapter 4.10.3	Business rules exchange – The BREX default data module
Chapter 4.13	Information management – Optimizing and reuse

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

5.63.1 Army business rules.

5.63.1.1 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.

5.63.1.2 Use of optional elements.

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

5.63.2 Project decisions.

None.

5.64 S1000D Chapter 4.2.1 – Common source database – Information objects

5.64.1 Army business rules.

5.64.1.1 Use of XML.

Data modules shall be coded in XML. (JS)

5.64.2 Project decisions.

None.

5.65 S1000D Chapter 4.3 – Information management – Data module code

5.65.1 Army business rules.

None.

5.65.2 Project decisions.

None.

5.65.2.1 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.

5.66 S1000D Chapter 4.3.1 – Data module code – Model identification code

5.66.1 Army business rules.

5.66.1.1 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 Usable On Code (UOC).

5.66.1.2 Model identification registration with NAMSA.

The project shall register all new model identification code(s) with the NATO Maintenance and Supply Agency (NAMSA) and the project shall use AMC-12-17 to coordinate the model identification code(s) with LOGSA.

5.66.2 Project decisions.

5.66.2.1 Allocation of model identification code.

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

5.66.2.2 Use of one or several model identification codes.

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

5.66.2.3 Model identification code.

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

5.66.2.4 Model identification structure.

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

5.66.2.5 Model identifier length.

The project shall decide on the length of the data module code for each given model identification on the project and that length shall remain fixed throughout the project. (JS)

5.67 S1000D Chapter 4.3.2 – Data module code – System difference code

5.67.1 Army business rules.

None.

5.67.2 Project decisions.

5.67.2.1 System difference code.

The project shall determine how to populate the System Difference Code and, if using LMI or a comparable process, define the relationship to LMI.

5.67.2.2 UOC as system difference code.

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

5.68 S1000D Chapter 4.3.3 – Data module code – Standard numbering system

5.68.1 Army business rules.

5.68.1.1 Standard Numbering System (SNS).

Standard Numbering System (SNS) shall be derived from Government Electronics and Information Association (GEIA)-STD-0007 data if available. If GEIA-STD-0007 data does not exist, the project shall decide on the application of the SNS rule in S1000D Chapter 8.4.1 using a maintained SNS from the specification or any other maintained standardized numbering system.

5.68.1.2 Documentation of SNS

The SNS shall be documented in the project business rules and included in the BREX data module to the extent possible. (JS)

5.68.1.3 Documentation of SNS and technical names

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

5.68.1.4 Use of technical names and SNS

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

5.68.1.5 Use of SNS for support equipment

The project shall not use the SNS for support equipment since it is deprecated in S1000D. (JS)

5.68.2 Project decisions.

5.68.2.1 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).

5.68.2.2 Sub-subsystem SNS allocations.

The project shall determine the sub-subsystem SNS allocations.

5.68.2.3 Unit or assembly portion of the data module code.

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

5.68.2.4 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.

5.68.2.5 IPPN for non-chapterized IPD.

The project shall specify allocation of the last 4 digits of the Initial Provisioning Project Number (IPPN) for non-chapterized Illustrated Parts Data (IPD).

5.68.2.6 Responsible Partner Company (RPC).

The project shall establish the RPC codes (single characters) to be used in the IPD data modules are used.

5.68.2.7 Disassembly code linking.

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

5.69 S1000D Chapter 4.3.5 – Data module code – Disassembly code variant

5.69.1 Army business rules.

None.

5.69.2 Project decisions.

5.69.2.1 Disassembly Code Variant (DCV).

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

5.70 S1000D Chapter 4.3.6 – Data module code – Information codes

5.70.1 Army business rules.

5.70.1.1 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.

5.70.1.2 "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.

5.70.2 Project decisions.

None.

5.71 S1000D Chapter 4.3.7 – Data module code – Information code variant

5.71.1 Army business rules.

5.71.1.1 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.

5.71.2 Project decisions.

None.

5.72 S1000D Chapter 4.3.8 – Data module code – Item location code

5.72.1 Army business rules.

None.

5.72.2 Project decisions.

5.72.2.1 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.

5.73 S1000D Chapter 4.4 – Information management – Illustration Control Number

5.73.1 Army business rules.

5.73.1.1 Illustration Control Number (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 illustration control numbers are normally derived from the XML attribute and put in place by the page layout system.

5.73.1.2 Identification code, system difference code, and 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)

5.73.1.3 Use of CAGE code or model identification code based ICN.

The project is not required to decide which method is used for the ICN. Both methods can be used.

5.73.2 Project decisions.

5.73.2.1 RPC.

The project shall determine how to populate RPC in the ICN for non-chapterized IPD.

5.73.2.2 CAGE codes for originator.

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

5.73.2.3 Illustration sequential number.

The project shall determine how to populate illustration sequential number.

5.73.2.4 Illustration variant code.

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

5.73.2.5 Issue number.

The project shall define the use of the issue number.

5.73.2.6 Security classification.

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

5.74 S1000D Chapter 4.5.1 – Data module lists – Data module requirement list

5.74.1 Army business rules.

5.74.1.1 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.

5.74.1.2 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)

5.74.1.3 Change markers.

Change markers shall be included in the DMRL.

5.74.1.4 Data module title.

Data module title shall be included in the DMRL.

5.74.1.5 Issue date.

Issue date shall be included in the DMRL.

5.74.1.6 Security classification.

Security classification shall be included in the DMRL.

5.74.2 Project decisions.

5.74.2.1 CAGE codes for DMRL senders.

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

5.74.2.2 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.

5.74.2.3 Use of data restriction.

The project shall decide whether or not to use the element `<dataRestriction>` in the data module requirements list status section.

5.74.2.4 Use of reference.

The project shall decide whether or not to use the element `<dmlRef>` in the data module requirements list status section.

5.74.2.5 Use of data module code extension.

The project shall decide whether or not to use the element `<identExtension>` in the data module requirements list.

5.74.2.6 Use of data module issue number.

The project shall decide whether or not to use the element `<issueInfo>` in the data module requirements list.

5.74.2.7 Use of data module requirement answer.

The project shall decide whether or not to use the element `<answer>` in the data module requirements list.

5.74.2.8 Use of data module requirement remarks.

The project shall decide whether or not to use the element `<remarks>` in the data module requirements list.

5.74.2.9 Deleted DMs.

The project shall specify whether deleted data modules should appear in the DMRL with an attribute of "deleted" or if the entries should be deleted from the DMRL entirely.

5.75 S1000D Chapter 4.5.2 – Data module lists – CSDB status list

5.75.1 Army business rules.

5.75.1.1 CSL delivery.

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

5.75.1.2 Data deliverable dates.

The project shall specify dates for data deliverables.

5.75.2 Project decisions.

5.75.2.1 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.

5.75.2.2 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.).

5.76 S1000D Chapter 4.6 – Information management – Comment

5.76.1 Army business rules.

5.76.1.1 DA Form 2028.

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

5.76.1.2 Use of comment schema.

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

5.76.2 Project decisions.

The following comment business rule options are only available in IETP implementations.

5.76.2.1 Use of comment.

The project shall specify whether Comments should be used.

5.76.2.2 Workflow.

The project shall specify workflow for commenting.

5.76.2.3 Model information code.

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

5.76.2.4 CAGE codes for issuing authority.

The project shall define the valid CAGE codes for Issuing authority of comments.

5.76.2.5 Use of titles.

The project shall specify whether comment titles are required or not.

5.76.2.6 Rules for titles.

Provide rules for establishing comment titles.

5.76.2.7 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.

5.76.2.8 Data restrictions.

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

5.76.2.9 Priority codes.

The project shall define the rules for priority codes.

5.76.2.10 Use of response codes.

The project shall specify whether response codes should be used.

5.76.2.11 Rules for response codes.

The project shall define the rules for response codes.

5.76.2.12 Remarks.

The project shall specify whether remarks should be used.

5.76.2.13 References to attachments.

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

5.76.2.14 Allowed file types.

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

5.77 S1000D Chapter 4.7 – Information management – Version control of data modules

5.77.1 Army business rules.

5.77.1.1 Data Dispatch Note (DDN).

Changes to printed manuals shall consist of a Data Dispatch Note (including a list of changed/new/deleted files), instructions for implementing the change, changed publication modules, changed data modules, affected illustrations, and an authentication page.

5.77.1.2 Change transmittal page.

A 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 number and 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).

5.77.1.3 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).

5.77.1.4 IETP updates.

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

5.77.1.5 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.

5.77.1.6 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.

5.77.2 Project decisions.

5.77.2.1 Data module revisions.

The project shall decide when data modules will be revised.

5.77.2.2 Delivery of inwork DMs.

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

5.78 S1000D Chapter 4.8 – Information management – Interchange of data modules

5.78.1 Army business rules.

5.78.1.1 Data Dispatch Notes.

The use of Data Dispatch Notes is required.

5.78.2 Project decisions.

5.78.2.1 File formats.

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

5.78.2.2 Procedures for data exchange.

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

5.78.2.3 Inclusion of graphics.

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

5.78.2.4 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.

5.78.2.5 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.

5.78.2.6 Use of photographs.

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

5.78.2.7 Use of multimedia formats.

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

5.78.2.8 Raster graphic resolution.

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

5.79 S1000D Chapter 4.9.1 – Publication management – Publication module

5.79.1 Army business rules.

5.79.1.1 Language.

Within the `<language>` element, 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"/>`).

5.79.1.2 Data restrictions.

The optional element `<dataRestrictions>` shall be used for all publications and shall not be used for data modules.

5.79.1.3 Originator.

The element `<originator>` shall contain the office of origin as specified in DoD 5200.1-R. (JS)

5.79.1.4 Use of media.

The element `<pubMedia>` shall be used.

5.79.1.5 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”

5.79.1.6 Location.

The attribute `mediaLocation` shall not be used.

5.79.1.7 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.

5.79.1.8 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).

5.79.1.9 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.

5.79.1.10 Page oriented publication titles.

All page oriented publication titles, except DMWR and NMWR, shall start with the words “TECHNICAL MANUAL” and all shall follow by the titles given in the content selection tables.

5.79.1.11 IETP titles.

All IETP titles, except DMWR and NMWR, shall start with the words “Interactive Electronic Technical Manual” and shall follow by the titles given in the content selection tables.

5.79.1.12 DMWR and NMWR IETP titles.

DMWR and NMWR IETP titles shall start with the words “Interactive Electronic” followed by the titles in the appropriate content selection table.

5.79.1.13 Parts information titles.

If parts information publications, except DMWR and NMWR, contain Depot parts and special tools, the title shall indicate this (e.g., Field and Sustainment Maintenance Manual including Parts List including Depot).

5.79.1.14 Titles for multi-volume publications.

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

5.79.1.15 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.

5.79.1.16 Issue date.

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

5.79.1.17 Logo

The element <logo> shall not be used.

5.79.2 Project decisions.

5.79.2.1 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.

5.79.2.2 Publication media code.

The project shall determine the use of the attribute pubMediaCode.

5.79.2.3 Short publication module title.

The project shall determine the use and population of the element <shortPmTitle>.

5.80 S1000D Chapter 4.9.2 – Publication management – Coding of publications

5.80.1 Army business rules.

5.80.1.1 Publication numbering.

Publication module codes for publications shall consist of the following components:

a. Model identification code. The values for the attribute modelIdentCode in the element <pmCode> shall be populated in a manner consistent with the rules for the attribute modelIdentCode in the data module code. (JS)

b. 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)

Table XXXVII. Issuing Authority Codes

Code	Proponent
0	TACOM
1	AMC
2	AMCOM
3	ARDEC
4	C-E LCMC
5	CSLA
6	ILSC-SBC
7	ECBC
8	JMC
9	Reserved
A	Reserved

The four digit category code is equal to the applicable Federal Supply Class (FSC) available from https://www.drms.dla.mil/asset/fsclist.html. Refer to AMC-R 25-76 for additional information about proponents.

c. 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 2 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
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

Publication code	Definition	Legacy publication type
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
SUB	Supply Bulletin	SB

Publication code	Definition	Legacy publication type
DRL	Depot Maintenance Reference List	DMRL
DMM	Depot Maintenance Manual	DM

d. Volume. The value of the attribute `pmVolume` shall be populated with a two digit volume number. If no volume identification is needed, the default value shall be "`00`". (JS)

5.80.1.2 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:

a. Model identification code. The values for the attribute `modelIdentCode` in the element `<pmCode>` shall be populated in a manner consistent with the rules for the attribute `modelIdentCode` in the data module code.

b. Issuing authority. The attribute `pmIssuer` shall be populated with a value that combines a single digit issuing authority code selected from Table XXXVII and a four digit category code. The four digit category code is equal to the applicable Federal Supply Class (FSC) available from https://www.drms.dla.mil/asset/fsclist.html.

c. Publication number. The attribute `pmNumber` shall be assigned by the project.

d. Volume. The value of the attribute `pmVolume` shall be "`00`".

5.80.1.3 Chapters.

Chapters shall be used to divide publication data into specific functional information groups.

5.80.1.3.1 Chapter publication module.

Data modules for each chapter shall be sequenced using a nested publication module (see 5.59.1.23). A chapter publication module may contain additional nested publication modules and additional data modules as needed.

5.80.1.3.2 Chapter numbers.

Chapters shall be numbered in sequential order throughout the publication using Arabic numerals. Sequential numbering shall continue from volume to volume.

5.80.2 Project decisions.

5.80.2.1 Applicability.

The project shall specify whether applicability should be used in publication module status.

5.80.2.2 Publication number.

The project shall document the method used for populating the attribute `pmNumber` for nested publication modules.

5.81 S1000D Chapter 4.10 – Information management – Business rules exchange

5.81.1 Army business rules.

5.81.1.1 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)

5.81.2 Project decisions.

None.

5.82 S1000D Chapter 4.10.1 – Information Business rules exchange – Coding of BREX data modules

5.82.1 Army business rules.

None.

5.82.2 Project decisions.

5.82.2.1 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.

5.83 S1000D Chapter 4.10.2 – Information Business rules exchange – The BREX data module

5.83.1 Army business rules.

5.83.1.1 Exchange of SNS using the BREX data module.

The project shall use the BREX data module for exchange of information on the applied SNS to the extent possible.

5.83.2 Project decisions.

5.83.2.1 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.

5.84 S1000D Chapter 4.11 – Information management – Process data module

5.84.1 Army business rules.

5.84.1.1 Process data module.

The project shall determine the use of the process data module and describe that approach in the business rules.

5.84.2 Project decisions.

5.84.2.1 Use of the process data module.

The project shall decide whether to use the process data module or not.

5.84.2.2 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.

5.85 S1000D Chapter 4.12 – Information management – Multiple instances of data modules

5.85.1 Army business rules.

5.85.1.1 Use of several instances per data module.

Multiple instances of any one data module issue shall not be allowed.

5.85.2 Project decisions.

None.

5.86 S1000D Chapter 4.13.1 – Optimizing and reuse – Paragraph significant data and quantity data

5.86.1 Army business rules.

None.

5.86.2 Project decisions.

5.86.2.1 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. If used, the project shall decide whether to use the associated technical information repository data modules.

5.86.2.2 Use of name in conjunction with the technical information repository.

The project shall decide whether to repeat the name of objects referenced to the technical information repository.

5.86.2.3 Reference mechanisms.

The project shall decide whether to use implicit or explicit references between paragraph significant information and technical information repository data modules.

5.87 S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module

5.87.1 Army business rules.

None.

5.87.2 Project decisions.

5.87.2.1 Use of technical information repository.

The project shall decide whether to use technical information repository data modules or not.

5.87.2.2 Use of technical information repository internally or as a customer delivery.

The project shall decide if technical information repository data modules are only used internally to the manufacturer or integrator, as part of the production / integration environment or if technical information repository data modules are delivered to the Army.

5.87.2.3 Technical information repository data module types to be used.

The project shall decide which technical information repository data module types are used.

5.87.2.4 Use of one or several data modules for a technical information repository type.

The project shall decide whether there is one single or several data modules for a dedicated type of technical information.

5.87.2.5 Reference mechanisms.

The project shall decide whether to use implicit or explicit references.

5.88 S1000D Chapter 4.13.3– Optimizing and reuse – Container data module

5.88.1 Army business rules.

None.

5.88.2 Project decisions.

5.88.2.1 Use of container data module.

The project shall decide if container data modules are used.

5.88.2.2 Identification of container data module.

The project shall choose the container identification method. The chosen method shall be used systematically.

5.88.2.3 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.

5.89 S1000D Chapter 4.14 – Information management – Applicability

5.89.1 Army business rules.

None.

5.89.2 Project decisions.

5.89.2.1 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.

5.89.2.2 Level of applicability lifecycle.

The project shall decide to what level to implement the life cycle of applicability.

5.89.2.3 Product attribute, conditions naming and identification scheme.

If using the ACT and CCT data modules, the project shall define a consistent naming and identification scheme for product attributes and conditions.

5.89.2.4 Method of displaying invalid content.

The project shall specify the method that content is presented which is not valid for the current maintenance context.

5.89.2.5 Number of ACT, CCT and 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.

5.90 S1000D Chapter 4.14.1 – Information management – Applicability cross-reference table

5.90.1 Army business rules.

None.

5.90.2 Project decisions.

5.90.2.1 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).

5.90.2.2 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.

5.91 S1000D Chapter 4.14.2 – Information management – Conditions cross-reference table

5.91.1 Army business rules.

None.

5.91.2 Project decisions.

5.91.2.1 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).

5.91.2.2 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.

5.91.2.3 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.

5.91.2.4 Use of the incorporation list.

The project shall decide whether to use the incorporation status list.

5.92 S1000D Chapter 4.14.3 – Information management – Products cross-reference table

5.92.1 Army business rules.

None.

5.92.2 Project decisions.

5.92.2.1 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.

5.92.2.2 Scope of the product instances.

The project shall decide how many product instances are contained in a data module.

5.92.2.3 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.

5.93 S1000D Chapter 5 – Information sets and publications

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

Chapter 5	Information sets and publications
Chapter 5.1	Information sets and publications – General
Chapter 5.2	Information sets and publications – Information sets
Chapter 5.2.1.3	Common information sets – Maintenance information

Chapter 5.2.2	Information sets – Air specific information sets
Chapter 5.2.2.2	Air specific information sets – Structure repair information
Chapter 5.2.3	Information sets – Land/Sea specific information sets
Chapter 5.3	Information sets and publications – Publications
Chapter 5.3.1	Publications – Common requirements
Chapter 5.3.1.2	Common Requirements – Technical content

5.94 S1000D Chapter 5.2.1 – Information sets – Common information sets

5.94.1 Army business rules.

5.94.1.1 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.

5.94.1.2 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. Logistic Management Information (LMI). The technical data and instructions developed by the requirements of Logistic Management Information and Department of Defense (DoD) Requirements for a Logistic Management Information (LMI), (including the maintenance allocation chart (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.

5.94.1.3 Standard information.

Standard information specified data shall have no deviation to the content requirements including the use of standard headings, number of columns, the titles in the column headings, and required format. The standard information shall be presented (i.e. table, form, etc.) as prescribed by the acquiring activity. The list below is the standard information types (refer to each standard information type for the data requirements).

a. Controls and Indicators

b. Checking Unpacked Equipment

c. Preventive Maintenance Checks and Services (PMCS)

d. Classification of Material Defects

e. Overhaul and Retirement Schedule

f. Depot Mobilization Requirements

g. Repair Parts List

h. Special Tools List

i. Repair Parts Cross-Reference Index

j. Standard Maintenance Allocation Chart (MAC)

k. Aviation Maintenance Allocation Chart (AMAC)

l. Tools and Test Equipment Requirements for (MAC/AMAC)

m. Remarks (MAC/AMAC)

n. Expendable and Durable Items List

o. Mandatory Replacement Parts List

p. Component of End Items (COEI) List

q. Basic Issue Items (BII) List

r. Additional Authorization List (AAL)

s. Tools Identification List

t. Flight Safety Critical Aircraft Parts (FSCAP)

5.94.2 Project decisions.

None.

5.95 S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information

5.95.1 Scope.

This section contains content requirements for the following information sets:

a. Description and use of controls and indicators (see 5.95.4)

b. Operation under usual conditions (see 5.95.5)

c. Operation under unusual conditions (see 5.95.6)

d. Operation under emergency conditions (see 5.95.7)

e. Stowage and decal/data plate guide (see 5.95.8)

5.95.2 Army business rules.

5.95.2.1 General.

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.

5.95.3 Project decisions.

5.95.3.1 Types.

The project shall determine which optional operator instruction information sets apply.

5.95.4 Controls and Indicators

Data Module Type: Descriptive Information Code: 111A

5.95.4.1 Army business rules.

5.95.4.1.1 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, 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.

5.95.4.1.2 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.

5.95.4.1.3 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.

5.95.4.2 Project decisions.

5.95.4.2.1 Use of the technical repository.

The project shall determine whether controls and indicators are prepared with descriptive DMs or technical repository DMs.

5.95.4.2.2 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).

5.95.4.2.3 Multiple data modules.

If the technical 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.

5.95.4.2.4 Use of the control indicator number attribute.

If the technical repository data module method is selected, the project shall decide whether or not to use the attribute `controlIndicatorNumber` when referring to the technical repository (element `<controlIndicatorRef>`).

5.95.5 Operation under usual conditions

5.95.5.1 Army business rules.

5.95.5.1.1 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.

5.95.5.1.2 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.

5.95.5.1.3 Siting requirements.

Data Module Type: Procedural Information Code: 122A

When siting instructions peculiar to the equipment exist, those requirements shall be prepared. 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.

5.95.5.1.4 Shelter requirements.

Data Module Type: Procedural Information Code: 123B

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).

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.

5.95.5.1.5 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.

5.95.5.1.6 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.

5.95.5.1.7 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:

    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.

h. The following considerations should be taken into account when preparing operating procedures.

5.95.5.1.7.1 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, gages, 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.

5.95.5.1.8 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.

5.95.5.1.9 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.

5.95.5.1.10 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.

5.95.5.2 Project decisions.

5.95.5.2.1 Optional siting features.

The project shall determine optional siting features.

5.95.5.2.2 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.

5.95.6 Operation under unusual conditions.

5.95.6.1 Army business rules.

5.95.6.1.1 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.

5.95.6.1.2 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.

5.95.6.1.3 Fording and swimming.

Data Module Type: Procedural Information Code: 131R

If applicable, procedures for fording and swimming the equipment shall be provided.

5.95.6.1.4 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.

5.95.6.1.5 Jamming and Electronic Countermeasures (ECM) procedures.

Data Module Type: Procedural Information Code: 144A

As applicable, procedures shall be prepared for operation of the equipment in a Jamming and Electronic Countermeasures (ECM) environment through transmitted and reflected deception signals and through transmitted and reflected jamming.

5.95.6.1.6 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.

5.95.6.2 Project decisions.

None.

5.95.7 Operation under emergency conditions

Data Module Type: Procedural Information Code: 140B

5.95.7.1 Army business rules.

5.95.7.1.1 General.

As applicable, emergency procedures using, but not limited to, the operating and shutdown shall be prepared.

5.95.7.1.2 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.

5.95.7.1.3 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.

5.95.7.2 Project decisions.

None.

5.95.8 Stowage and decal/data plate guide

Data Module Type: Descriptive Information Code: 067B

5.95.8.1 Army business rules.

5.95.8.1.1 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.

5.95.8.1.2 Scope.

A brief scope statement shall be prepared explaining the purpose of the Stowage and decal/data plate guide.

5.95.8.1.3 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.

5.95.8.2 Project decisions.

5.95.8.2.1 Preparation instructions and information.

The project shall determine preparation instructions and information for stowage and decal/data plate guide(s).

5.96 S1000D Chapter 5.2.1.2 – Common information sets – Description and operation

5.96.1 Army business rules.

5.96.1.1 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 (see 5.96.3).

b. General information (see 5.96.4).

c. Equipment description and data (see 5.96.4.2.2).

d. Theory of operation (see 5.96.6).

e. General information (Preventive Maintenance Service Manual Only) (see 5.96.7).

f. General information (Phased Maintenance Checklist Manual Only) (see 5.96.8).

5.96.1.2 General.

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.

5.96.1.3 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.

5.96.1.4 Advertising.

Publication material shall not contain advertising matter.

5.96.2 Project decisions.

None.

5.96.3 General data

Data Module Type: Descriptive Information Code: 010A

5.96.3.1 Army business rules.

5.96.3.1.1 General.

A single descriptive data module shall be used to prepare the following general data:

5.96.3.1.2 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.

5.96.3.1.3 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.

5.96.3.1.4 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.

5.96.3.1.5 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.

5.96.3.1.6 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

5.96.3.1.7 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

5.96.3.1.8 Safety, care, and handling.

The following general precautions and safety regulations shall be prepared.

a. (Ammunition TMs/IETPs) Information shall be prepared to comply with DA PAM 385-63. References to applicable Army Regulations (ARs) for range safety and 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. Electrostatic Discharge (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.

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.

5.96.3.1.9 Calibration.

Equipment requiring calibration shall be identified, and reference shall be made to the publication containing the applicable calibration procedure.

5.96.3.1.10 Supporting information for repair parts, special tools, 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.

5.96.3.1.10.1 Common tools and equipment.

The following statement shall be included:

> "COMMON TOOLS AND EQUIPMENT
>
> For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), CTA 50-970, Expendable/Durable Items (Except: Medical, Class V, Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items, as applicable to your unit."

5.96.3.1.10.2 Special tools, 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.

5.96.3.1.10.3 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)."

5.96.3.1.11 Copyright credit line.

TMs/IETPs should not contain copyrighted material except as specified in the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulation (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.

5.96.3.2 Project decisions.

None.

5.96.4 General information

Data Module Type: Descriptive Information Code: 010B

5.96.4.1 Army business rules.

5.96.4.1.1 General.

A single descriptive data module shall be used to prepare the following general information:

5.96.4.1.2 Maintenance forms, records, and reports.

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."

The following statement shall be included in Marine only TMs/IETPs:

> "MAINTENANCE FORMS, RECORDS, AND REPORTS
>
> Maintenance forms and records used by Marine Corps personnel are prescribed by DA Pam 750-8."

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
>
> a. (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.
>
> b. (Marine Corps) Maintenance forms and records used by Marine Corps personnel are prescribed by DA Pam 750-8."
>
> c. (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.

d. (Navy) Navy users should refer to their service peculiar directives to determine applicable maintenance forms and records to be used."

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."

When applicable, add references to SB 742-1, Inspection of Supplies and Equipment Ammunition Surveillance Procedures.

5.96.4.1.3 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."

5.96.4.1.4 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."

5.96.4.1.5 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 here*) 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."

5.96.4.1.6 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).

5.96.4.1.7 Warranty information.

When the TM/IETP covers equipment that is under warranty and a Warranty Technical Bulletin (WTB) is published, the applicable WTB shall be referenced. When a WTB is not published, the following statement shall be included.

> "WARRANTY INFORMATION
>
> The (*insert name of equipment*) is warranted for (*insert miles or other timeframe as appropriate*). The warranty starts on the date found in block 23 of DA Form 2408-9, Equipment Control Record. Report all defects to your supervisor, who will take appropriate action."

5.96.4.1.8 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."

5.96.4.1.9 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."

5.96.4.1.10 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 below. 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 ESD sensitive parts, the acronym ESD shall precede the task title. (For example, ESD DISASSEMBLY.)

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.

5.96.4.1.11 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.

5.96.4.1.12 Flight safety critical aircraft parts (FSCAP) (aircraft only).

The following statement shall be included for flight safety critical aircraft parts (FSCAP) (aircraft only):

> “FLIGHT SAFETY CRITICAL AIRCRAFT PARTS (FSCAP)
>
> A flight safety critical aircraft part is defined as any part, assembly, or installation whose failure, malfunction, or absence could cause loss of aircraft, serious damage to aircraft, death of crewmembers, or serious injury to crewmembers. A critical characteristic is defined as any feature throughout the life cycle of a FSCAP, such as dimension, tolerance, finish, material or assembly, manufacturing process, inspection process, operation, field maintenance requirement, depot overhaul requirement, or other feature that if nonconforming, missing, or degraded, could cause failure or malfunction of a FSCAP.”

In addition, add the following statement:

> “Throughout the maintenance tasks, ‘FLIGHT SAFETY CRITICAL AIRCRAFT PARTS’ alerts will precede the procedural step that includes a FSCAP, emphasizing that this part or parts require special handling during maintenance."

5.96.4.1.13 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 (enter the name and address of the responsible command or activity) A reply will be furnished to you."

5.96.4.1.14 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."

5.96.4.1.15 Deviations and exceptions (DMWR/NMWR only).

The following statement shall be included (DMWR/NMWR only):

"DEVIATIONS AND EXCEPTIONS

Requests for deviations or exceptions to this (*insert Depot Maintenance Work Requirement (DMWR) or National Maintenance Work Requirement (NMWR)*) will be processed in accordance with ISO 9000 Series standards, or equivalent."

5.96.4.1.16 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)."

5.96.4.1.17 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."

5.96.4.2 Project decisions.

5.96.4.2.1 References to QA.

The project shall determine if a reference shall be made to the pertinent QA or included directly (See 5.96.4.1.11).

5.96.4.2.2 Separate Hand Receipt.

The project shall determine if Hand Receipts will be part of the publications or referenced as a separate document.

5.96.5 Equipment description and data.

Data Module Type: Descriptive Information Code: 000B

5.96.5.1 Army business rules.

5.96.5.1.1 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.

5.96.5.1.2 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 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.

5.96.5.1.3 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.

5.96.5.1.4 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.

5.96.5.1.5 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.

5.96.5.1.6 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).

5.96.5.2 Project decisions.

None.

5.96.6 Theory of operation (Except Conventional and Chemical Ammunition only)

Data Module Type: Descriptive Information Code: 042F

5.96.6.1 Army business rules.

5.96.6.1.1 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 Logistics Management Information (LMI) maintenance concept, the Maintenance Allocation Chart (MAC), or an approved maintenance plan. This information set shall not contain any operator or maintenance procedures.

5.96.6.1.2 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.

5.96.6.2 Project decisions.

5.96.6.2.1 DMWR/NWMR.

The project shall decide if DMWR/NMWR will include theory of operation data modules.

5.96.6.2.2 Introductory general information.

The project shall decide if introductory general information will precede the theory of operation narrative.

5.96.7 General information (Preventive Maintenance Services Manual only).

Data Module Type: Descriptive Information Code: 010D

5.96.7.1 Army business rules.

5.96.7.1.1 General.

Preventive Maintenance Services manuals and Preventive Maintenance Daily manuals shall contain the content requirements provided in 5.96.7.1.3. The italicized text shall be deleted, and as applicable, replaced with the appropriate information. A single descriptive data module shall be used.

5.96.7.1.2 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."

5.96.7.1.3 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

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 electronic mail, by fax, or by the World Wide Web. Our fax number is (*insert DSN and commercial number of proponent*). Our e-mail address is (*insert e-mail address of proponent*). Instructions for sending an electronic DA Form 2028 may be found at the back of the applicable technical manual. For World Wide Web use https://amcom2028.redstone.army.mil. A reply will be furnished to you.

OZONE DEPLETING CHEMICALS

(*insert appropriate ODC statement here*)

HAZARDOUS MATERIALS (HAZMAT)

(insert appropriate HAZMAT statement here)

INSPECTION AREAS

Inspection areas are shown in (*insert data module(s) title and figure number*).”

5.96.7.2 Project decisions.

None.

5.96.8 General information (Phased Maintenance Inspection Manual only).

Data Module Type: Descriptive Information Code: 010E

5.96.8.1 Army business rules.

5.96.8.1.1 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."

"EXCEEDING THE PHASED SCHEDULE

The phased maintenance inspection intervals designated are the maximum and shall not be exceeded except in actual operational emergencies as explained herein. It is the Commander's responsibility to determine (on an individual aircraft basis) when inspection intervals may be exceeded. For this purpose, operational emergencies are conditions of combat, or conditions of disaster which necessitate flight to evacuate aircraft or personnel. When aircraft are operated beyond the normal inspection due time because of such emergency situations, a circled red X status symbol and an appropriate statement (to include authority) shall be entered on the appropriate aircraft form as specified in DA PAM 738-751 until such time as the inspection is complete. When inspections are delayed to meet emergency requirements, Commanders will assure that the aircraft status symbol reverts to a red X and that delayed inspections are accomplished immediately upon termination of the actual emergency. When unusual local conditions (utilization, type of mission, personnel, periods of inactivity, environmental conditions, etc.) dictate, it is the prerogative and responsibility of the Maintenance Officer to increase the scope and/or frequency of maintenance or inspection as necessary to ensure safe operation (TM 1-1500-328-23).

MAINTENANCE ACTIVITIES

The inspections prescribed by this checklist will be accomplished at specified phases by Aviation Maintenance Company (AMC) activities with assistance of Aviation Support Battalion (ASB)

and Depot Maintenance activities when required. The inspection of the part/component is visual unless stated otherwise.

LIMITATIONS

The checklist does not contain instructions for repair, adjustment or other means of rectifying conditions. Neither does it contain special tolerances, limits, or instructions for special troubleshooting to find causes for malfunctions. Such data will be obtained from the latest issue of the aircraft (*insert applicable aircraft technical manuals*) series Maintenance Manuals.

CHANGEOVER TO THE PHASED MAINTENANCE SYSTEM

Changeover shall be accomplished in accordance with instructions provided in (*insert appropriate TM/TB*) entitled, "Insert title". The requirements of this TM/TB shall be accomplished prior to implementation of Phase 1 inspection requirements specified in this checklist.

PRE-INSPECTION MAINTENANCE TEST FLIGHT (MTF)

A pre-inspection MTF to duplicate non-hazardous equipment problems, determine unsatisfactory conditions, determine equipment operation problems, etc., is recommended prior to start of aircraft disassembly for phased maintenance inspection. The decision to perform the pre-inspection MTF, however, shall be the responsibility of the unit Maintenance Officer.

SPECIAL INSPECTIONS, CALENDAR INSPECTIONS, AND LUBRICATION REQUIREMENTS

Special inspections, calendar inspections, and lubrication requirements contained in (*insert applicable aircraft technical manual*) and those listed on the aircraft's DA Form 2408-18 shall be reviewed and accomplished in accordance with the "inspection due" requirements specified in those documents.

TIME BETWEEN OVERHAUL (TBO) AND RETIREMENT LIFE ITEMS CHECK

Prior to start of the applicable phased maintenance inspection, a check will be made of components and their remaining operating hours prior to removal. The latest issue of the aircraft's (*insert applicable aircraft technical manual*) and DA Form 2408-16 shall be referred to for a complete listing of components and their TBO and retirement life.

USING THE PHASED INSPECTION CHECKLIST

1. 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.

a. Space is provided on each checklist form for entering the following data:

(1) The type of the maintenance inspection phase being performed or the phase type being performed (i.e., phase, desert, reset).

(2) Aircraft serial number.

(3) Date of the inspection.

(4) Total hours. (Block provided for local use.)

b. For each inspection item a column is provided for entering the following data:

(1) Status of the aircraft as the result of the inspection requirement.

(2) Aircraft fault and/or remarks indicated by the inspection requirement.

(3) Action taken to correct the fault.

(4) Personnel Identifier (PID) of person performing the corrective action.

PHASE NUMBERS/TYPES

In the column headed 'Inspect Phase Type.' and adjacent to the sequence number of each inspection requirement, there will appear "Insert appropriate codes/explanations". The word "ALL" indicates that the inspection requirement shall be accomplished at each phase. A number represents the phase number or flight hours (time between phases) at which that inspection requirement is to be accomplished. When more than one number or flight hour is listed the inspection is required at each interval given.

STATUS SYMBOLS

The status column will be used in accordance with DA PAM 738-751.

FAULTS AND/OR REMARKS

Fault entries in the Faults and/or Remarks column will be in accordance with DA PAM 738-751.

ACTION TAKEN

a. Entries in the Action Taken column will be in accordance with 738-751

b. If no fault was found, an appropriate remark shall be entered in the column to indicate that the inspection was accomplished, i.e., 'Inspected and found OK'. If an inspection item is not applicable to the particular inspection or to specific equipment installed on an individual aircraft, a 'N/A' entry is required.

PERSONNEL IDENTIFIER (PID)

The PID of the person correcting the indicated fault shall be entered in accordance with DA PAM 738-751.

FINAL RECORDS CHECK

After all corrective actions have been completed and following completion of the phased inspection, the Technical Inspector, or designated supervisor shall verify that all applicable forms and records have been properly updated. All uncorrected faults shall be entered on applicable aircraft forms in accordance with DA PAM 738-751. A Final Records Checklist shall be used 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.

SIGNATURE SHEET

All personnel performing inspection and/or maintenance tasks shall place their signatures and PID on the signature sheet. The purpose of the signature sheet is to provide a correlation between PID entered on the individual checklist sheets and the actual names of the personnel accomplishing these tasks.

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 IMMPROVEMENTS.

(insert appropriate reporting errors statement here)"

5.96.8.2 Project decisions.

None.

5.97 S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures

5.97.1 Scope.

This section contains content requirements for the following information sets:

a. Service upon receipt (see 5.97.4)
b. PMCS including lubrication instructions (see 5.97.5)
c. Preventive maintenance checklist (see 5.97.8)
d. Maintenance tasks (see 5.97.9)
e. Follow-on maintenance (see 5.97.10)
f. General maintenance (see 5.97.11)
g. Lubrication instructions (see 5.97.12)
h. Facilities (see 5.97.13)
i. Overhaul inspection procedures (see 5.97.14)
j. Depot mobilization requirements (see 5.97.15)
k. QA requirements (see 5.97.16)
l. Illustrated list of manufactured items (see 5.97.17)
m. Torque limits (see 5.97.18)
n. Ammunition maintenance (see 5.97.19)

o. Ammunition marking information (see 5.97.20)

p. Foreign ammunition (see 5.97.21)

q. Maintenance/Demilitarization of conventional and chemical ammunition (see 5.97.22)

r. Daily preventive maintenance checklist (see 5.97.23)

5.97.2 Army business rules.

5.97.2.1 General.

Maintenance instructions shall be prepared for all items comprising the weapon system/equipment, such as assemblies, subassemblies, components, wiring, junction boxes, and accessories. Tasks shall be presented in the order in which they are performed. Sound engineering principles and techniques, approved Logistics Management Information (LMI), service experience, performance data on similar equipment, and all other reliability, maintainability, and supportability (RMS) and operational availability (Ao) data available shall be used in the preparation of specific maintenance instructions. Maintenance data modules shall be arranged to coincide with the Functional Group Code (FGC) sequence followed in the MAC or parts information.

5.97.2.2 Maintenance information sets.

Individual maintenance 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.

5.97.2.3 Preliminary requirements.

When preliminary requirements information differs for specific maintenance tasks, additional data modules shall be developed.

5.97.2.4 Procedural data modules.

Procedural data modules shall stand-alone and contain a single start-to-finish maintenance procedure. A link to the applicable data module shall be provided for any follow-on maintenance that shall be performed after maintenance procedures are completed.

5.97.3 Project decisions.

None.

5.97.4 Service upon receipt (Field only)

5.97.4.1 Army business rules.

5.97.4.1.1 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:

5.97.4.1.2 Siting.

Data Module Type: Procedural Information Code: 122A

Siting instructions peculiar to the equipment shall be prepared, as applicable. In preparing the instructions, operational and maintenance features shall be considered, such as the following:

a. Location.

b. Proximity to power sources.

c. Effective ranges.

d. Terrain requirements to avoid screening, reflections, ground clutter, and other poor operational conditions due to terrain.

e. Technical requirements.

f. Shelter locations.

g. Compensating for adverse siting conditions.

h. When the equipment contains large components such as towers and antennas that require orientation to a baseline during siting.

i. Mobile equipment oriented during installation.

5.97.4.1.3 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 weights that the floor shall support and the area in square feet over which the total weight will be distributed.

f. Environmental conditions (e.g., venting).

g. Power requirements.

h. Unusual requirements specific to equipment, such as air-conditioning.

i. Architectural and engineering data on beam sizes, lengths, bending moments, and required supports shall not be included."

5.97.4.1.4 Service upon receipt of materiel.

The following information shall be prepared:

a. Unpacking.

Data Module Type: Procedural Information Code: 840B

As a minimum, the following information shall be prepared.

1. Any special sequence of action necessary to protect the equipment.

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. 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.

3. Man-hour requirements and total man-hours required for unpacking the equipment."

b. 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. These instructions may be contained in a table.

1. Packaging material. For each item of a component requiring inspection, acceptable, reparable, and non-reparable conditions shall be provided.
2. 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.
3. 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, see DA PAM 750-8).
>
> Check to see whether the equipment has been modified."

c. 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.

1. Any special skills required by processing personnel.
2. All caustic, corrosive, and/or toxic material used during processing shall be identified and applicable warnings and cautions given.
3. Instructions on safe disposal of waste products generated during processing actions.
4. Man-hour requirements and total man-hours required for processing the equipment.

5.97.4.1.5 Install procedure.

Data Module Type: Procedural Information Code: 720A

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.

a. Cable diagrams shall be included or referenced as necessary. When cable assemblies are not supplied but are required for bench test setup, instructions shall be prepared 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.

1. Instructions shall be prepared for any mating connectors that call for a special procedure either to make the proper connection or to prevent damage to the connector. Cautions shall be included where necessary.
2. 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.

3. All alternate connection patterns required for various modes of operation shall be shown and explained.

4. Only one diagram shall be used to illustrate interconnection patterns which appear more than once within the same equipment.

b. For installation of plug-in items, diagrams shall be prepared or referenced showing the location of items that are not installed in the equipment when received. Instructions shall be prepared whenever special techniques or connections are required.

5.97.4.1.6 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.

5.97.4.1.7 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., Electrostatic Discharge (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.

5.97.4.1.8 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).

5.97.4.1.9 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.
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.

5.97.4.1.10 Preliminary servicing.

Data Module Type: Procedural Information Code: 200F

Instructions for all lubrication required on newly installed equipment shall be prepared.

5.97.4.1.11 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 Corrosion Prevention Control (CPC) procedures.

n. Switch and control settings that are preset at installation (installer's adjustments).

o. Presetting and adjustment of automatic controls.

p. Terminal connections.

q. Required terminal or capacitor strapping.

r. Preliminary test measurements.

s. Presetting operator's controls.

t. Normal operating checks.

u. After-installation orientation.

v. Burn-in of parts.

w. ESD control standards.

x. After operations, shutdown, checks, and inspections.

5.97.4.1.12 Preliminary calibration of equipment.

Data Module Type: Procedural Information Code: 273D

Instructions for all calibration to be made on newly installed equipment shall be prepared.

5.97.4.1.13 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.

5.97.4.1.14 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.

5.97.4.1.15 Ammunition marking.

Data Module Type: Procedural Information Code: 067C

Instructions shall be prepared for marking ammunition and ammunition containers.

5.97.4.1.16 Classification of defects.

Procedures shall be prepared for performing visual inspection of ammunition/containers (pallets, boxes, etc.) and shall include classification and disposition of defective ammunition/containers.

5.97.4.1.17 Handling ammunition.

Data Module Type: Procedural Information Code: 912E

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.
    2. Instructions shall be prepared on how to package defective ammunition.
    3. Man-hour requirements and total man-hours required for packing the ammunition.

5.97.4.1.18 Procedures to activate ammunition.

Data Module Type: Procedural Information Code: 120G

Procedures shall be prepared for activation of ammunition, mines, etc., preparatory to detonation.

5.97.4.1.19 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.

5.97.4.2 Project decisions.

5.97.4.2.1 Other service upon receipt task.

The project shall determine if additional service upon receipt task data modules shall be developed.

5.97.5 Preventive maintenance checks and services (PMCS), including lubrication instructions (Except for Conventional and Chemical Ammunition, aircraft TMs, DMWR and NMWR only).

5.97.5.1 Army business rules.

Preventive maintenance checks and services (PMCS) shall be prepared and based upon the principles of Reliability Centered Maintenance (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.

5.97.5.2 Project decisions.

None.

5.97.6 PMCS introduction.

Data Module Type: Descriptive Information Code: 018F

5.97.6.1 Army business rules.

5.97.6.1.1 General.

PMCS introduction data module shall explain the purpose and use of the PMCS data. A single descriptive data module shall be used.

5.97.6.1.2 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.

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.

D daily

W weekly

M monthly

Q quarterly

S semiannually

A annually

B biennially

H hours (operated)

MI miles (operated)

KM kilometers (operated)

RDS rounds fired

OC on-condition

MRA maintenance repair action

d. A statement concerning Corrosion Prevention and Control (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:

They are known to be contaminated or clogged,

Service is recommended by AOAP laboratory analysis, or

At prescribed hard time intervals."

2. 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 (enter 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:

"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 (enter component/equipment name). Following are types/classes of leakage you need to know to be able to determine the status of the (enter component/equipment name). Learn these leakage definitions and remember - when in doubt, notify your supervisor.

Equipment operation is allowed with minor leakage'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."

5.97.6.2 Project decisions.

None.

5.97.7 PMCS

Data Module Type: Checklist Information Code: 200B

5.97.7.1 Army business rules.

5.97.7.1.1 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.

5.97.7.1.2 PMCS data preparation.

PMCS data shall consist of the entries described below.

a. Item number. Item numbers (ITEM NO) shall be assigned to the PMCS procedures. The PMCS procedures shall be arranged in a logical sequence requiring minimum time and motion on the part of the person(s) performing them and shall be so arranged that there will be minimum interference between persons performing the checks simultaneously on the same end item.

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:

Before

During

After

Daily

Weekly

Monthly

Quarterly

Semiannually

Annually

Periodic

Intermediate (Aviation only)

Man-hour/day (Aviation only)

Phased (Aviation only)

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 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 (enter component name)."

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.

5.97.7.1.3 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."

5.97.7.2 Project decisions.

5.97.7.2.1 Man-hours required.

The project shall determine if man-hours required to complete all prescribed lubrication services shall be included.

5.97.8 PMCS Checklist (operator only)

Data Module Type: Checklist Information Code: 200J

5.97.8.1 Army business rules.

When specified by the acquiring activity, a preventive maintenance checklist shall be prepared as a separate schedule data module. Information for a preventive maintenance checklist shall come from the applicable operator's PMCS.

5.97.8.2 Project decisions.

None

5.97.9 Maintenance information sets (Not required for aircraft PM and PMS manuals)

5.97.9.1 Army business rules.

5.97.9.1.1 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 Quality Assurance (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 Corrosion Prevention and Control (CPC) procedures shall be included, or the data module shall reference applicable CPC publications.

d. National Stock Numbers (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 Between Corrective Maintenance (MTBCM), Maximum 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.

5.97.9.1.2 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. Assembly and preparation for use (aviation only)
b. Servicing
c. Ground handling
d. Inspection of installed items
e. Removal
f. Disassembly
g. Cleaning
h. Inspection-acceptance and rejection criteria
i. Nondestructive Testing Inspection (NDTI)
j. Repair or replacement
k. Alignment
l. Painting
m. Lubrication
n. Assembly
o. Test and inspection (Field, Sustainment, and ASB only)
p. Installation
q. Adjust
r. Calibration
s. Radio interference suppression
t. Placing in service
u. Testing
v. Preservation, packaging, and marking (DMWR/NMWR only)
w. Overhaul and retirement schedule (aircraft only)
x. Preparation for storage or shipment
y. Ammunition marking
z. Classification of ammunition defects
aa. Handling ammunition
bb. Procedures for ammunition activation
cc. Additional maintenance task

5.97.9.1.3 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.

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.

5.97.9.1.4 Assembly and preparation for use (aviation only).

Data Module Type: Procedural Information Code: 710B

a. 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.

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.

5.97.9.1.5 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.

5.97.9.1.6 Ground handling.

Data Module Type: Procedural Information Code: 912F

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.

a. Towing

b. Jacking.

c. Parking.

d. Mooring

e. Covering

f. Hoisting

g. Sling loading

h. External power

5.97.9.1.7 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.

5.97.9.1.8 Removal Procedure.

Data Module Type: Procedural Information Code: 520A

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.

5.97.9.1.9 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 insure they will be marked, handled, and stored to preclude damage and to ensure assembly and installation in their matched positions.

5.97.9.1.10 Cleaning.

Data Module Type: Procedural Information Code: (multiple)

There are seven information codes that can be used when preparing data modules containing cleaning procedures, depending on method used:

a. 250 Clean and apply surface protection

b. 251 Clean with chemical agents

c. 252 Clean by abrasive blast

d. 253 Clean by ultrasonic

e. 254 Clean mechanically

f. 255 Purge

g. 256 Polish and apply wax

h. 258 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. 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.

d. 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.

5.97.9.1.11 Inspection-acceptance and rejection criteria.

Data Module Type: Procedural Information Code: 310D

a. 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.

b. (DMWR/NMWR and aviation only) Inspection procedures that have a quality impact shall be highlighted. Visual inspection procedures shall be prepared to detect defects such as burrs, cracks, bends, or dents. Accurate and measurable accept or reject requirements and standards shall be prepared which allow the user to determine if the item under inspection conforms to the tolerances, wear limits, fit, or other standards and requirements presented.

5.97.9.1.12 Non-Destructive Testing Inspection (NDTI).

Data Module Type: Procedural Information Code: 350B

a. (Aircraft only) When specified by the acquiring activity, TM 1-1500-335-23 shall be the only NDTI document referenced in the NDTI procedures, and technical provisions of this TM/IETPs shall be followed.

b. (Aircraft only) Individual NDTI procedures shall be specified for each part requiring NDTI. In order to satisfy this requirement, the following shall be prepared for aircraft TMs/IETPs.

1. If penetrant is required, identification of the particular TM 1-1500-335-23 process that is applicable.

2. 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.

c. 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.

d. 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.

e. When several NDTI methods are permitted, the relative order of preference shall be specified.

f. Instructions shall be prepared for removing primer and/or paint for TMs/IETPs that require the removal process as part of NDTI procedures. If a part requires a special process, this procedure shall be contained within the NDTI procedure for that part.

g. Cleaning requirements prior to, 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."

5.97.9.1.13 Repair or replacement.

Data Module Type: Procedural Information Code: 685B

Instructions shall be prepared for repair or replacement to restore an item to a completely serviceable or fully mission capable status.

5.97.9.1.14 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.

5.97.9.1.15 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.

5.97.9.1.16 Lubrication.

Data Module Type: Procedural Information Code: 240A

a. Pertinent mandatory lubrication instructions, CPC procedures, and general lubrication instructions not contained elsewhere shall be prepared and appear here.

b. (DMWR/NMWR and aviation only) Lubrication procedures which have a major quality assurance effect shall be immediately preceded by a statement such as “QA check” to identify them."

5.97.9.1.17 Assemble procedure.

Data Module Type: Procedural Information Code: 710A

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.

a. Instructions shall be prepared for assembling precision-matched or mated parts marked during disassembly.

b. Instructions shall be prepared for checking and recording gear wear patterns, backlash, shimming requirements, and the indexing of parts to ensure proper alignment during assembly. The purpose of shims shall be given.

c. Torque requirements, values, and sequences shall be indicated. Only critical torques shall be indicated in task steps. All non-critical torques will be covered by the Torque Limits data module. 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).

d. Instructions such as “reverse the disassembly procedure,” shall not be used.

e. ESD standards, ESD sensitive items along with the protective and control measures to be taken, and CPC procedures shall be identified.

f. (DMWR/NMWR and aviation only) Assembly procedures which have a major quality assurance effect shall be preceded by a statement such as “QA check” to identify them." Adjustment instructions shall be prepared that may be required before operating the part, system, or end item.

5.97.9.1.18 Test and inspection.

Data Module Type: Procedural Information Code: 300B

Procedures shall be prepared for testing and inspection during or after assembly to ensure proper assembly of the item. Correct methods of testing; procedures for making tolerance checks; and procedures for inspection of distance measurements shall be prepared. Measurement criteria and tolerances shall reflect the Test Measurement and Diagnostic Equipment (TMDE) available to the user. For Depot and aviation only, test and inspection procedures which have a major quality assurance effect shall be preceded by a statement such as “QA check” to identify them.

5.97.9.1.18.1 Inspection and test of conventional and chemical ammunition or components containing radioactive materials (Field, Below Depot, Sustainment, and ASB only).

a. A statement to the effect that inspection criteria are provided to assure that maintenance performed will restore the items to an Acceptable Quality Level (AQL) shall be included. The types of inspection procedures shall, at a minimum, include a pre-maintenance inspection to be conducted during unpacking, in-process inspections, and final acceptance inspection. Regulations and technical publications relating to policy responsibility and procedures applicable to ammunition stockpile reliability, ammunition surveillance, radioactive materials procedures, and quality evaluation programs shall be referenced. When approved by the acquiring activity these procedures contained in other publications shall be included in the task.

b. 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. 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 paragraph “a”. above.

d. Detailed procedures and criteria shall be prepared for function testing. When test fixtures shall 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, to 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. Lower maintenance levels shall be included, when appropriate.

f. A classification of defects (i.e., minor, major, or critical) for both functioning and nonfunctioning categories shall be included. The criteria shall conform to the publications noted in paragraph “b”. above.

g. 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/IETP verbatim:

    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 remaining pieces and components: suspend the lot from local issue and use. Submit malfunction reports as prescribed in AR 75-1 (Malfunctions Involving Ammunition and Explosives). Disposition instructions will be furnished by the US 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, US 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.”

5.97.9.1.18.2 Pre-embarkation inspection of material in units alerted for overseas movement.

Pre-embarkation inspection procedures shall be prepared, if applicable, and shall be as specified by the acquiring activity.

5.97.9.1.19 Install procedure.

Data Module Type: Procedural Information Code: 720A

Procedures shall be prepared for installation of the item. Procedural data module(s) shall be used for combined installation, adjustment, and calibration procedures.

5.97.9.1.19.1 Installation.

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.

5.97.9.1.19.2 Adjust.

Adjustment instructions shall be prepared that may be required before operating the part, system, or end item.

5.97.9.1.19.3 Calibration.

Equipment that requires calibration after assembly or installation shall be indicated, and reference shall be made to the publication containing the applicable calibration procedure.

5.97.9.1.20 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

5.97.9.1.21 Placing in service.

Data Module Type: Procedural Information Code: 870P

Instructions shall be prepared for actions not previously noted 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.

5.97.9.1.22 Testing.

Data Module Type: Procedural Information Code: 340C

Instructions shall be prepared, as applicable, to test the performance of components, assemblies, and subassemblies prior to installation in the end item. The following instructions are required for depot and aviation maintenance.

a. (DMWR/NMWR and aviation only) Instructions shall be prepared for recording the results of the testing. All testing procedures that have a major quality assurance effect shall be preceded by a statement such as “QA check” to identify them.

b. (DMWR/NMWR only) Information shall be prepared for final testing of the highest assembly or equipment/end item involved to assure that the parameters of reliability, availability, maintainability, and durability are met. The following procedures shall be prepared.

1. Inspection. Inspection procedures shall be prepared that are required prior to final testing to assure that the item is complete and ready for final testing. Instructions shall be prepared for any minor preparation tasks needed prior to final testing.

2. Lubrication. Any final lubrication procedures that need to be done prior to 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 initial setup 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, refinishing, and marking 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 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."

5.97.9.1.23 Preservation, packaging, and marking (DMWR/NMWR only).

Data Module Type: Procedural Information Code: 810H

The following instructions shall be prepared.

5.97.9.1.23.1 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 number).

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 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 skids, and touch up or total stripping and refinishing of the container surfaces with CARC paint."

5.97.9.1.23.2 Special instructions.

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.

5.97.9.1.24 Overhaul and retirement schedule (aircraft only).

Data Module Type: Procedural Information Code: 288A

This maintenance task 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."

The overhaul and retirement schedule shall consist of the entries described below. The overhaul and retirement schedule may be prepared as a table.

a. Part name. The name of the part shall be listed. An asterisk (*) shall precede the part name if the part is an indentured subassembly.

b. Part number. The official part number of the part listed.

c. Overhaul interval hours. The maximum operating time allowed on the part before it is to be overhauled.

d. Overhaul interval notes. Any additional information required on the part's overhaul interval.

e. Retirement interval hours. Maximum operating time allowed on the part before it is removed and condemned.

f. Retirement interval notes. Any additional information required on the part's retirement interval.

5.97.9.1.25 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.

5.97.9.1.26 Classification of defects.

Data Module Type: Procedural Information Code: 350C

Procedures shall be prepared for inspection of ammunition/containers (pallets, boxes, etc.) and shall include classification and disposition of defective ammunition/containers.

5.97.9.1.27 Handling ammunition.

Data Module Type: Procedural Information Code: 912E

Procedures shall be prepared for handling ammunition.

a. As a minimum, the following unpacking 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. As a minimum, the following packing information shall be prepared.

   1. Any special sequence of action necessary to protect the ammunition.

   2. Instructions shall be prepared on how to package defective ammunition.

   3. Man-hour requirements and total man-hours required for packing the ammunition.

5.97.9.1.28 Ammunition marking.

Data Module Type: Procedural Information Code: 067C

Instructions shall be prepared for marking ammunition and ammunition containers.

5.97.9.1.29 Procedures to activate ammunition.

Data Module Type: Procedural Information Code: 120G

Procedures shall be prepared for activation of ammunition, mines, etc.

5.97.9.1.30 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.

5.97.9.2 Project decisions.

5.97.9.2.1 Additional information.

The project shall determine if and what additional mandatory or unique technical information or additional explanations shall be required.

5.97.9.2.2 Information codes.

The project shall determine the information codes used for cleaning procedure data modules.

5.97.10 Follow-on maintenance.

5.97.10.1 Army business rules.

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.

5.97.10.2 Project decisions.

5.97.10.2.1 Follow-on maintenance.

The project shall decide what follow-on maintenance instructions will be prepared.

5.97.11 General maintenance

5.97.11.1 Army business rules.

5.97.11.1.1 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.

5.97.11.2 Project decisions.

5.97.11.2.1 General maintenance instructions.

The project shall decide what general maintenance instructions will be prepared.

5.97.12 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

5.97.12.1 Army business rules.

5.97.12.1.1 General.

Lubrication schedules shall be prepared to present all applications and procedures, lubricants, and lubrication points to completely lubricate equipment.

5.97.12.1.2 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."

5.97.12.2 Project decisions.

None.

5.97.13 Facilities (DMWR/NMWR only)

Data Module Type: Descriptive Information Code: 915A

5.97.13.1 Army business rules.

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.

5.97.13.2 Project decisions.

None.

5.97.14 Overhaul inspection procedures (OIP) (DMWRs/NMWRs only).

Data Module Type: Procedural Information Code: 310C

5.97.14.1 Army business rules.

5.97.14.1.1 General.

Unless otherwise specified by the acquiring activity, overhaul inspection procedures (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 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.

5.97.14.1.2 Scope.

Overhaul Inspection Procedures (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.

5.97.14.2 Project decisions.

5.97.14.2.1 OIP Data modules.

The project shall determine if and when OIP data modules shall be prepared.

5.97.15 Depot mobilization requirements (DMWR/NMWR only)

Data Module Type: Descriptive Information Code: 800K

5.97.15.1 Army business rules.

5.97.15.1.1 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.

5.97.15.1.2 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."

5.97.15.1.3 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.

5.97.15.2 Project decisions.

5.97.15.2.1 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.

5.97.16 Quality Assurance requirements (DMWR/NMWR only)

Data Module Type: Descriptive Information Code: 315A

5.97.16.1 Army business rules.

5.97.16.1.1 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."

5.97.16.1.2 Definitions.

Definitions shall be prepared for all QA terms extensively used in the Depot Maintenance Work Requirement (DMWR) and National Maintenance Work Requirement (NMWR). Alternatively, if the definitions are listed in another location, that publication or data module shall be referenced.

5.97.16.1.3 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.

5.97.16.1.4 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.

5.97.16.1.5 Quality program.

Any requirements for a quality program shall be listed.

5.97.16.1.6 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. Additional quality assurance inspections may be established by the depot or the commodity manager."

5.97.16.1.7 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."

5.97.16.1.8 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.

5.97.16.2 Project decisions.

None.

5.97.17 Illustrated list of manufactured items (Field level or above only)

Data Module Type: Descriptive Information Code: 670E

5.97.17.1 Army business rules.

5.97.17.1.1 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.

5.97.17.1.2 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 (enter applicable maintenance level).
>
> How to Use the Index of Manufactured Items
>
> A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the information which covers fabrication criteria.
>
> Explanation of the Illustrations of Manufactured Items
>
> All instructions needed by maintenance personnel to manufacture the item 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."

5.97.17.1.3 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.

5.97.17.1.4 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.

    1. 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.

    2. All dimensional, location, and processing instructions needed to manufacture the item shall be included (e.g., 30-in. long, top surface, primer coating).

3. A description of the item to be manufactured, including the P/N and name.
4. 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).
5. When applicable, a link shall be made to the associated parts information.

5.97.17.2 Project decisions.

None.

5.97.18 Torque limits (Field/AMC level or above only)

Data Module Type: Procedural Information Code: 711B

5.97.18.1 Army business rules.

5.97.18.1.1 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.

5.97.18.1.2 Introduction.

Information shall be prepared to include the scope or how to use the torque limits data module.

5.97.18.1.3 Torque instructions.

Specific instructions such as torque limits for dry and wet fasteners, fastener sizes and thread patterns, etc., shall be prepared.

5.97.18.2 Project decisions.

None.

5.97.19 Ammunition maintenance.

Data Module Type: Procedural Information Code: 200K

5.97.19.1 Army business rules.

5.97.19.1.1 General.

This information set shall be prepared as directed by acquiring activity and reference or contain the following.

5.97.19.1.2 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.

5.97.19.1.3 Defective.

Procedures shall be prepared for disposition of defective ammunition.

5.97.19.1.4 Cleaning and painting.

Use of cleaning materials and paint authorized for use in the specified maintenance operations shall be specified.

5.97.19.2 Project decisions.

None.

5.97.20 Ammunition marking.

Data Module Type: Procedural Information Code: 067C

5.97.20.1 Army business rules.

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.

5.97.20.2 Project decisions.

None.

5.97.21 Foreign ammunition (NATO)

Data Module Type: Procedural Information Code: 011B

5.97.21.1 Army business rules.

5.97.21.1.1 General.

Foreign ammunition (NATO) data module(s) to describe foreign ammunition shall be prepared when applicable.

5.97.21.2 Project decisions.

None.

5.97.22 Maintenance/Demilitarization of Conventional and Chemical Ammunition (DMWR/NMWR)

5.97.22.1 Army business rules.

5.97.22.1.1 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.

5.97.22.1.2 Front Matter:

See 5.131 for front matter content requirements.

5.97.22.1.3 M/DCCA Chapter 1, Introduction (General information and scope).

Data Module Type: Descriptive Information Code: 018A

M/DCCA chapter 1 shall consist of the following information as required:

5.97.22.1.3.1 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.

5.97.22.1.3.2 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.

5.97.22.1.3.3 Deviations, waivers, and exceptions.

Requests for deviations, waivers, or exceptions shall be obtained from the publication proponent agency.

5.97.22.1.3.4 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.
>
> If a corrosion problem is identified, it shall be reported to the proponent agency."

5.97.22.1.3.5 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.

5.97.22.1.3.6 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).

5.97.22.1.3.7 Safety requirements.

The following statement shall be included:

> "Safety requirements shall be complied with as prescribed by appropriate service regulations."

5.97.22.1.3.8 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.

5.97.22.1.3.9 Protection against specific hazards.

Specific hazards shall be listed in each applicable operation for the ammunition and materials requiring protection against the specific hazards.

5.97.22.1.3.10 Environmental regulation compliance.

Environmental regulations implemented by federal, state, and local governments, shall be addressed

5.97.22.1.3.11 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.

5.97.22.1.3.12 Tabulated data.

Reference shall be made to Appendix D for the tabulated data.

5.97.22.1.4 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.

5.97.22.1.5 M/DCCA Chapter 3, quality acceptance requirements.

Data Module Type: Descriptive Information Code: 315A

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.

5.97.22.1.6 List of terms.

Data Module Type: Descriptive Information Code: 006A

All quality assurance terms used in the DMWR shall be listed and defined.

5.97.22.1.7 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.

5.97.22.1.7.1 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.

5.97.22.1.7.2 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.

5.97.22.1.7.3 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.

5.97.22.1.7.4 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.

5.97.22.1.7.5 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 APE, this appendix should be omitted.

5.97.22.1.7.6 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.

5.97.22.1.7.7 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.

5.97.22.1.7.8 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.

5.97.22.1.7.9 Other appendices.

Data Module Type: Descriptive Information Code: (unspecified)

When specified by the contracting activity, other appendixes shall be added to the DMWR.

5.97.22.1.8 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.

5.97.22.2 Project decisions.

5.97.22.2.1 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 information set. 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.

5.97.22.2.2 PENTA-treated packaging.

The project shall determine the use of the PENTA-treated packing materials appendix.

5.97.22.2.3 Additional appendices.

The project shall determine the requirements for other appendices, if they exist.

5.97.22.2.4 Appendix E.

The project shall decide on the need for Appendix E (Intraplant transfer equipment).

5.97.23 PMCS Checklist

Data Module Type: Checklist Information Code: 200J

5.97.23.1 Army business rules.

5.97.23.1.1 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.

5.97.23.1.2 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.

5.97.23.1.3 Item numbers.

Item numbers in the checklist shall be the same as those assigned to the procedures in the operator's PMCS table.

5.97.23.1.4 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.

5.97.23.1.5 Pocket size accordion foldout.

When the content of the preventive maintenance checklist, including the cover page, is 10 pages or less, it shall be prepared as a pocket size accordion foldout. If it is 11 pages or more, it shall be prepared as a vertical pocket manual. The preventive maintenance checklist shall have a trim size of 4 by 5 ½ inches and a maximum printed area of 3 3/8 by 5 1/4 inches. The maximum printed area shall include all printed matter, including publication and page numbers.

5.97.23.1.6 Type size.

Type size shall not be smaller than 6 point for pocket size accordion foldout and 8 point for the vertical pocket manual format.

5.97.23.1.7 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.

5.97.23.1.8 Item numbers.

Item numbers in the checklist shall be the same as those assigned to the procedures in the operator's PMCS table.

5.97.23.1.9 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.

5.97.23.1.10 Not Mission Capable (NMC) faults.

Any check that could reveal a Not Mission Capable (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.

5.97.23.1.11 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.

5.97.23.2 Project decisions.

5.97.23.2.1 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 information set. 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 5.2.1.3.2 – Common information sets – Fault isolation

5.98.1 Army business rules.

5.98.2 Scope.

This section contains content requirements for the following information sets:

a. Troubleshooting index (see 5.98.4)

b. Preshop analysis (see 5.98.4.2.1)

c. Component checklist (see 5.98.6)

d. Operational checkout (see 5.98.7)

e. Troubleshooting (see 5.98.8)

5.98.2.1 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.

5.98.2.2 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 Logistics Management Information (LMI), service experience, performance data on similar equipment, other reliability, maintainability, and supportability (RMS) and operational availability (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

5.98.2.3 Testing and troubleshooting philosophy.

Testing and troubleshooting data shall be developed to the extent required to maintain aircraft and other major weapon systems, equipment, components and support equipment at the authorized maintenance level in accordance with the Logistics Management Information (LMI), Maintenance Allocation Chart (MAC), or Maintenance Plan and the Source, Maintenance, and Recoverability (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.

5.98.2.4 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, weapons replacement assembly (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.

5.98.2.5 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.

5.98.2.6 Manual (nonautomatic) troubleshooting.

Troubleshooting procedures using nonautomatic 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.

5.98.2.7 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.

5.98.2.8 Testing and troubleshooting using built-in-test equipment.

Built-in-test (BIT) capabilities are designed to operate in various formats. One of these formats is built-in-test using diagnostic software; another is the incorporation of electronically controlled sensors within the systems to be tested. Testing procedures shall identify the software required for test performance.

5.98.2.9 Sensor derived failures.

Sensors, installed at critical points shall be used to detect discrepancies in system operation.

5.98.2.10 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.

5.98.2.11 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.

5.98.2.12 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.

5.98.2.13 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.

5.98.2.14 Integrated systems having self-test or built-in test capability.

Testing and troubleshooting procedures shall identify the components or functions that are tested, and any user inputs required for proper testing (power parameters, signals, motion, air, hydraulic, etc.). If wiring tests are included they should have defined testing parameters (which wires are tested, resistance tolerances, open definitions, wire-to-wire and wire-to-ground resistances, and any peculiar wire criteria) and what fault verification is required for a failure indication.

5.98.2.15 Integrated systems requiring the use of system peculiar test sets.

Testing and troubleshooting procedures shall include identical parameters as those in 5.98.2.14 with the additional requirement for special cables or support equipment that may be required.

5.98.2.16 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.

5.98.2.17 Troubleshooting procedures content.

Troubleshooting procedures shall contain all essential and pertinent information that would be included in any other form of maintenance procedure. This includes warnings, cautions, notes, power turn-on procedures, precheckout procedures, reference diagrams, and initial switch settings. In addition to external causes for malfunctions, troubleshooting should also identify symptoms resulting from failure of every spare and repair part authorized for replacement at user level. Troubleshooting procedures shall be prepared assuming one malfunction at a time is being corrected. The operator/technician shall be instructed to perform any applicable self-tests, alignments, and inspections before beginning any other troubleshooting procedures. As applicable, an operational check shall be specified to be performed after the fault is corrected to ensure correct operation of the system. Troubleshooting procedural instructions shall be prepared following these general requirements.

a. A concise explanation of the testing and troubleshooting format and an explanation on how to use the testing and troubleshooting procedures with the malfunction/symptom index, when applicable.

b. The location for each component, accessory, connector, or junction box in the system under test shall be provided or a reference to the equipment description and data module shall be included. The text and illustrations, as necessary, shall identify every test connector or other test point to be used in the test.

c. A complete list of test options shall be stipulated by the troubleshooting procedure. List any self-tests that are associated with the system. Self-test schemes shall be described as the prime troubleshooting tool, with manual or automatic troubleshooting repaired to supplement the instructions where the self-test leaves off or fails to locate the malfunction. Build the procedure using system self-tests before using external test equipment.

d. Test setup procedures and post-test teardown procedures.

e. Complete step-by-step troubleshooting procedures, including instructions required for use and application of installed on-line testing equipment. Procedures shall take into account controls, test point accessibility, indicator displays, and the feasibility of using BITE or automated test equipment where available.

f. Test procedures (e.g., system turn on, identification of time required to run and complete the system test, and an indication of any possible mid-test interruptions or stoppages and how to respond to them).

g. Backup diagrams showing all test points, input and output signals, logic charts, schematics, signal flow diagrams, tables, and other illustrations as required for comprehensible understanding of the procedures.

h. Include any information that will aid the operator/technician, such as waveforms; resistance data; fluid pressures; voltage levels; references to test diagrams, functional diagrams, text, etc.; and alignment procedures, checkout procedures, or other scheduled maintenance procedures. Connector numbers, pin designations, etc., shall be identified.

i. Special attention shall be given to interface wiring fault isolation procedures. Wiring fault isolation procedures shall include the following types of data, as applicable:

    1. Specific wire reading access points and resistances for wiring components (where practical).

2. Wire-to-wire and wire-to-ground criteria for circuit integrity.
3. Special wire definition where required (including interconnecting criteria for proper sealing or terminal application), and special notations where wire harnesses should be completely replaced and not repaired.
4. It is also essential when developing fault isolation procedures, to provide or refer to ground stud tables, which include type, location, and wires connected, charts for both connectors and terminal boards, and a wire number log to identify any wire to its prime wiring diagram.

5.98.2.18 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).

5.98.2.19 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 (insert reference here).

a. Troubleshooting index
b. Operational checkout
c. Troubleshooting
d. Diagnostic (IETP only).

5.98.2.20 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 (insert reference here).

a. Troubleshooting index
b. Preshop analysis
c. Component checklist
d. Operational checkout
e. Troubleshooting
f. Diagnostic (IETP only).

5.98.2.21 Master index testing and troubleshooting category.

When developing TM/IETP with a master troubleshooting index section the Troubleshooting index data module shall be developed.

5.98.2.22 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.

5.98.2.23 Information set content.

Troubleshooting information sets shall include initial setup information, and all required testing and troubleshooting information. When initial setup 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.

5.98.2.24 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.

5.98.3 Project decisions.

None

5.98.4 Troubleshooting index

5.98.4.1 Army business rules.

5.98.4.1.1 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.

5.98.4.1.2 Malfunction index.

Data Module Type: Fault 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 fault 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.

5.98.4.1.3 Symptom index.

Data Module Type: Fault 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 fault 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.

5.98.4.1.4 Master index.

Data Module Type: Fault Information Code: 410D

When applicable, one master troubleshooting malfunction/symptom index data module shall be prepared for all troubleshooting for the system/equipment.

5.98.4.1.5 System/subsystem index.

Data Module Type: Fault 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 fault data module shall be used.

5.98.4.2 Project decisions.

5.98.4.2.1 Troubleshooting index.

The project shall decide whether to prepare a malfunction index, a symptom index, or a system/subsystem index.

5.98.5 Preshop analysis (DMWR/NMWR only)

Data Module Type: Procedural Information Code: 341C

5.98.5.1 Army business rules.

5.98.5.1.1 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.

5.98.5.1.2 Scope.

The purpose and coverage of the preshop analysis shall be stated.

5.98.5.1.3 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.

5.98.5.1.4 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 acquiring activity, an electronic checklist shall be provided in lieu of the narrative or printable checklist.

5.98.5.1.5 Preshop analysis procedures.

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."

5.98.5.2 Project decisions.

5.98.5.2.1 Preshop analysis format.

The project shall determine if the preshop analysis procedures shall be a narrative or be structured as a checklist.

5.98.6 Component checklist (DMWR/NMWR only).

Data Module Type: Descriptive Information Code: 341B

5.98.6.1 Army business rules.

5.98.6.1.1 General.

A component checklist information set shall be prepared when required to support the preshop analysis procedures.

5.98.6.1.2 Introduction.

When necessary, the checklist shall be preceded by a brief explanation of its use (introduction).

5.98.6.1.3 Component checklist.

The component checklist shall contain the following data, as applicable.

a. Name/nomenclature of the equipment/item
b. Serial number
c. Date received
d. Received from (identify unit)
e. Component name
f. NSN
g. Part number
h. Quantity required
i. Quantity received
j. Visual damage found

5.98.6.2 Project decisions.

5.98.6.2.1 Introduction.

The project shall determine when a component checklist introduction is required.

5.98.7 Operational checkout

5.98.7.1 Army business rules.

5.98.7.1.1 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.

5.98.7.1.2 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.

5.98.7.1.3 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.

5.98.7.1.4 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.

5.98.7.1.5 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.

a. 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.

b. Message index.

Data Module Type: Procedural 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.

c. Fault code reference index.

Data Module Type: Procedural 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.

5.98.7.1.6 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.

5.98.7.2 Project decisions.

5.98.7.2.1 Introduction.

The project shall determine if and when an introduction to operational checkout is required.

5.98.7.2.2 Method.

The project shall determine the method of operational checkout procedures.

5.98.8 Troubleshooting

5.98.8.1 Army business rules.

5.98.8.1.1 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.

5.98.8.1.2 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.

5.98.8.1.3 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.

5.98.8.1.4 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.

5.98.8.1.5 Graphic troubleshooting tree.

A graphic troubleshooting tree shall not be used in IETP.

5.98.8.1.6 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.

5.98.8.1.6.1 Troubleshooting procedure.

Data Module Type: Fault Information Code: 421B

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 provided that will guide the technician to either the next step or a series of steps, or to a malfunction and corrective action. This process is continued until the entire troubleshooting procedure is completed. When required, the corrective action may include a reference to the data module that contains the corrective action.

5.98.8.1.6.2 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.

5.98.8.1.6.2.1 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 initial setup.
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.

5.98.8.1.6.2.2 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.

5.98.8.1.6.2.3 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.

5.98.8.1.6.2.4 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.

5.98.8.1.6.2.5 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.

a. 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.

b. 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.

c. LOOP UNTIL CONDITION statement. The LOOP UNTIL CONDITION statement will repeat a testing action until an evaluated expression returns a terminating condition (Boolean true expression). After satisfying the terminating condition then the test result(s) actions shall be performed and/or further evaluation shall be conducted on the test results. The author shall ensure the LOOP UNTIL CONDITION statement has a terminating condition through setting an IETP state variable(s) and this terminating condition shall be part of the loop evaluating expression.

d. 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).

5.98.8.1.6.2.6 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.

5.98.8.1.7 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.

5.98.8.1.8 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.

5.98.8.2 Project decisions.

5.98.8.2.1 Introduction.

The project shall determine if and when troubleshooting procedures require an introduction.

5.98.8.2.2 Troubleshooting type.

The project shall determine which trouble shooting type to use for each troubleshooting procedure required.

5.98.8.2.3 Use of integrated system troubleshooting procedures.

The project shall determine if and when integrated system operational checkout and troubleshooting procedures shall be developed.

5.99 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 US 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.

5.100 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 US 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.

5.101 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 US 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.

5.102 S1000D Chapter 5.2.1.4 – Common information sets – Wiring data (Field level or above only)

5.102.1 Wiring diagrams

Data Module Type: Descriptive Information Code: 051A

5.102.1.1 Army business rules.

5.102.1.1.1 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.

5.102.1.1.2 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.

5.102.1.1.3 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.

5.102.1.1.4 Wiring diagrams.

Wiring diagrams shall be prepared for all electrical and electronic systems and circuits.

5.102.1.1.5 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.

5.102.1.2 Project decisions.

5.102.1.2.1 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.

5.102.1.2.2 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.

5.102.1.2.3 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.

5.103 S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data

5.103.1 Scope.

This section contains content requirements for the following information sets:

a. IPD introduction (see 5.103.4)
b. Repair parts information (see 5.103.5)
c. Repair parts for special tools list (see 5.103.6)
d. Kit parts list (see 5.103.7)
e. Bulk items list (see 5.103.8)
f. Special tools list (see 5.103.9)
g. Cross reference index (see 5.103.10)
h. National stock number index (see 5.103.10.1.5)
i. Part number index (see 5.103.10.1.6)
j. Reference designator index (see 5.103.10.1.7)
k. Components of end item list (see 5.103.10.2)

l. Basic issue items list (see 5.103.12)

m. Additional authorization list (see 5.103.13)

n. Expendable and durable items list (see 5.103.14)

o. Mandatory replacement parts (see 5.103.15)

p. Critical safety items (see 5.103.16)

q. Flight safety critical aircraft parts (see 5.103.17)

r. Hand receipt technical manuals (see 5.103.18)

5.103.2 Army business rules.

5.103.2.1 General.

Parts lists shall be prepared for weapon systems, major components and applicable support and interface equipment.

5.103.2.2 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.

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.

5.103.2.3 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.

5.103.2.4 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.

5.103.2.5 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) 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.

5.103.2.6 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).

5.103.2.7 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.

5.103.3 Project decisions.

5.103.3.1.1 Separate parts manual.

The project shall decide if they will produce a separate parts manual or include parts data within other publications.

5.103.4 Parts introduction.

Data Module Type: Descriptive Information Code: 018E

5.103.4.1 Army business rules.

5.103.4.1.1 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 number 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 (enter maintenance level) maintenance of the (enter item name). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction, 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. 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 the data module. (choose one of the following) Repair parts kits are listed separately in their own functional group and data module or Repair parts are listed at the end of the individual data modules. Repair parts for reparable special tools are also listed in a separate data module. Items listed are shown on the associated illustrations.

2. Special Tools List containing lists of special tools, special TMDE, and special support equipment authorized by this PI (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) entry). Tools that are components of common tool sets and/or Class VII are not listed.

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 XXXIX. SMR Code Explanation.

Source	**Maintenance**		**Recoverability**
Code	**Code**		**Code**
XX	**XX**		**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 PB PC PD PE PF PG PH PR 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. NOTE Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are 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 MH- Made at below depot/sustainment level ML-Made at SRA MD-Made at depot MG-Navy only	Items with these codes are not to be requisitioned/requested individually. They shall be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) entry and listed in the bulk material group of the PI. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
AF-Assembled by field AH- Assembled by below depot sustainment level AL-Assembled by SRA AD-Assembled by depot AG-Navy only	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item shall be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and part number.

Source Code	Application/Explanation
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Maintenance Code	Application/Explanation
F	Field maintenance can remove, replace, and use the item.
H	Below Depot Sustainment maintenance can remove, replace, and use the item.
L	Specialized repair activity 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).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes

Maintenance Code	Application/Explanation
F	ASB is the lowest level 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	Specialized repair activity is the lowest level that can do complete repair of the item.
D	Depot is the lowest level that can do complete repair of the item.
G	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
K	Complete repair is done at contractor facility
Z	Non-reparable. No repair is authorized.
B	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
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 Specialized Repair Activity (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.
G	Filed level reparable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K	Reparable item. Condemnation and disposal to be performed at contractor facility

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.

2. Part numbers of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.

3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.

4. 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.

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 (enter 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 (enter 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 (enter applicable publication number 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.

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.

5.103.4.2 Project decisions.

5.103.4.2.1 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

5.103.5 Repair parts information.

Data Module Type: IPD Information Code: 607E

5.103.5.1 Army business rules.

5.103.5.1.1 General.

A parts list data module shall consist of one functional group code.

5.103.5.1.2 Scope.

The repair parts lists shall have a figure and a list of repair part items.

5.103.5.1.3 Title.

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.

5.103.5.1.4 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. Commercial and Government Entity Code (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 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 (enter 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 (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.

2. 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 (enter 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.

3. Option 2 (kits). Option 2 kits shall be listed in the kit parts list.

4. 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 (enter kit part number)" shall follow the item name.

i. End of data module statement. The statement “End of [data module title]” shall appear below the last item described in the column for each figure of the tabular lists in the repair parts list and the special tools lists.

j. Quantity column. The number in the QTY column shall represent the number of times the item appears in the illustration/figure with the associated item number. When a definite quantity cannot be

determined because the number of uses per equipment or the size/length of an item may vary, with each equipment, the letters "AR" (as required) shall be placed in the left position of the QTY column.

k. (MC) USMC Quantity per equipment column. The number in the USMC QTY Per Equip column shall represent the total number of times the part appears in all the repair parts lists.

5.103.5.1.5 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.

5.103.5.1.6 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.

5.103.5.2 Project decisions.

5.103.5.2.1 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.

5.103.5.3 Illustrations.

5.103.5.3.1 Army business rules.

5.103.5.3.1.1 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 (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".

5.103.5.3.2 Project decisions.

None.

5.103.6 Repair parts for special tools.

Data Module Type: IPD Information Code: 607B

5.103.6.1 Army business rules.

5.103.6.1.1 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.

5.103.6.1.2 Special tools repair parts items list.

The repair parts items list requirements shall be used except as specified below:

5.103.6.1.3 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.

5.103.6.2 Project decisions.

None.

5.103.7 Kit parts list.

Data Module Type: IPD Information Code: 607C

5.103.7.1 Army business rules.

5.103.7.1.1 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.

5.103.7.1.2 Kits part items list.

The kits part items list shall be listed alphanumerically by part number in the PART NUMBER column. The requirements defined fro 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.

5.103.7.2 Project decisions.

None.

5.103.8 Bulk items.

Data Module Type: IPD Information Code: 603B

5.103.8.1 Army business rules.

5.103.8.1.1 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.

5.103.8.1.2 Bulk items.

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 fro 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".

5.103.8.2 Project decisions.

None.

5.103.9 Special tools list.

Data Module Type: IPD Information Code: 604B

5.103.9.1 Army business rules.

5.103.9.1.1 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.

5.103.9.1.2 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.

5.103.9.2 Project decisions.

None.

5.103.10 Cross-reference indices

5.103.10.1 Army business rules.

5.103.10.1.1 General.

Printed Illustrated Parts Data Publication (IPDPs) shall not include a single IPDP-cross reference table.

5.103.10.1.2 Preparation.

If required, cross reference table shall be auto generated as a descriptive data module at time of authoring.

5.103.10.1.3 Bulk figure reference.

When entries in either the NSN or part number index references 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.

5.103.10.1.4 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.

5.103.10.1.5 National stock number (NSN) index

Data Module Type: Descriptive Information Code: 928C

The index shall be in ascending numeric sequence by the National Item Identification Number (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.

5.103.10.1.6 Part number index

Data Module Type: Descriptive Information Code: 928D

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.

5.103.10.1.7 Reference designator index.

Data Module Type: Descriptive Information Code: 928E

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.

5.103.10.2 Project decisions.

5.103.10.2.1 Cross reference index.

Data Module Type: Descriptive Information Code: 928A

The project may decide to prepare a single IPDP-cross reference table with the Illustrated Parts Data Publication (IPDP) in lieu of separate NSN, part number, and reference designator indices.

5.103.11 Components of End Item (COEI) List.

Data Module Type: Descriptive Information Code: 105D

5.103.11.1 Army business rules.

5.103.11.1.1 General.

The Components of end item (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).

5.103.11.1.2 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 (enter 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).

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."

5.103.11.1.3 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 Commercial and Government Entity Code (CAGEC) shall follow the 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.

5.103.11.1.4 Method B Illustration.

The element `<symbol>` shall be used to include illustrations when using Method B.

5.103.11.2 Project decisions.

5.103.11.2.1 COEI method.

The project shall determine use of Method A or Method B for presenting COEI data.

5.103.12 Basic Issue Items (BII) List.

Data Module Type: Descriptive Information Code: 105C

5.103.12.1 Army business rules.

5.103.12.1.1 General.

Basic issue items (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).

5.103.12.1.2 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 (enter name of end item) in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII shall be with the (enter name of end item) during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the BII List

Select method A text.

"Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) Description, Part Number/(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."

5.103.12.1.3 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

5.103.12.2 Project decisions.

5.103.12.2.1 BII method.

The project shall determine use of Method A or Method B for presenting BII data.

5.103.13 Additional Authorization List (AAL) (operator only)

Data Module Type: Descriptive Information Code: 104C

5.103.13.1 Army business rules.

5.103.13.1.1 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, National Stock Number (NSN) configuration; not required to be turned in with the end item; separately authorized by MTOE, TDA, CTA, or JTA; and provided for information only).

5.103.13.1.2 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 (enter item name).

General

This list identifies items that do not have to accompany the (enter 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
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."

5.103.13.1.3 AAL List.

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.

5.103.13.2 Project decisions.

None.

5.103.14 Expendable and durable items list

Data Module Type: Descriptive Information Code: 070D

5.103.14.1 Army business rules.

5.103.14.1.1 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.

5.103.14.1.2 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 (enter 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.

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."

5.103.14.1.3 Scope.

The Expendable and durable items list shall be prepared and include the following information:

a. Item number
b. Lowest maintenance level
c. National Stock Number (NSN)
d. Item name or nomenclature
e. If applicable a description
f. Part number
g. Commercial and Government Entity Code (CAGEC)
h. Unit of Issue (U/I)

5.103.14.1.4 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.

5.103.14.2 Project decisions.

None.

5.103.15 Mandatory replacement parts (Field/Aviation Maintenance Company (AMC) level or above only)

Data Module Type: Descriptive Information Code: 075D

5.103.15.1 Army business rules.

5.103.15.1.1 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").

5.103.15.1.2 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 initial setups 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 or not shall be developed. When an item or component is not disassembled based on preshop analysis (PSA), the item will not be disassembled for the sole purpose to add a mandatory part. All items that shall be replaced during overhaul or repair procedures (based on usage intervals such as miles, time, or rounds fired, or replaced on a time between overhaul (TBO) interval) shall be included in the parts list table. A reference shall be made to the TM/IETP that covers the equipment.

5.103.15.1.3 Introduction.

Mandatory replacement parts data module shall include an introduction.

5.103.15.1.4 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 Commercial and Government Entity Code (CAGEC) “Part Number/(CAGEC)”

c. National Stock Number (NSN) “National Stock Number (NSN)”

d. nomenclature “Nomenclature”

e. quantity “Qty”.

Items shall be listed in alphanumeric order by part number

5.103.15.2 Project decisions.

5.103.15.2.1 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.

5.103.16 Critical safety items (CSI)

Data Module Type: Descriptive Information Code: 075E

5.103.16.1 Army business rules.

5.103.16.1.1 General.

When specified by the acquiring activity the Critical safety items (CSI) data module shall be developed.

5.103.16.1.2 Critical safety items (CSI).

As applicable, the Critical safety items (CSI) data module shall include a tabular listing provided by the acquiring activity. Each CSI and associated characteristic(s) shall be clearly identified within overhaul/repair procedures. The location of the critical safety procedures or processes within the depot maintenance information set shall be referenced.

5.103.16.2 Project decisions.

5.103.16.2.1 Equipment type.

Project shall choose either CSI or FSCAP list depending on equipment type.

5.103.17 Flight safety critical aircraft parts (FSCAP) (Aviation only)

Data Module Type: Descriptive Information Code: 075F

5.103.17.1 Army business rules.

5.103.17.1.1 General.

When specified by the acquiring activity the Critical safety items (CSI) data module shall be developed.

5.103.17.1.2 Flight safety critical aircraft parts (FSCAP)

For aircraft, Flight Safety Critical Aircraft Parts (FSCAP) and installations identified under the FSCAP program shall require special handling during overhaul. A critical characteristic is any feature throughout the life cycle of a FSCAP, such as dimension, tolerance, finish, material or assembly, manufacturing process, inspection process, operation, field maintenance requirement, depot overhaul requirement, or other feature that if nonconforming, missing, or degraded, could cause failure or malfunction of a FSCAP.

5.103.17.1.3 List order.

FSCAPs shall be listed (standard column headings in quotes) by their:

a. nomenclature “Nomenclature”

b. part number and Commercial and Government Entity Code CAGEC) “Part Number/(CAGEC)”

c. and critical characteristic “Critical Characteristic

5.103.17.1.4 Use of warnings.

Throughout the data module, warnings shall be included emphasizing critical instructions to be followed. These warnings are FSCAP warnings and inserted whenever necessary.

5.103.17.2 Project decisions.

5.103.17.2.1 Equipment type.

Project shall choose either CSI or FSCAP list depending on equipment type.

5.103.18 Hand Receipt Technical Manuals (-HR)

5.103.18.1 Army business rules.

5.103.18.1.1 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.

Hand receipt data shall consist of the following content.

5.103.18.1.2 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.

5.103.18.1.3 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.

5.103.18.1.3.1 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 Commercial and Government Entity Code (CAGEC) and part number (PN), in that order); the accounting requirements code; the physical security/pilferage code; unit of issue information; and quantity authorized.

e. When a title header (e.g., COEI, BII, or AAL) has no applicable listing in the operator technical manual, the title header should appear on the TM hand receipt with the line entry "NOT APPLICABLE".

5.103.18.1.4 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.

5.103.18.2 Project decisions.

5.103.18.2.1 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.

5.104 S1000D Chapter 5.2.1.6 – Common information sets – Maintenance planning information

5.104.1 MAC Introduction (for two-level maintenance format).

Data Module Type: Descriptive Information Code: 018D

5.104.1.1 Army business rules.

5.104.1.1.1 General.

An introduction for standard Army MAC shall be prepared using a single descriptive data module. It shall include the following text verbatim:

"MAINTENANCE ALLOCATION CHART (MAC)

INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field – includes two sub columns, Crew (C) and Maintainer (F).

Sustainment – includes two sub columns, Below Depot (H) and Depot (D).

The maintenance to be performed below depot and in the field is described as follows:

a. Crew maintenance. 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. The replace function for this level of maintenance is indicated by the letter "C" in the third position of the SMR code. A "C" appearing in the fourth position of the SMR code indicates complete repair is possible at the crew maintenance level.

b. Maintainer maintenance. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "F" appearing in the third position of the SMR code. An "F" appearing in the fourth position of the SMR code indicates complete repair is possible at the field maintenance level. Items are returned to the user after maintenance is performed at this level.

c. Below depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "H" appearing in the third position of the SMR code. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply systems after maintenance is performed at this level.

d. Depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel. A "D" or "K" appearing in the fourth position of the SMR code

indicates complete repairs possible at the depot sustainment maintenance level. Items are returned to the supply systems after maintenance is performed at this level.

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 function 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 function.

The remarks table (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

Maintenance Functions

Maintenance functions are limited to and defined as follows:

a. 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). This includes scheduled inspection and gauging and evaluation of cannon tubes.

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

c. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms. The following are examples of service functions:

    1. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.

    2. Repack. To return item to packing box after service and other maintenance operations.

    3. Clean. To rid the item of contamination.

    4. Touch up. To spot paint scratched or blistered surfaces.

    5. Mark. To restore obliterated identification.

d. Adjust. To maintain or regulate, within prescribed limits, by brining into roper position, or by setting the operating characteristics to specified parameters.

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

f. 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. 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.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. 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 an equipment or system.

h. Paint (ammunition only). To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.

i. Replace. To remove an unserviceable item and install a serviceable counterpart in its place "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance, and Recoverability (SMR) code.

j. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "repair" maintenance function:

Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the case of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. 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).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing

k. 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 is normally the highest degree of maintenance performed by the Army. Overhaul des not normally return an item to like new condition.

l. Rebuild. 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.

Explanation of Entries in the MAC

Group Number. Entry 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).

Component/Assembly. Entry contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Maintenance Function. Entry lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above).

Maintenance Level. Entry specifies each level of maintenance authorized to perform each function, by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate sub column. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. 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 functions authorized in the MAC. The symbol designations for the various maintenance levels 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 level is not included in column (4) of the MAC. Functions to this level 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.

Tools and Equipment Reference Code. Entry specifies, by 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.

Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

Explanation of Entries in the Tools and Test Equipment Requirements

Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in tasks and equipment reference code entry of the MAC.

Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Nomenclature. Name or identification of the tool or test equipment.

National Stock Number (NSN). The NSN of the tool or test equipment.

Tool Number. The manufacturer's part number.

Explanation of Entries in the Remarks

Remarks Code. The code recorded in the remarks code entry of the MAC.

Remarks. This entry lists information pertinent to the maintenance function being performed as indicated in the MAC."

5.104.1.2 Project decisions.

None.

5.104.2 MAC Introduction (for two-level Army aviation).

Data Module Type: Descriptive Information Code: 018D

5.104.2.1 Army business rules.

5.104.2.1.1 General.

An introduction for two-level Army aviation MAC shall be prepared using a single descriptive data module. It shall include the following text verbatim:

“MAINTENANCE ALLOCATION CHART (MAC)

INTRODUCTION

Aviation Maintenance Allocation Chart

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions 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 below depot and in the field is described as follows:

1. Aviation Maintenance Company (AMC). The primary purpose of the aviation maintenance company is to support the momentum of offensive operations. Composition of the AMC will be based on type of operations being supported, nature of the battlefield, and the need for flexibility. AMCs will provide forward positioning of essential maintenance repair parts and supplies, maximum use of support teams, use of airlift/air drops for resupply, for maintenance that does not interfere with the tactical plans and operations. AMCs are agile, mobile, and well equipped. They will carry limited stockpiles of demand supported, essential parts and supplies. The AMC performs battle damage assessment and repair (BDAR) and unit level repairs on Aviation Life Support Systems (ALSS). The AMC performs production control, quality control, and Maintenance Management/Maintenance Test Pilot functions. AMCs will rig aircraft for recovery operations. The AMC manages the battalion maintenance program and operates a central tool room. The AMC conducts forward arming and refueling. AMCs will be comprised of 3 to 4 modular platoons, which are configured to maintain unit level operational readiness and aircraft availability:

   Headquarters Platoon - Establishes standard operating procedures, receives and processes work requests, schedules maintenance, maintains status of aircraft, coordinates inspections and test flights and return of repaired aircraft, enforces quality standards, responsible for safety. Also, obtains, stores, and issues Classes II, III, IV, and IX, prescribe load list, shop stock and authorized stockage list items.

   Airframe Repair Platoon - Tailored to battalion it supports. Performs scheduled and unscheduled maintenance, troubleshoots faulty components, and removes and replaces aircraft components. Provides mission capable aircraft to support flight company operations.

   Component Repair Platoon - Performs scheduled and unscheduled maintenance, troubleshoots faulty components, and removes and replaces aircraft components. Performs BDAR and manages Class IX spare/shop stock. This platoon uses Shop Equipment Contact Maintenance (SECM)

trucks which are multi-capable and self-contained and are used to perform on-site maintenance using enhanced power tools, test, measurement, and diagnostic equipment, welding and cutting equipment, and an air compressor. The SECM truck is highly mobile.

Armament platoon - Only used in attack battalions and cavalry squadrons. Performs scheduled and unscheduled maintenance on armament components.

2. Aviation Support Company (ASC) in the Aviation Support Battalion (ASB). Comprised of Headquarters, Airframe, and Component Repair Platoons. Provides maintenance assistance to aviation units helping them maintain operational readiness and aircraft availability. Utilizes SECM trucks. Capable of supporting split based operations in two separate and distinct locations. Performs the following types of maintenance:
    a. Intermediate maintenance and logistics support operations.
    b. Maintenance actions which require more than 3 days to correct.
    c. Phased maintenance and preventive maintenance services.
    d. In-depth troubleshooting and diagnosis of airframe and component malfunctions.
    e. Repairs airframes and LRU component.
    f. Fixes night vision systems, aviation life support systems, aviation electrical and hydraulic components.
    g. Limited capability to fabricate hydraulic lines.
    h. Repairs engines, prop and rotors, armament, and armament subsystems.
    i. Fixes and fuels organic battalion equipment, ground aviation vehicles, and aviation ground support equipment.
    j. Operates and performs field maintenance on aviation ground power units, generator, and ground support equipment.
    k. Battle damage assessment and repair (BDAR).
    l. Production control and quality control.
    m. Test Pilot functions.
3. Theater Aviation Sustainment Maintenance Group (TASMG) - Assists in deployment and redeployment, provides technical assistance, supports increased operational tempo, sustains Army aviation across the entire spectrum of operations. The TASMG:
    a. Provides support to CONUS deploying forces
    b. Provides support to OCUNUS deployed forces
    c. OCONUS aviation maintenance support for contingency and stability and/or support operations.
    d. Expands aviation maintenance capabilities of CONUS depots
    e. Classifies and inspects aviation stocks and components.
    f. Repairs engines, airframes, armament, composite materials, electrical systems, avionics, and hydraulics.
    g. Fabricates hydraulics lines.
    h. Backup ASB and AMC maintenance functions.

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.

This MAC assigns maintenance functions to the lowest level of maintenance, based on past experience and the following considerations:

Skills available.

Work time required.

Tools and test equipment required and/or available.

Only the lowest level of maintenance authorized to perform a maintenance function is indicated. If the lowest maintenance level cannot perform all tasks of any single maintenance function (e.g., test, repair), then the higher maintenance level(s) that can accomplish additional tasks will also be indicated.

A maintenance function assigned to a maintenance level will automatically be authorized to be performed at any higher maintenance level.

A maintenance function that cannot be performed at the assigned level of maintenance for any reason may be evacuated to the next higher maintenance level. Higher maintenance levels will perform the maintenance functions of lower maintenance levels when required by the commander who has the authority to direct such tasking.

The assignment of a maintenance function will not be construed as authorization to carry the related repair parts or spares in stock. Information to requisition or otherwise secure the necessary repair parts will be as specified in the associated parts list.

Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, at the request of a lower maintenance level and on a one-time basis, transfer of maintenance functions to the lower level may be accomplished by specific authorization of the maintenance officer of the higher level of maintenance to which the function is assigned. The special tools, equipment, etc., required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility for the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

Maintenance Functions

Maintenance functions will be limited to and defined as follows:

1. 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).
2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.
3. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.
    a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.

b. Repack. To return item to packing box after service and other maintenance operations.

c. Clean. To rid the item of contamination.

d. Touch up. To spot paint scratched or blistered surfaces.

e. Mark. To restore obliterated identification.

4. Adjust. To maintain or regulate, within prescribed limits, by brining into proper or exact 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. 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/Install. To remove and install the same item when required to perform service or other maintenance functions. 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 an equipment or system.

8. Paint (ammunition only). To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.

9. Replace. To remove an unserviceable item and install a serviceable counterpart in its place "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

10. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "repair" maintenance function:

Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the case of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component identified as maintenance significant (i.e., assigned a SMR code) for the level of maintenance under consideration.

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing

11. 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 is normally the highest degree of maintenance performed by the Army. Overhaul des not normally return an item to like new condition.

12. Rebuild. 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.

Explanation of Entries in the MAC

Group Number and Component/Assembly. The functional groupings in the sample below identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

Group Number	**Component/Assembly Description**
0404	POWER PLANT
0401	ENGINE, GENERAL
	Servicing, handling inspection requirements, overhaul and retirement schedules. External lines and hoses. (As applicable.)
0402	COMPRESSOR SECTION (COLD SECTION MODULE)
	Rotor, blades, vanes, impeller, stators, inlet guide vanes, mainframe, particle separator, bleed valve, bearings, seals, external lines, and hoses.
0403	COMBUSTION SECTION (HOT SECTION MODULE)
	Liners, nozzles, stators, rotor, seals, couplings, blades.
0404	POWER-TURBINE (POWER TURBINE MODULE)
	Nozzles, rotors, blades, exit guide vanes, exhaust frame, drive shaft, bearings, seals, external lines and hoses
0405	ACCESSORY GEAR BOX (ACCESORY SECTION MODULE)
	Input and output gears, seals, chip detector, housings, drive shaft, bearings.
0406	FUEL SYSTEM
	Fuel control, fuel boost pump, governors, fuel filter assembly, sequence valve, fuel manifold, fuel nozzle, external lines and hoses.
0407	ELECTRICAL SYSTEM
	Electrical control units, exciters, thermocouples, ignition harness, electrical cables, history record, torque over speed sensor, Np sensor, external lines and hoses.
0408	OIL SYSTEM
	Tanks, oil filter, oil cooler, lube and scavenger pumps, oil filter bypass sensor, external lines and hoses.

Maintenance Function. Entry lists the functions to be performed on the items listed in Component/Assembly.

Maintenance Level. The maintenance levels field and sustainment are listed on the MAC with individual columns for AMC, ASB, TASMG, and Depot that include the work times for maintenance functions at each maintenance level. Work time presentations such as “0.1” indicate the average time (expressed in man-hours in whole hours or decimals) it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation will indicate “--”.

Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

Tools and Equipment Reference Code. Entry specifies, by 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.

Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks.

Explanation of Entries in the Tools and Test Equipment Requirements

Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in tasks and equipment reference code entry of the MAC.

Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Nomenclature. Name or identification of the tool or test equipment.

National Stock Number (NSN). The NSN of the tool or test equipment.

Tool Number. The manufacturer's part number.

Explanation of Entires in the Remarks

Remarks Code. The code recorded in remarks code entry of the MAC.

This entry lists information pertinent to the maintenance function being performed as indicated in the MAC."

5.104.2.2 Project decisions.

None.

5.104.3 Maintenance allocation chart (MAC)

Data Module Type: Schedule Information Code: 916A (MAC)

916B (Aviation MAC)

5.104.3.1 Army business rules.

5.104.3.1.1 General.

MAC shall be prepared in Functional Group Code (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.

5.104.3.1.2 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 Source, Maintenance, and Recoverability (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 Next Higher Assembly (NHA) group number; in this case, the part shall be listed in order to list the NHA functional group number.

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).

5.104.3.1.3 MAC format.

For an explanation of data to be listed in columns of the MAC, refer to the introduction information presented in 5.104.1 as applicable.

The standard two-level MAC, and aviation two level 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 5.104.1or 5.104.2 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 standard two-level 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 two-level 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.

5.104.3.1.4 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”

5.104.3.1.5 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.

5.104.3.1.6 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”

5.104.3.2 Project decisions.

5.104.3.2.1 MAC nomenclature.

The project shall decide and document the official nomenclature for MAC functional groups.

5.105 S1000D Chapter 5.2.1.7 – Common information sets – Mass and balance information

5.105.1 Weighing and loading.

Data Module Type: Procedural Information Code: 160B

5.105.1.1 Army business rules.

5.105.1.1.1 General.

Weighing and loading data module (Aviation Support Battalion only) shall provide description, information, and procedures for aircraft weighing, balancing, and loading.

5.105.1.1.2 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.”

5.105.1.1.3 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 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.

5.105.1.1.4 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 (Aviation: General Provisions, Training, Standardization, and Resource Management), 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.

5.105.1.2 Army business rules.

None.

5.106 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 US 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.

5.107 S1000D Chapter 5.2.1.9 – Common information sets – Equipment information

5.107.1 Equipment/user fitting instructions (Field or above only)

Data Module Type: Procedural Information Code: 913B

5.107.1.1 Army business rules.

As applicable, equipment/user fitting instructions for personal use equipment shall be prepared.

5.107.1.2 Project decisions.

5.107.1.2.1 Information codes.

Equipment/user fitting instructions for personal use equipment shall be prepared with information code(s) appropriate to the task performed.

5.107.2 Auxiliary equipment maintenance

5.107.2.1 Army business rules.

5.107.2.1.1 General.

When auxiliary equipment (e.g., Modified Tables of Organization and Equipment (MTOE) items, etc.) maintenance TMs/IETPs or maintenance requirements cards are not procured for peculiar equipment furnished by the contractor, maintenance instructions shall be prepared. Procedural data module(s) shall be used with information codes assigned by the project specific to the maintenance performed.

5.107.2.1.2 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.

5.107.2.2 Project decisions.

5.107.2.2.1 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.

5.107.3 Supplemental Data for Commercial Off-The-Shelf (COTS) Manuals

5.107.3.1 Army business rules.

5.107.3.1.1 General.

If after evaluation of Commercial Off-The-Shelf (COTS) Manuals (see 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.

5.107.3.1.2 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.

5.107.3.1.3 Equipment/model coverage.

Only equipment/models, accessories, and components specified in the contract shall be covered in the supplemental data.

5.107.3.1.4 Content/format selection summary.

The supplemental data should be presented in the following order:

5.107.3.1.4.1 Front matter.

See 5.131.

5.107.3.1.4.2 Destruction of military materiel to prevent enemy use.

See 5.111.3.

5.107.3.1.4.3 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

If required, lubrication charts or instructions shall be included in the supplemental data or prepared separately, as specified by the contracting activity. All lubricants, fluids, and associated products identified in the manual, supplemental data, or separate lubrication chart shall have a Government identifier (military specification number, NSN, etc.) that identifies the product beyond the product name and provides the user with requisitioning information. See also 5.107.4.

5.107.3.1.4.4 Preventive Maintenance Checks and Services (PMCS).

See 5.97.5.

5.107.3.1.4.5 Maintenance Allocation Chart (MAC).

See 5.104.

5.107.3.1.4.6 Components of End Item (COEI)

See 5.103.11.

5.107.3.1.4.7 Basic Issue Items (BII) list.

See 5.103.12.

5.107.3.1.4.8 Additional authorization list (AAL).

See 5.103.13.

5.107.3.1.4.9 Expendable supplies and materials list.

See 5.103.14.

5.107.3.1.4.10 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. See also 5.103.5.

5.107.3.1.4.11 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.

5.107.3.1.4.12 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.

5.107.3.1.4.13 Copyright.

Data Module Type: Descriptive Information Code: 021A

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

5.107.3.2 Project decisions.

5.107.3.2.1 Determination of supplemental data.

The project shall determine if and what COTS supplemental data is required for COTS manuals.

5.107.3.2.2 Identifying Technical Publication Sheet.

The project shall determine if the contractor shall prepare an Identifying Technical Publication Sheet.

5.107.3.2.3 Cover contents.

The project shall determine if the federal item name, national stock number (NSN), part number (PN), model number, and applicable contractor number shall be overprinted on the cover or the title page of the manual.

5.107.3.2.4 List of effective data modules.

The project shall determine if a list of effective data modules (LOEDM) that will include the basic manual and the supplemental data shall be prepared.

5.107.4 Lubrication instructions.

Data Module Type: Procedural Information Code: 240B

5.107.4.1 Army business rules.

5.107.4.1.1 LO card types.

Lubrication order (LO) cards shall be either single-fold or flat.

a. Single-fold card. LO(s) 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 LO(s) 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 LO(s) shall not be folded.

5.107.4.1.2 LO card sizes.

Unless otherwise specified by the contracting activity, the sizes, in inches shall be as shown below:

Table XL. 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.

5.107.4.1.3 LO number.

The LO number shall appear on the first card in accordance with 5.107.4.1.6. The LO number shall appear at the top of all other cards.

5.107.4.1.4 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.

5.107.4.1.5 Title page (first card) contents.

The title page shall contain the LO number, a heading, title, national stock number (NSN), part number, commercial and government entity code (CAGEC), the end item code, a reference line, reporting errors information, distribution statement/export control warning/destruction notice, and location of the LO statement.

5.107.4.1.6 Heading.

The heading shall consist of the words "LUBRICATION ORDER," date printed, the LO number, and a supersession notice (if applicable).

5.107.4.1.7 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.

5.107.4.1.8 NSN, part number, CAGEC, and EIC.

The applicable NSNs, part numbers, CAGE codes, and EICs for each piece of equipment covered by the LO shall be entered beneath the title(s).

5.107.4.1.9 Reference line.

A reference line consisting of the publication number(s) of the related publication shall be placed below the title within the applicable area.

5.107.4.1.10 Reporting errors.

LO cards shall contain a Reporting Errors and Recommending Improvements Statement.

5.107.4.1.11 Location of the 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."

5.107.4.1.12 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.

5.107.4.1.13 Other statements/warnings.

The following other statements shall be included in the LO, as applicable:

5.107.4.1.13.1 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.

5.107.4.1.13.2 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."

5.107.4.1.13.3 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))."

5.107.4.1.13.4 AOAP not available/non-enrolled statement.

When a component/equipment is not enrolled in the AOAP, or oil analysis support is not available, a statement similar to the following shall be used:

> "This (enter name of component/equipment) is not enrolled in the Army Oil Analysis Program. HARDTIME INTERVALS APPLY."

5.107.4.1.13.5 Warranty hardtime statement.

When applicable, the following statement shall be used:

> "For equipment under manufacturer's warranty, hardtime oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions such as longer than usual operating hours, extended idling periods, extreme dust, etc."

5.107.4.1.14 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 Logistics Management Information (LMI) or the Maintenance Allocation Chart (MAC). Unless otherwise specified by the contracting activity, lubrication procedures shall be based upon the principles of Reliability Centered Maintenance (RCM) logic.

5.107.4.1.15 Warnings, cautions, and notes.

Warnings, cautions, and notes shall be applied in accordance with this standard.

5.107.4.1.16 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.

5.107.4.1.17 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.

5.107.4.1.18 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 XLI. 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	Specialized Repair Activity or Theater Aviation Support Maintenance Group (TASMG)
D	Depot

5.107.4.1.19 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:

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 (see 5.107.4.1.29).

5.107.4.1.20 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.

5.107.4.1.21 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.

5.107.4.1.22 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.

5.107.4.1.23 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.

5.107.4.1.24 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.

5.107.4.1.25 Lubrication interval symbols.

Unless otherwise specified by the contracting activity, the following lubrication interval symbols shall be used:

Table XLII. 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

5.107.4.1.26 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.

5.107.4.1.27 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.

5.107.4.1.28 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 (enter component name)." Where applicable, the statement "For Arctic Operation, refer to FM 9-207" shall be included as a note.

5.107.4.1.29 Special notes.

5.107.4.1.29.1 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.

5.107.4.1.29.2 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.

5.107.4.1.29.3 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.

5.107.4.2 Project decisions.

None.

5.107.5 Army Test, Measurement and Diagnostic Equipment (TMDE)

5.107.5.1 Army business rules.

5.107.5.1.1 General.

Army Test, Measurement and Diagnostic Equipment information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.107.5.1.2 Paragraph numbering.

Army test, measurement, and diagnostic equipment manuals and IETP paragraphs shall not be numbered by decimals.

5.107.5.1.3 Content and order of presentation.

Unless otherwise specified by the contracting activity, material shall be presented in the following order:

Front matter

Chapter 1 – Introduction

Chapter 2 – Functional Analysis

Chapter 3 – Maintenance Requirements

Chapter 4 – Calibration

Appendixes

Rear Matter

5.107.5.1.4 Front matter.

See 5.131 for front matter content requirements.

5.107.5.1.5 TMDE Chapter 1 – Introduction.

5.107.5.1.5.1 Section I – 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."

5.107.5.1.5.2 Section II – Description (Description and data).

Data Module Type: Descriptive Information Code: 040B

This section shall contain the following paragraphs.

5.107.5.1.5.2.1 Description.

This paragraph shall provide a general description indicating the purpose, use, capabilities, and features of the test equipment.

5.107.5.1.5.2.2 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.

5.107.5.1.5.2.3 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.

5.107.5.1.5.2.4 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 (Expendale 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.

5.107.5.1.6 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 (see 5.107.5.1.8.4). 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 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.

5.107.5.1.7 TMDE Chapter 3 – Operating procedures.

5.107.5.1.7.1 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.

5.107.5.1.7.2 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.

5.107.5.1.7.3 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.

5.107.5.1.8 TMDE Chapter 4 – Maintenance requirements

5.107.5.1.8.1 Section I – Facilities, equipment, and material standards.

Data Module Type: Descriptive Information Code: 202B

5.107.5.1.8.1.1 Facilities.

The facilities required for maintenance of the test equipment, including special factors such as environment, shall be listed.

5.107.5.1.8.1.2 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.

5.107.5.1.8.1.3 Special support equipment and tools.

Data Module Type: IPD Information Code: 304B

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.

5.107.5.1.8.2 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 lubrication orders (LO) (see 5.107.4). If no applicable LOs are published, lubrication instructions shall be included in this section, in tabular format, with illustrated locations of lubrication points.

5.107.5.1.8.3 Section III – Pre-operational specifications and self-test procedure.

Data Module Type: Descriptive 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 unit under test (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.

5.107.5.1.8.4 Section IV – Troubleshooting procedure.

Data Module Type: Fault Information Code: 421B

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.

5.107.5.1.8.5 Section V – Maintenance.

5.107.5.1.8.5.1 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.

5.107.5.1.8.5.2 Repair or replacement.

Data Module Type: Procedural Information Code: 685B

Instructions and specifications for repair, replacement, or adjustment shall be provided in the sequence by which they are performed. Test equipment setup and other illustrations necessary to support the procedures, with a list of all mandatory replacement parts, shall be provided.

5.107.5.1.8.5.3 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.

5.107.5.1.9 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.

5.107.5.1.10 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.

5.107.5.1.11 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, Commercial and Government Entity Code (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.

5.107.5.1.12 Appendix C –UUT procedures.

Data Module Type: Procedural Information Code: 320B

This appendix shall contain contracting activity approved test procedures for Unit Under Test (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.

5.107.5.1.13 Other appendixes.

Data Module Type: Descriptive Information Code: (unspecified)

Additional appendixes shall be provided, as appropriate.

5.107.5.1.14 Rear matter.

See 5.132.1 for rear matter content requirements

5.107.5.2 Project decisions.

5.107.5.2.1 Stand alone.

Army Test, Measurement and Diagnostic Equipment information sets may be produced as either a stand alone TM/IETP or as part of a more comprehensive information set. 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.

5.108 S1000D Chapter 5.2.1.10 – Common information sets – Weapon loading information

5.108.1 Army business rules.

The information referenced in S1000D Chapter 5.2.1.10 is not required for US 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.

5.108.2 Project decisions.

None

5.109 S1000D Chapter 5.2.1.11 – Common information sets – Cargo loading information

5.109.1 Army business rules.

5.109.1.1 On-vehicle equipment loading plan.

Data Module Type: Crew/Operator 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.

5.109.1.2 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.

5.109.1.3 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.

5.109.2 Project decisions.

None.

5.110 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 US 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.

5.111 S1000D Chapter 5.2.1.13 – Common information sets – Role change information

5.111.1 Modification Work Orders

5.111.1.1 Army business rules.

5.111.1.1.1 General.

Modification work order information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.111.1.1.2 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; test, measurement, and diagnostic equipment (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 (MC) number.

p. Modification identification

5.111.1.1.3 Paragraph 1 – Purpose, and Paragraph 2 – Introduction (Priority).

Data Module Type: Descriptive Information Code: 018A

5.111.1.1.3.1 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.

5.111.1.1.3.2 Paragraph 2.

Paragraph 2 shall contain one of the following statements as selected and specified by the contracting activity:

a. "This modification is classified ROUTINE."

b. "This modification is classified URGENT as a result of a Safety of Use/Flight Message (cite message reference). Operating restrictions provided therein remain in effect until this modification is applied."

c. "This modification is classified EMERGENCY as a result of an Emergency Safety of Use/Flight Message (cite message reference) which deadlined/grounded the equipment. The restriction remains in effect until this modification is applied."

5.111.1.1.4 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

5.111.1.1.4.1 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, national stock number (NSN), part number, commercial and government entity codes (CAGEC), 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.

5.111.1.1.4.2 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, part number, and where applicable, by serial number(s) or ranges of serial numbers.

5.111.1.1.4.3 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, part number, and, where applicable, by serial number(s) or range(s) of serial numbers.

5.111.1.1.5 Paragraph 6 – Modification application.

Data Module Type: Descriptive Information Code: 670D

This paragraph shall include:

a. The following time compliance statement: "Time compliance schedule: MWO effective date is (insert date) and completion date is (insert date)." The same MWO effective date/completion date statement shall be printed on the cover/title page of the MWO.

b. A level of maintenance statement indicating the lowest level of maintenance authorized to apply the MWO.

c. Work force and man-hour requirements for application of the MWO to a single unit, end item, or system.

d. A listing of all MWOs that shall be applied prior to or concurrently with the application of this MWO. This listing shall include MWOs required for other end items, systems, and TMDE that impact on this MWO.

e. Any additional information deemed necessary to assist in the application of the MWO.

5.111.1.1.6 Paragraph 7 – Technical publications affected/changed.

Data Module Type: Descriptive Information Code: 017N

This paragraph shall list, by publication number and date, all the technical publications (i.e., Technical Manuals (TM), Depot Maintenance Work Requirements, (DMWR), Field Manuals (FM), etc.) that have been or are being changed as a result of this MWO.

5.111.1.1.7 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 part number. 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, part number, 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, part number, 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.

5.111.1.1.8 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, part number, 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.

5.111.1.1.9 Paragraph 10 – Modification procedures.

Data Module Type: Procedural Information Code: 670B

This paragraph shall provide instructions for the application of the MWO. Instructions for disassembly/assembly of the end item/assembly/system to be modified shall be provided by referencing appropriate technical manuals or DMWR. 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.

5.111.1.1.10 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.

5.111.1.1.11 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.”

5.111.1.1.12 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.

5.111.1.1.13 Paragraph 14 – Recording and reporting of the modification, Paragraph 15 – Materiel Change (MC) number, and Paragraph 16 – Modification identification.

Data Module Type: Descriptive Information Code: 670C

5.111.1.1.13.1 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 738-751. 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, part number, 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 XLIII. Identification data presentation.

	Before Modification	**After Modification**
Nomenclature		
Model No.		
CAGEC/Part No.		
NSN		

5.111.1.1.13.2 Paragraph 15.

Paragraph 15 shall contain the following statement: "This MWO is authorized by MC number (insert complete MC number)." The MC number shall be provided by the preparing activity.

5.111.1.1.13.3 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.

5.111.1.1.14 Abbreviated 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.

5.111.1.2 Project decisions.

5.111.1.2.1 Abbreviated MWO format.

The project shall determine if the MWO shall be prepared in an abbreviated format.

5.111.2 Demilitarization of Surplus Military Items

5.111.2.1 Army business rules.

5.111.2.1.1 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.

5.111.2.1.2 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.

5.111.2.1.3 Foldouts.

Foldout/fold up pages shall not be used in Demilitarization of surplus military items TMs.

5.111.2.1.4 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

5.111.2.1.5 Front matter.

See 5.131.1 for front matter content requirements.

5.111.2.1.6 Demilitarization of Surplus Military Items Chapter 1, Introduction.

Data Module Type: Descriptive Information Code: 018A

This chapter shall contain the following paragraphs:

5.111.2.1.6.1 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, DoD 4160.21-M-1. DoD 4160.21-M-1, which contains the basic information on demilitarization, shall be used in conjunction with this manual. Where this manual conflicts with DoD 4160.21-M-1, the latter takes precedence. Additional data may be obtained from DoD 4160.21-M, Defense Technical Information Center (DTIC) Defense Disposition Manual."

5.111.2.1.6.2 Authorization.

This paragraph shall contain the following statement:

> "Demilitarization of surplus military materiel shall be limited to that which the National Inventory Control Points (NICP) 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."

5.111.2.1.6.3 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.'"

5.111.2.1.6.4 Reporting demilitarization.

This paragraph shall contain any necessary reporting requirements concerning the accomplishment of demilitarization. If none, this paragraph shall be omitted.

5.111.2.1.6.5 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.

5.111.2.1.7 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. It shall include, for each method, 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.

5.111.2.1.8 Demilitarization of Surplus Military Items Chapter 3, Detailed instructions for demilitarization.

Data Module Type: Descriptive 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 offensive or defensive advantages inherent in the materiel being demilitarized. Illustrations may be used if necessary for clarity.

5.111.2.1.9 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 number shall be used. When a list of applicable publications (LOAP) is published, this appendix shall reference the LOAP.

5.111.2.1.10 Rear Matter.

See 5.131.2.2.1 for rear matter content requirements.

5.111.2.2 Project decisions.

5.111.2.2.1 Stand alone.

Demilitarization of Surplus Military Items information sets may be produced as either a stand alone TM/IETP or as part of a more comprehensive information set. 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.

5.111.2.2.2 Page layout.

The project shall determine the page layout (portrait/landscape) and format for printed manuals.

5.111.3 Destruction of Equipment to Prevent Enemy Use

5.111.3.1 Army business rules.

5.111.3.1.1 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.

5.111.3.1.2 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 (FSC) of materiel.

b. Procedures that provide detailed destruction instructions for specific weapons systems or equipment and any installed subsystems.

c. Simple standardized destruction methods based on the assumption that time and demolition materials may not always be available for carrying out complicated demolition or other destruction procedures.

5.111.3.1.3 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.

5.111.3.1.4 Destruction manuals for a stock class (FSC).

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.

5.111.3.1.5 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 5.111.3.1.6.1. The second and any succeeding data modules shall contain specific destruction procedures specified in 5.111.3.1.7.

5.111.3.1.6 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 (see 5.111.3.1.6.5).

d. Any repair parts that may be on the verge of capture shall be destroyed in the same order as the essential material.

5.111.3.1.6.1 Destruction general information.

Data Module Type: Descriptive Information Code: 997D

5.111.3.1.6.2 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.

"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."

5.111.3.1.6.3 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."

5.111.3.1.6.4 Reporting destruction.

A paragraph shall be included that requires any destruction activity be reported through command channels.

5.111.3.1.6.5 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 (see 5.111.3.1.6.7).

5.111.3.1.6.6 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.

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."

5.111.3.1.6.7 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.

5.111.3.1.7 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.

5.111.3.1.8 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 utilize

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).

5.111.3.1.9 Destruction Procedures - Classified Equipment.

Data Module Type: Descriptive Information Code: 997C

Special instructions for destruction of classified equipment and documents shall be provided.

5.111.3.2 Project decisions.

5.111.3.2.1 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.

5.112 S1000D Chapter 5.2.1.14 – Common information sets – Battle damage assessment and repair information

5.112.1 Army business rules.

5.112.1.1 General.

Battlefield Damage Assessment and Repair information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.112.1.2 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.

5.112.1.3 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.

5.112.1.4 BDAR Introduction (General information).

Data Module Type: Descriptive Information Code: 018G

5.112.1.5 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.

5.112.1.6 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.

5.112.1.6.1 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."

5.112.1.6.2 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.

5.112.1.6.3 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.

5.112.1.7 General fault assessment tables (Battle damage assessment tables).

Data Module Type: Fault Isolation or 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 maintenance allocation chart (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 paragraphs 5.112.1.7.1 through 5.112.1.7.2 below.

5.112.1.7.1 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.

5.112.1.7.2 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.

5.112.1.8 Repair.

Unless otherwise specified by the contracting activity, these data modules shall provide information for battlefield repair of end items, components, etc. The following types of repair data modules shall be included in the BDAR information:

a. General repair.

Data Module Type: Procedural Information Code: (unspecified)

As required, there shall be procedures provided for items that are not necessarily associated with a specific component or subsystem of the end item.

b. End item repair.

Data Module Type: Procedural Information Code: (unspecified)

Procedures for repair of the overall end item shall be provided.

c. 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 maintenance allocation chart (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.

d. Auxiliary equipment.

Data Module Type: Procedural Information Code: (unspecified)

As required, procedures for repair of battle damage to auxiliary equipment shall be provided.

Each repair data module shall comply with the requirements contained in 5.112.1.8.1 through 5.112.1.8.2 below.

5.112.1.8.1 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.

5.112.1.8.2 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:

3. “1 soldier - 1.0 hrs (express time in decimal point hours to the nearest one-tenth hour).”

4. 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 when

applicable. Any other necessary information (such as quantities and sizes) shall be provided.

5. Procedural steps - each step shall be listed numerically and placed in the sequential order in which it will be performed. Steps shall be as prescribed in 4.8.10. 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."

5.112.1.9 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.

5.112.1.10 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 5.113.1. 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 5.97.17.

5.112.1.11 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.

5.112.1.12 Substitute materials/parts.

Data Module Type: Descriptive Information Code: 607D

The substitute materials/parts data module shall list materials and parts that may be used for BDAR fixes. Lists or tables shall include the primary material/part, the substitute/alternate material/part, and remarks (when applicable) that identify the limitations or degradation effected by use of the substitutes. It shall be divided into paragraphs by material type. When paragraphs are required, the first paragraph shall be titled introduction and shall provide a general explanation of the purpose and content of the other paragraphs. When applicable, a paragraph shall be dedicated to petroleum, oil, and lubricant (POL) substitutes. For example of alternate/substitute material listing. For examples of POL substitutes.

5.112.2 Project decisions.

5.112.2.1 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).

5.113 S1000D Chapter 5.2.1.15 – Common information sets – Illustrated tool and support equipment information

5.113.1 Tool identification list (Field/Aviation Maintenance Company (AMC) level or above only)

Data Module Type: Descriptive Information Code: 062B

5.113.1.1 Army business rules.

5.113.1.1.1 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 initial setups. 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.

5.113.1.1.2 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 initial setup to identify the item.

Column (2) Item Name. This column lists the item by noun nomenclature and other descriptive features (e.g., Gauge, belt tension).

Column (3) National Stock Number (NSN). This is the National Stock Number (NSN) assigned to the item; use it to requisition the item.

Column (4) Part Number/(CAGEC). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. The manufacturer's Commercial and Government Entity Code (CAGEC) is also included.

Column (5) Reference. This column identifies the authorizing supply catalog or illustrated parts list for items listed in this information set." (Not required for DMWRs/NMWRs)"

5.113.1.1.3 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. National Stock Number (NSN)

d. Part Number

e. Commercial and Government Entity Code (CAGEC)

f. Reference

Item names shall be in alphabetical order. A lead-in paragraph to the tool identification list may be included.

5.113.1.2 Project decisions.

None

5.114 S1000D Chapter 5.2.1.16 – Common information sets – Service bulletins

5.114.1 Army business rules.

The information referenced in S1000D Chapter 5.2.1.16 is not required for US 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.

5.114.2 Project decisions.

None

5.115 S1000D Chapter 5.2.1.17 – Common information sets – Material data

5.115.1 Munition Equipment and Ammunition Data Sheets

5.115.1.1 Army business rules.

5.115.1.1.1 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.

5.115.1.1.2 Front matter.

See 5.131 for front matter content requirements.

5.115.1.1.3 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:

"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."

5.115.1.1.4 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)

5.115.1.1.5 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.

5.115.1.1.6 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.

5.115.1.1.7 Use.

This paragraph shall describe the purpose for which the item is used.

5.115.1.1.8 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.

5.115.1.1.9 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.

5.115.1.1.10 Differences between models.

This paragraph shall identify differences in configuration or models when more than one model is described. Differences shall be clearly identified.

5.115.1.1.11 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, national stock number (NSN), and Department of Defense Ammunition Code (DODAC). Munitions equipment shall have: Ammunition Peculiar Equipment (APE) number, unit of issue, installation data, utilities required, and production capacity.

5.115.1.1.12 Performance.

This paragraph shall present information describing the normal use or operation of the item (e.g., chamber pressure, velocity, maximum range, trace, etc.).

5.115.1.1.13 Temperature limits.

This paragraph shall list the firing and storage temperature limits of the item.

5.115.1.1.14 Drawings.

This paragraph shall list all applicable ammunition drawings, by number only of the ammunition end-item, components, and packaging configurations.

5.115.1.1.15 Unit of issue.

This paragraph shall list the smallest quantity of the item authorized for issue.

5.115.1.1.16 Packing data.

This paragraph shall provide the dimensions (length, width, height, and cube) and weight of a full depot pack configuration of the item.

5.115.1.1.17 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.

5.115.1.1.18 Limitations.

This paragraph shall list any restriction, warning, or weakness associated with the item.

5.115.1.1.19 References.

This paragraph shall be a list, citing only publication numbers, of all related technical manuals (TM/IETP), field manuals (FM), and supply catalogs (SC).

5.115.1.1.20 Remarks.

This paragraph shall provide any other information deemed pertinent.

5.115.1.1.21 Associated equipment.

This paragraph shall list any additional APE that is used in conjunction with the described munitions equipment.

5.115.1.1.22 Kits.

This paragraph shall list any APE accessory equipment not normally supplied with the end item.

5.115.1.1.23 Appendices.

Ammunition data sheet TMs shall contain appendices as specified by the acquiring activity. Munitions equipment data sheet TMs shall contain the following appendices.

5.115.1.1.23.1 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."

5.115.1.1.23.2 Appendix B – operational index.

Data Module Type: Descriptive Information Code: 928B

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.

5.115.1.1.23.3 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.

5.115.1.1.23.4 Rear matter

See 5.132 for rear matter requirements.

5.115.1.2 Project decisions.

5.115.1.2.1.1 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 information set. 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.

5.115.1.2.1.2 Photographs and line drawings.

The project shall decide about the inclusion of a photograph or line drawing of the item on the data sheet.

5.116 S1000D Chapter 5.2.1.18 – Common information sets – Common information and data

5.116.1 Supporting Information – General.

5.116.1.1 Army business rules.

5.116.1.1.1 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 (see 5.116.1.1.2)

b. Maintenance Allocation Chart (MAC) (see 5.104)

c. Components Of End Items (COEI) (see 5.102.11)

d. Basic Issue Items (BII) (see 5.103.12)

e. Additional Authorization List (AAL) (see 5.103.13)

f. Expendable and durable items list (see 5.103.14)

g. Tool identification list (see 5.113.1)

h. Mandatory replacement parts list (see 5.103.15)

i. Critical Safety Items (CSI) (see 5.102.16)

j. Flight Safety Critical Aircraft Parts (FSCAP) (see 5.103.17)

k. Support items (see 5.116.1.1.3)

Not all of the above listed supporting information is required in all cases. Refer to the business rules for the individual lists for details.

5.116.1.1.2 References.

Data Module Type: Descriptive Information Code: 017B

A List of Applicable Publications (LOAP) shall be referenced.

5.116.1.1.3 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 work package for each list is unnecessary. The data module may include an introduction and the applicable lists described in c through i.

5.116.1.1.4 Additional supporting information.

Data Module Type: Descriptive Information Code: unspecified

When specified by the acquiring the activity additional work packages shall be prepared when the work packages previously described herein do not support the data/information to be presented.

5.116.1.2 Project decisions.

None.

5.116.2 Warranty Technical Bulletins (WTBs).

5.116.2.1 Army business rules.

5.116.2.1.1 General.

Warranty technical bulletin (WTB) information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.116.2.1.1.1 National stock numbers.

National stock numbers 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.

5.116.2.1.1.2 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.

5.116.2.1.1.3 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).

5.116.2.1.2 Front Matter:

See 5.131 for front matter content requirements.

5.116.2.1.3 General.

Data Module Type: Descriptive Information Code: 028A

The project shall determine the page layout (portrait/landscape) and format for printed manuals.

5.116.2.1.3.1 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.

5.116.2.1.3.2 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:

Abuse. The improper use, repair, or handling of warranted items such that the warranty may become void.

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.

Acquiring command or activity. An activity which procures the items or materiel for a user.

Alterations/Modifications. Any alteration after production such as retrofit, conversion, remanufacture, design change, engineering change and the like.

Consolidated warranty technical bulletin. A WTB that covers a multiple number of equipment systems that are not covered by separately numbered TMs.

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.

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.

Failed item. A part, component, or end item that fails to perform its intended use.

False return rate. The return of suspected defective warranty items to the manufacturer that are eventually determined to be serviceable.

Manufacturer's recall.

Safety recall. A manufacturer recalls an item to repair or replace a defective part or assembly which may affect public safety.

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.

Primary damage. The damage suffered by a part, component, or end item itself upon its failure.

Prime contractor. A party that enters into an agreement directly with the United States to furnish part or all of a weapon system.

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.

Repair. To restore an item to serviceable condition without affecting the warranty.

Reparable. An item that may be reconditioned or economically repaired for reuse when it becomes unserviceable.

Secondary damage. The damage suffered by an item because of a failure of another item within the same configuration.

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.

Subcontractor. Any supplier, distributor, vendor, or firm that furnishes supplies or service to or for a prime contractor or another subcontractor.

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.

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.

Validation. The process by which the contractor tests/measures the WTB to assure its accuracy as it pertains to the warranty item(s).

Verification. The process of determining the accuracy and adequacy of the WTB provided by the contractor. This process is performed by the Government/user.

WARCO. Warranty Control Offices established at the intermediate General Support/Director of Industrial Operations level or equivalent who 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.

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.

Warranty claim. Action started by the equipment user for authorized warranty repair, replacement, or reimbursement made from the local dealer or manufacturer.

Warranty period. Time during which the warranty is in effect. Normally measured as the maximum number of years, months, days, miles, or hours used.

Warranty start date. The date the warranty is put into effect.

5.116.2.1.3.3 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 one year or 50,000 miles, or components covered for 15,000 hours of operation). Tables shall include all data listed below, if applicable:

a. Nomenclature

b. Line item number

c. Model numbers

d. National stock numbers

e. Manufacturer and part number (use Commercial and Government Entity Code (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

5.116.2.1.3.3.1 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.

5.116.2.1.3.3.2 Government responsibilities/identification.

The Major Subordinate Command's (MSC), 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 (DSN and commercial), business hours (e.g., 0800-1630 EST), point of contact (Continental U.S. (CONUS) and outside CONUS (OCONUS)), and emergency contact information. The responsibilities of the activity(s) shall be listed.

a. Government maintenance. When the provisions of the warranty allow the Government to perform corrective maintenance on warranty items, the maintenance functions and the maintenance level that may perform these functions on these warranty items shall be listed or referenced. These maintenance functions shall be the same level as authorized in the maintenance allocation chart of the applicable TM/IETP. Normal care, servicing, and preventive maintenance procedures required to keep the warranty effective shall be included in this paragraph. Any authorized deviation from normal maintenance and repair procedures shall be listed. An explanation covering evacuation, shipping, or handling details shall be made when contractor support is not available. When these details are covered in another paragraph of the WTB or another document (e.g., TM or TB), reference shall be made to the applicable paragraph or document.

b. Owning unit responsibilities. This paragraph shall include responsibilities of the owning unit. When these responsibilities are identified elsewhere within the WTB, reference shall be made to the paragraph where these responsibilities are identified.

c. Warranty control office responsibilities. This paragraph shall describe the responsibilities of the warranty control office (WARCO) pertaining to the specific warranty contract. When responsibilities of the MSC or installation warranty control office are different from the activity warranty control office, 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: (enter name, address, and telephone number (DSN and commercial) of the authorizing command)."

5.116.2.1.3.3.3 Design/performance specifications.

When design performance specifications are clearly defined in the contract, this paragraph shall describe or identify the physical and performance specifications of the warranty item(s) that the accepting command should verify to determine whether or not the specifications are met. A description or illustration showing content and location of warranty labels identifying warranty items shall be made. This description shall include content and location of any bar coded warranty information concerning the item of equipment. When they are shown in other available publications, reference shall be made to these publications. The methods for testing or measuring the actual design performance of item(s) shall be described or identified either by placing details in this paragraph or by reference to document(s) containing these details. Testing and measuring methods shall be identified with the maintenance level capable of performing these functions. These testing or measuring methods shall apply to the initial acceptance criteria as well as item/equipment performance for the duration of the warranty. When acceptance criteria and continued performance criteria differ, they shall be clearly identified.

5.116.2.1.3.3.4 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.

5.116.2.1.3.3.5 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.

5.116.2.1.3.3.6 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, Functional Users Manual for the Army Maintenance Management System (TAMMS).

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.

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."

5.116.2.1.3.3.7 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.

5.116.2.1.3.4 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.

5.116.2.1.3.5 Rear matter

See 5.132 for rear matter requirements.

5.116.2.2 Project decisions.

None.

5.117 S1000D Chapter 5.2.1.19 – Common information sets – Training

5.117.1 Army business rules.

None.

5.117.1.1 Project decisions.

5.117.1.1.1 Planning scope and depth.

The project shall determine the planning scope and depth.

5.117.1.1.2 Training information scope and depth.

The project shall determine the training information scope and depth.

5.118 S1000D Chapter 5.2.1.20 – Common requirements – References (List of applicable publications)

Data Module Type: Descriptive Information Code: 017B

5.118.1 Army business rules.

None.

5.118.1.1 Project decisions.

5.118.1.1.1 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.

5.118.1.1.2 Include unpublished publications and documents.

The project shall decide whether or not to include publications and documents that are not published.

5.118.1.1.3 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.

5.118.1.1.4 Markup of publication entry as a link.

The project shall decide whether or not to markup publication entries as a links.

5.118.1.1.5 Use of language.

The project shall decide whether or not to include and present language.

5.119 S1000D Chapter 5.2.1.21 – Air Common information sets – Maintenance checklists and inspections

See 5.97.4.1.4, 5.97.8, 5.97.23, 5.107.3.1.4.4, 5.125.7, 5.125.8, and 5.125.9.

5.120 S1000D Chapter 5.2.2.1 – Air specific information sets – Use of generic information

5.120.1 Army business rules.

The information referenced in S1000D Chapter 5.2.2.1 is not required for US 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.

5.120.2 Project decisions.

None

5.121 S1000D Chapter 5.2.2.3 – Air specific information sets – Cross servicing information

5.121.1 Army business rules.

The information referenced in S1000D Chapter 5.2.2.3 is not required for US 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.

5.121.2 Project decisions.

None

5.122 S1000D Chapter 5.2.2.4 – Air specific information sets – Engine maintenance information

5.122.1 Army business rules.

The information referenced in S1000D Chapter 5.2.2.4 is not required for US 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.

5.122.2 Project decisions.

None

5.123 S1000D Chapter 5.2.2.5 – Air specific information sets – Power plant build-up information

5.123.1 Army business rules.

The information referenced in S1000D Chapter 5.2.2.5 is not required for US 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.

5.123.2 Project decisions.

None.

5.124 S1000D Chapter 5.2.2.6 – Air specific information sets – Engine standard practices information

5.124.1 Army business rules.

The information referenced in S1000D Chapter 5.2.2.6 is not required for US 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.

5.124.2 Project decisions.

None.

5.125 S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information

5.125.1 Army business rules.

5.125.1.1 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.

5.125.1.2 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>`).

5.125.1.3 Scope.

The operator's manual shall describe briefly and concisely the operation of the complete aircraft. Unmanned Aircraft Systems (UAS) shall include ground stations and other elements in addition to the actual air vehicles. The description of aircraft, aircraft systems, sub-systems, and components shall contain only that detail required to explain the operation, operational procedures, and checks necessary for the pilot to safely and efficiently operate the aircraft, aircraft systems, and mission equipment during flight and ground operation. Each operator's manual prepared in accordance with this specification shall be divided into the following sections:

Front Matter

Chapter 1 – Introduction

Chapter 2 – Aircraft and Systems Description and Operation

Chapter 3 – Avionics

Chapter 4 – Mission Equipment

Chapter 5 – Operating Limits and Restrictions

Chapter 6 – Weight/Balance and Loading

Chapter 7 – Performance Data

Chapter 8 – Normal Procedures

Chapter 9 – Emergency Procedures

References

Abbreviations and Terms

Index

Authentication Page

DA Form 2028

Foldouts (if included)

5.125.1.4 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.

5.125.1.5 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).

5.125.1.6 Volume content.

Each volume of a series shall display the publication number 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.

5.125.1.7 Front Matter.

See 5.131 for front matter content requirements.

5.125.1.8 Aircraft Operator's Manual Chapter 1 – Introduction.

Data Module Type: Crew/Operator Information Code: 018A

This chapter shall consist, at a minimum, of introductory material that applies to the manual as a whole. A brief summary of the contents of the manual shall be provided.

5.125.1.8.1 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."

5.125.1.8.2 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."

5.125.1.8.3 References.

Data Module Type: Crew/Operator Information Code: 017B

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".

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.

Forms and records. Flight records and aircraft maintenance records which are used by the operators and crewmembers shall be described. References shall be made to DA Pam 738-751 and TM 55-1500-342-23.

5.125.1.8.4 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."

5.125.1.8.4.1 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 value "`psd55`" (see 5.59.1.30).

5.125.1.8.4.2 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.

5.125.1.8.4.3 Additional introductory information.

Any additional introductory information that may be required such as explanatory information for appendices or indices shall be provided, as applicable.

5.125.1.9 Aircraft Operator’s Manual Chapter 2 – Aircraft and Systems Description and Operation.

5.125.1.9.1 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 5.125.1.9.2 through 5.125.1.9.16.8) shall be developed for the description and operation of the aircraft and each aircraft system.

5.125.1.9.1.1 UAS.

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.

5.125.1.9.1.2 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. In addition each page following the top page shall be briefly described. When needed for clarity, illustrations of representative items displayed on the interactive display shall be included throughout the TM/IETP.

5.125.1.9.1.3 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.

5.125.1.9.1.4 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.

5.125.1.9.2 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.

5.125.1.9.2.1 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.

5.125.1.9.2.2 Illustrations and tables.

The following illustrations and tables shall be included in Section I.

a. The aircraft's general arrangement shall depict all access openings that will be checked during preflight of the aircraft. The general arrangement shall be placed as near to the beginning of Section I as practicable. These diagrams shall not include individual controls or aircraft systems. Diagrams that are needed for clarity shall be used. Two or more of these illustrations, such as crew movement diagrams and compartment diagrams, may be combined into one.

b. Illustrations showing minimum turning radius, ground clearance, dimensions and danger areas shall be included. The minimum turn shall be based on a turn permitted on one wheel (tire hub), with and without power steering assist. Minimum ground clearance shall also be shown. The turning radius for skid equipped aircraft shall be based on turning the aircraft on an identifiable reference point on the aircraft or an identifiable reference point on the ground. An illustration shall be included showing danger areas around the aircraft for all modes of operations on or near the ground. Areas to be avoided to prevent damage to equipment or injury to personnel shall be depicted or described. These figures shall be provided for idle and maximum power. For rotary wing aircraft, illustrations shall be based on hover power required at maximum gross weight. Danger areas of main rotors, tail rotors, or propellers shall also be depicted.

c. Significant differences in design and operation between each aircraft series included in the manual shall be provided. Special emphasis shall be placed on features that will affect recognition and operation of the various series. This information shall be contained in a table.

d. Each major compartment, such as cockpit or cabin, that can carry payload or that can be entered by personnel shall be illustrated and identified.

5.125.1.9.2.3 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 UAS system or other structures shall also be shown. An illustration shall be included showing danger areas around the Ground Data Terminal/Antenna System. Areas to be avoided to prevent damage to equipment or injury to personnel shall be depicted or described.

f. Significant differences in design and operation between each Ground Data Terminal/Antenna System series included in the manual shall be provided. Special emphasis shall be placed on features that will affect recognition and operation of the various series. This information shall be contained in a table.

5.125.1.9.2.4 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.

5.125.1.9.2.5 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.

5.125.1.9.2.6 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.

5.125.1.9.2.7 Doors.

All doors to include ramps, hatches, etc., controls for normal and emergency operations, and their sources of power shall be described.

5.125.1.9.2.8 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.

5.125.1.9.2.9 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.

5.125.1.9.2.10 Data link system (UAS only).

An overall description and general arrangement of the Data Link System shall be included. Major assemblies such as shelters, portable cases, and workstations shall be described. Each workstation of the ground control station shall be described and illustrated as required. Diagrams needed for clarity shall be used.

5.125.1.9.2.11 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.)

5.125.1.9.3 Section II – Emergency equipment.

5.125.1.9.3.1 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.

5.125.1.9.3.2 Illustrations.

Illustrations showing locations of emergency equipment or systems shall be shown as needed but only in Chapter 9.

5.125.1.9.4 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.

5.125.1.9.4.1 Engines.

The most important characteristics and special features of the engine shall be described. Model designation shall be included for all engines used in the subject aircraft. The following engine systems shall be described:

a. Cooling system and controls such as cowl flaps and engine cooling fans.

b. Engine/engine inlet anti-icing/deicing system.

c. The engine fuel control system, which applies to jet and turbine powered aircraft and extends from the engine fuel control unit through the burner ring or combustor section. Where applicable, special emphasis shall be placed on the emergency fuel control systems. Any special or unusual characteristics of the system shall also be described. Theory of operation shall not be included. Discussion of the throttle/power lever shall be included, as well as all systems affected by throttle/power lever operation.

d. Information on all controls affecting the oil system.

e. Ignition system controls.

f. Starter controls.

g. Infrared suppression system.

h. Engine instruments and indicators. For the purpose of the operator's manual, the fuel and oil supply systems shall be treated as ending at the point where they deliver the fluid to the carburetor, fuel control unit, or the engine-driven oil pump.

5.125.1.9.5 Section IV – Description (Fuel system).

Data Module Type: Crew/Operator Information Code: 043J

5.125.1.9.5.1 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. Diagrams of the typical courses of fuel flow, including fuel system control positions for takeoff, cruising, landing, and emergency operation shall be included.

5.125.1.9.5.2 Controls and indicators.

Fuel system controls and indicators shall be described.

5.125.1.9.5.3 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 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.

5.125.1.9.6 Section V – Description (Flight control system).

Data Module Type: Crew/Operator Information Code: 043J

5.125.1.9.6.1 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 5.125.1.9. 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.

5.125.1.9.6.2 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.

5.125.1.9.7 Section VI – Description (Hydraulic and pneumatic systems).

Data Module Type: Crew/Operator Information Code: 043J

A description of all hydraulic and pneumatic systems shall be provided. At a minimum, test switches, indicators and gauges, caution/warning lights, and controls shall be discussed.

5.125.1.9.8 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.

5.125.1.9.9 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.

5.125.1.9.10 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 shall not be included here. Items dealing with aircraft servicing and ground handling shall be contained in servicing, parking, and mooring, Section XV.

5.125.1.9.11 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.

5.125.1.9.12 Section XI – Description (Electrical power supply and distribution systems).

Data Module Type: Crew/Operator Information Code: 043J

The electrical power supply and distribution systems and controls shall each be described and illustrated. Where pertinent, reference shall be made to auxiliary power systems that are described elsewhere. The external power source and the interaction between the auxiliary power plant and the electrical system shall be described. General arrangement and order of the primary system shall be covered first, followed by the secondary system.

5.125.1.9.12.1 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.

5.125.1.9.12.2 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.

5.125.1.9.12.3 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.

5.125.1.9.13 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 and emergency procedures in Chapter 9.

5.125.1.9.14 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.

5.125.1.9.15 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.

5.125.1.9.16 Section XV – Description (Servicing, parking, and mooring).

Data Module Type: Crew/Operator Information Code: 043J

5.125.1.9.16.1 General.

Servicing shall include, but shall not be limited to, flight crew oriented instructions for normal and closed circuit refueling and for replenishment of fuel, oil, hydraulic fluid, other fluids, and air in tires. Servicing shall also include all other such items involved in servicing the aircraft that a crew could be expected to perform while away from military maintenance support. Safety precautions to observe in servicing a particular tank or reservoir, such as grounding and prevention of fire hazards, shall be stated clearly. Servicing instructions shall be supplemented with a diagram showing locations of regular and alternate servicing points. NO STEP areas on walkways leading to tanks shall be indicated, with necessary precautions. Reference shall be made to graphs or data in other parts of the manual pertinent to servicing, such as tire pressure versus gross takeoff weight.

5.125.1.9.16.2 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.

5.125.1.9.16.3 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.

5.125.1.9.16.4 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.

5.125.1.9.16.5 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.

5.125.1.9.16.6 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.

5.125.1.9.16.7 Parking and mooring.

Instructions for parking and mooring and the installation and stowage of aircraft covers, control locks, chocks, and tie down devices shall be described and illustrated. If feasible, ground handling, parking, and mooring may be shown on a single page illustration.

5.125.1.9.16.8 Additional sections.

Additional sections may be added as required by the procuring activity, i.e. Unique Equipment.

5.125.1.10 Aircraft Operator's Manual Chapter 3 – Avionics.

5.125.1.10.1 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.

5.125.1.10.2 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).

5.125.1.10.2.1 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.

5.125.1.10.2.2 Controls and functions.

a. For systems with MFD, the Control/Indicator table may be omitted or altered at the discretion of the procuring activity. The location and function of each control, including built-in test capability, contributing to the operation of the avionics equipment shall be listed. Each control panel shall be discussed separately. Reference or links shall be made to illustrations in Chapter 2 regarding controls and control panels.

b. A tabular listing may be included for each control panel. Each control or indicator shall be listed and its function defined in terms of what the operator of the control shall see, hear, or do as a result of the control setting. Terms of simple, immediate, and observable results shall be used. No attempt shall be made to give the operator the exact technical details about what happens when the control is used.

c. A tabular listing may be included for each control display unit. Each key that shall be pressed shall be listed and a description of the function shall be included in the table.

5.125.1.10.2.3 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.

5.125.1.10.2.4 Emergency operations.

When applicable, settings and operations of avionics equipment during emergency operations shall be described.

5.125.1.10.2.5 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.

5.125.1.10.3 Section II – Description (Communications).

Data Module Type: Crew/Operator Information Code: 043J

Information for communications equipment installed in the aircraft shall be developed.

5.125.1.10.4 Section III – Description (Navigation).

Data Module Type: Crew/Operator Information Code: 043J

All navigation systems and indicators information, as applicable, shall be developed. 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. The following systems and indicators shall be described:

a. Automatic direction finder (ADF)
b. Gyro compass and magnetic indicators
c. Marker beacon
d. Flight director
e. (VHF) OMNI directional range
f. Tactical Air Navigation (TACAN)
g. Instrument landing system
h. Doppler
i. Inertial navigation system (INS)
j. Autopilot
k. Other

5.125.1.10.5 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.

5.125.1.11 Aircraft Operator's Manual Chapter 4 – Mission Equipment.

5.125.1.11.1 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 5.125.1.10, 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.

5.125.1.11.2 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.

5.125.1.11.3 Section II – Description (Armament).

Data Module Type: Crew/Operator Information Code: 043J

5.125.1.11.3.1 General.

The description of gunnery, rocket, tow target, control, and computer equipment and their interrelations when installed shall be provided. Armor protection shall be discussed along with the individual item that is being protected. Precautions and safety considerations shall also be included.

5.125.1.11.3.2 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 Appendix B.

5.125.1.11.3.3 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.

5.125.1.11.3.4 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.

5.125.1.11.3.5 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.

5.125.1.11.3.6 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.

5.125.1.11.4 Section III – Cargo handling.

Data Module Type: Procedural Information Code: 160F

Descriptions and procedures for cargo handling systems and equipment to include hoists, winches, and cargo hooks shall be provided.

5.125.1.11.5 Section IV – Description (Passive defense).

Data Module Type: Crew/Operator Information Code: 043J

Passive defense equipment shall be described, procedures outlined, and controls and precautions listed. Employment methods shall also be discussed.

5.125.1.11.6 Description (Additional system coverage).

Data Module Type: Crew/Operator Information Code: 043J

Additional sections shall be used as required, to describe systems not covered in other sections.

5.125.1.12 Aircraft Operator's Manual Chapter 5 – Operating Limits and Restrictions.

5.125.1.12.1 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.

5.125.1.12.2 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.

5.125.1.12.3 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.

5.125.1.12.3.1 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.

5.125.1.12.3.2 Propeller limitations.

Propeller limitations shall be discussed including, but not limited to, reverse pitch and restricted revolutions per minute (rpm).

5.125.1.12.3.3 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.

5.125.1.12.3.4 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.

5.125.1.12.4 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.

5.125.1.12.5 Section IV – Operating Limits – Loading.

Data Module Type: Crew/Operator Information Code: 043D

5.125.1.12.5.1 General.

Loading limits pertaining to the aircraft shall be discussed in detail.

5.125.1.12.5.2 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.

5.125.1.12.5.3 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, as necessary.

5.125.1.12.5.4 Turbulence.

Restrictions regarding flying in all levels of turbulence shall be discussed and limitations shall be covered.

5.125.1.12.5.5 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.

5.125.1.12.6 Section V – Operating Limts - Airspeed.

Data Module Type: Crew/Operator Information Code: 043E

5.125.1.12.6.1 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.

5.125.1.12.6.2 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.

5.125.1.12.7 Section VI – Operating Limits - Maneuvering.

Data Module Type: Crew/Operator Information Code: 043F

5.125.1.12.7.1 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.

5.125.1.12.7.2 Flight envelope chart.

For aircraft with G meters, plots of load factor versus speed for the full range of gross weight shall be shown. The speeds at which maneuvers are restricted and unrestricted, as a function of load limit factors, shall be presented. When changes in configuration result in variations in airspeed position error, separate airspeed scales shall be shown. Where direct reading Mach meters are provided, charts for both indicated airspeed (IAS) and indicated Mach number (IMN) shall be provided.

5.125.1.12.8 Section VII – Operating Limits – Environmental.

Data Module Type: Crew/Operator Information Code: 043G

5.125.1.12.8.1 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.

5.125.1.12.8.2 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.

5.125.1.12.8.3 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.

5.125.1.13 Aircraft Operator's Manual Chapter 6 – Weight/balance and loading.

5.125.1.13.1 Section I – Weight and Balance (General).

Data Module Type: Crew/Operator Information Code: 169A

5.125.1.13.1.1 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. 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."

5.125.1.13.1.2 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.

5.125.1.13.2 Section II – Weight and balance data.

Data Module Type: Crew/Operator Information Code: 169F

Information necessary for the computation of weight and balance for loading of specific aircraft shall be provided. Instructions for completion of weight and balance forms (DD Form 365 series) shall not be provided in the manual; however, TM 55-1500-342-23 which provides these instructions shall be referenced. Sufficient information shall be provided to permit the flight crew to readily use the data presented in the other sections of this chapter to determine loading arrangements, fuel burn or transfer sequences, ordnance off-load sequences, and other weight and balance procedures to assure the aircraft remains within weight and balance limits for the entire flight.

5.125.1.13.3 Section III – Weight and balance – Fluids (Fuel/oil).

Data Module Type: Crew/Operator Information Code: 169B

5.125.1.13.3.1 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.

5.125.1.13.3.2 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.

5.125.1.13.4 Section IV – Weight and balance - Personnel.

Data Module Type: Crew/Operator Information Code: 169C

5.125.1.13.4.1 General.

All essential information and instructions for preparation, loading, and unloading of personnel, including airborne troops shall be provided.

5.125.1.13.4.2 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.

5.125.1.13.4.3 Personnel loading and unloading.

Personnel loading and unloading shall include, but shall not be limited to, a checklist and description of steps necessary for loading and unloading troops as follows:

a. Troop seat installation.
b. A description and operation of safety belts and harness.
c. A check of comfort and emergency provisions.
d. Instructions for troop loading and unloading procedure.

5.125.1.13.4.4 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.

5.125.1.13.4.5 Personnel moments.

Personnel moments charts for personnel in any position shall be provided.

5.125.1.13.5 Section V – Weight and balance – 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.

5.125.1.13.6 Section VI – Cargo loading.

Data Module Type: Procedural Information Code: 160D

5.125.1.13.6.1 General.

Detailed information on cargo loading shall be provided.

5.125.1.13.6.2 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.

5.125.1.13.6.3 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.

5.125.1.13.6.4 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.

5.125.1.13.6.5 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.

5.125.1.13.6.6 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.

5.125.1.13.6.7 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.

5.125.1.13.6.8 Securing loads.

The following items shall be described.

a. Approved restraint criteria including fore, aft, sideward and vertical restraints.

b. Detailed tie-down instructions shall be provided only for equipment or cargo that is unique to a specific aircraft.

5.125.1.13.6.9 Unloading procedures.

Procedures for unloading the aircraft and stowing associated equipment shall be provided.

5.125.1.13.7 Section VII – Center-of-gravity.

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.

5.125.1.14 Aircraft Operator's Manual Chapter 7 – Performance Data.

5.125.1.14.1 General.

All the performance data charts required for the completion of preflight and in-flight mission planning shall be provided. The data presented shall cover the maximum range of conditions and performances for which the aircraft is qualified. Explanatory text applicable to the use of data presented shall be included for each model of aircraft. Performance data charts shall appear in the initial issue of the manual. Information contained on the charts shall be based on, and shall be consistent with, the recommended operating procedures and techniques set forth elsewhere in the manual. Each section shall include an explanation of all applicable charts and a synopsis of pertinent terms used with each chart. In addition to the draft TM, the acquiring activity may require submission of an aerodynamic report illustrating the derivation of the data entered on the charts included in the TM. The report should include an analysis leading to the establishment of lift and drag values used in the calculations, aircraft efficiency and compressibility correction factors, methods of computing power or thrust required and available, a discussion of duct loss and propeller efficiencies, and adequate references to appropriate wind tunnel or flight test data. Calculation methods need to be fully explained and a sample calculation given. The calculations should be presented in sufficient detail to permit ready review and check of conclusions and to enable additional calculations to be made.

5.125.1.14.2 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.

5.125.1.14.3 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 (Appendix D, D.3.2.4.2) 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.

5.125.1.14.4 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.

5.125.1.14.5 Configuration.

Unless otherwise specified by the acquiring activity, the baseline configuration for all presented data shall be the most probable combat configuration. This baseline configuration shall be labeled and presented as a condition on applicable charts. The baseline configuration shall be completely defined in the "Drag" section. Where inherent configuration variations exist (including, but not limited to, antenna variations, IR suppressers, and engine inlet configurations), the data shall be based on the most conservative configuration combination (highest drag, lowest power/thrust available, highest fuel consumption, etc.). The effects of altering these items shall be discussed in each section, as applicable.

5.125.1.14.6 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.

5.125.1.14.7 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 (Hp) to static air pressure (P), and vice versa, shall be used:

$$P \text{ (in. Hg)} = 29.92125(1 - H_p/145{,}442.1)^{5.255376}$$

$$H_p \text{ (ft.)} = 145{,}442.1(1 - P/29.92125)^{.1902632}$$

5.125.1.14.8 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.

5.125.1.14.9 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.

5.125.1.14.10 Definitions.

Definition of terms used including, but not limited to, takeoff speed, takeoff distance, and rotation speed shall be included in abbreviations and terms.

5.125.1.14.11 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.

b. Maximum torque available (insert condition/time).

c. Hover.

d. Takeoff.

e. Drag.

f. Cruise.

g. Climb-descent.

h. Airspeed calibration.

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.

5.125.1.14.12 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.

b. Idle fuel flow.

c. Torque available for takeoff.

d. Takeoff - normal.

e. Normal rotation/takeoff airspeed.

f. Acceleration check distance.

g. Accelerate-stop distance.

h. Accelerate after lift off.

i. Minimum single engine control airspeed (flaps down and up, if applicable).

j. Single engine climb.

k. Cruise climb.

l. Drag.

m. Cruise.

n. Climb/descent.

o. Approach speed.

p. Landing.

q. Airspeed calibration.

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.

5.125.1.14.13 Section I – Introduction.

Data Module Type: Crew/Operator Information Code: 018A

5.125.1.14.13.1 General.

An explanation of the performance data including the purpose, scope, limits, uses, and conditions shall be provided.

5.125.1.14.13.2 Purpose.

The following paragraph shall be included: The purpose of this chapter is to provide the best available performance data for the (insert assigned aircraft designation). Regular use of this information will allow you to receive maximum safe use of the aircraft. Although maximum performance is not always required, regular use of this chapter is recommended for the following reasons:

a. Knowledge of performance margins will allow you to make better decisions when unexpected conditions or alternate missions are encountered.

b. Situations requiring maximum performance will be more readily recognized.

c. Familiarity with the data will allow performance to be computed more easily and quickly.

d. Experience will be gained in accurately estimating the effects of conditions for which data are not presented.

The information is primarily intended for mission planning and is most useful when planning operations in unfamiliar areas or at extreme conditions. The data may also be used inflight, to establish unit or area Standard Operating Procedures (SOPs), including pilot aid cards, and to inform ground commanders of performance/risk tradeoffs.

5.125.1.14.13.3 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.

CAUTION

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.

5.125.1.14.13.4 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.

5.125.1.14.13.5 Data basis.

This paragraph shall contain a statement similar to the following statements and definitions:

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.

a. Flight test data are obtained by flight tests of the aircraft at precisely known conditions using sensitive calibrated instruments.

b. Calculated data are data based on tests, but not on flight tests of the complete aircraft.

c. Estimated data are data based on estimates using aerodynamic theory or other means not verified by flight testing.

5.125.1.14.13.6 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.

5.125.1.14.13.7 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.

5.125.1.14.13.8 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.

5.125.1.14.14 Section II and subsequent sections – Performance data.

Data Module Type: Crew/Operator Information Code: 030E

5.125.1.14.14.1 General.

A separate section shall be created for each chart listed in Rotary wing performance data or Fixed wing performance data in Chapter 7, as applicable. The sections shall be titled using the applicable performance data chart title. In addition to the chart itself, each section shall contain, as a minimum, the following:

a. Description. A description of the performance data including those parameters obtainable from the chart and information relative to any peculiarity of data presented shall be provided.

b. Use of charts. Reference shall be made to examples used on each chart. Additional use of charts may be included when approved by the acquiring activity. Reference shall be made to related charts that may be used in conjunction with the chart and all information relative to peculiarities of data presented on the chart.

c. Conditions. Each condition that has a direct or indirect effect on the chart data presented shall be discussed, explaining the effect it may have on the aircraft.

5.125.1.14.14.2 Rotary wing chart content.

Performance data charts for rotary wing aircraft shall conform to the requirements detailed in the following paragraphs:

5.125.1.14.14.3 Fuel flow chart.

The fuel flow chart 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.

5.125.1.14.14.4 Maximum torque available chart.

The charts for maximum torque available 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.

5.125.1.14.14.5 Hover chart.

The hover chart 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.

5.125.1.14.14.6 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.

5.125.1.14.14.7 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. All approved techniques such as level acceleration, coordinated climb, and sling load techniques shall be covered on additional charts as required by the acquiring activity. The primary parameters used for takeoff performance shall be maximum hovering height capability, FAT, gross weight, and maximum torque available. Additional performance charts shall be referenced when required. Takeoff limits shall be stated and indicated on all charts. All takeoff conditions shall be based on calm winds, level hard surfaces, normal rotor/engine speeds, and optimum torque available.

5.125.1.14.14.8 Drag chart.

The baseline configuration for drag 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.

5.125.1.14.14.9 Cruise chart.

Cruise charts 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.

5.125.1.14.14.10 Climb-descent chart.

The climb-descent chart shall show the torque required in excess of that needed for level flight to obtain the desired rate of climb. The torque decrease for a desired rate of descent shall also be shown. Desired rate of climb or descent and gross weight shall be used to compute the torque change required.

5.125.1.14.14.11 Airspeed calibration chart.

An airspeed calibration chart, 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.

5.125.1.14.14.12 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.

5.125.1.14.14.13 Fixed wing chart content.

Performance data charts for fixed wing aircraft shall conform to the requirements in the following paragraphs.

5.125.1.14.14.14 Crosswind chart.

The crosswind chart shall show the takeoff or landing conditions under which a takeoff or landing is or is not recommended. Various wind velocities, runway wind angle, and rotation or touchdown airspeeds shall be shown. Additional charts to obtain required information shall be referenced. When more than one configuration is possible for the applicable aircraft, the differences shall be indicated and the charts adjusted appropriately or separate charts may be provided for each configuration.

5.125.1.14.14.15 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.

5.125.1.14.14.16 Torque available for takeoff chart.

This chart 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.

5.125.1.14.14.17 Takeoff chart.

The takeoff chart 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.

5.125.1.14.14.18 Rotation/takeoff airspeed chart.

The chart 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.

5.125.1.14.14.19 Acceleration check distance chart.

This chart 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.

5.125.1.14.14.20 Accelerate-stop distance chart.

The accelerate-stop distance chart 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.

5.125.1.14.14.21 Accelerate after takeoff chart.

The chart shall show the actual distance required to clear an obstacle after takeoff. Parameters shall include FAT, pressure altitude, takeoff weight, and velocity.

5.125.1.14.14.22 Minimum single engine control airspeed chart.

This chart 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.

5.125.1.14.14.23 Single engine climb chart.

This chart 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.

5.125.1.14.14.24 Cruise climb chart.

The cruise climb chart 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.

5.125.1.14.14.25 Drag chart.

The drag chart 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.

5.125.1.14.14.26 Cruise chart.

The cruise chart shall show the obtainable airspeed, required engine shaft horsepower, engine torque pressure, shaft horsepower increase required due to increases in drag, fuel flow and optimum propeller rpm for maximum range during cruise flight at various aircraft gross weights, altitudes, and temperatures. The particular altitudes, configurations, and temperatures at which cruise data are to be presented shall be specified by the acquiring activity. This information shall be presented for each engine when performance data pertain to multi-engine aircraft. When fuel flow variations exist due to alternate engine operations, fuel flow for each alternate condition shall be shown. Single engine data shall be placed on the same charts as multi-engine data only when approved by the acquiring activity. Maximum performance, precautionary, and limits data shall be shown on each chart and explained in the text. Indicated and true airspeed for each altitude shall be shown. When an altitude limitation prevents safe single engine cruise for multi-engine aircraft, the single engine graph shall be omitted. Additional charts related to cruise performance shall be referenced in the text.

5.125.1.14.14.27 Climb-descent chart.

The climb-descent chart 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.

5.125.1.14.14.28 Approach speed chart.

The approach speed chart 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.

5.125.1.14.14.29 Landing chart.

The landing chart 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.

5.125.1.14.14.30 Airspeed calibration chart.

An airspeed calibration chart that 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 that 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 those aircraft whose air data system position errors are insignificant, airspeed, altitude, and temperature calibration data shall be omitted, with approval of the acquiring activity.

5.125.1.14.14.31 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.

5.125.1.15 Aircraft Operator's Manual Chapter 8 – Normal procedures.

5.125.1.15.1 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, 3, and 4 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.

5.125.1.15.2 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.

5.125.1.15.3 Section II – Operating procedures and maneuvers.

5.125.1.15.3.1 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.

5.125.1.15.3.2 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 (see to 5.59.1.10 for values of the attribute `crewStepCondition`):

a. The symbol "O", which shall precede the step, shall be used to indicate if equipment is installed or available.

b. Those duties that are the responsibility of the pilot (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” shall indicate the performance of a step that is mandatory for night flights.

f. The letter “T” shall indicate a task or step required by the operator’s manual.

g. The letter “F” shall indicate a task or step that requires a flight engineer function or response.

5.125.1.15.3.3 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), 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 PMC). The procedural steps are numbered to coincide with the corresponding numbered steps in this manual.

5.125.1.15.3.4 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.

5.125.1.15.3.5 Normal operation check - Preflight (Before exterior check).

Data Module Type: Crew/Operator Information Code: 131M

When required by the aircraft configuration, all necessary actions that shall be performed prior to starting the exterior check shall be included. Emphasis shall be placed on items that affect safety during the inspections to follow.

5.125.1.15.3.6 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.

5.125.1.15.3.7 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.

5.125.1.15.3.8 Normal operation check - Preflight (Crew/passenger briefing check).

Data Module Type: Crew/Operator Information Code: 131M

Instructions shall be provided to insure that crew and passenger briefings have been completed prior to starting engines.

5.125.1.15.3.9 Normal operation – Preflight.

Data Module Type: Crew/Operator Information Code: 131B

5.125.1.15.3.9.1 General.

a. Before starting engine(s). Precautions to be observed and checks to be accomplished before starting engine(s) shall be included. Such checks as should be accomplished before starting engine(s), but which could not be properly accomplished during the interior check shall be included. Instructions for positioning important controls and checking important indicators shall

be included. Insofar as is practicable, all controls shall be positioned as required for engine starting. Functional checks shall be included for those systems that can be checked before the engines are started. For those aircraft in which engine power is not necessary, flight controls shall be checked for free and correct movement. Instructions shall be provided on the use of external power or auxiliary power units and any necessary switching involved in its use.

b. Starting engine(s). The complete procedure for starting the engine(s) shall be provided, including the order of starting for multi-engine aircraft. Except when significant differences in procedures are required for multi-engine aircraft, engine start procedures shall not be repeated. For jet and turbine powered aircraft, the means to avoid hot starts and procedures to follow when a hot start is experienced shall be included. Procedures for engaging rotors for rotary wing aircraft shall be given.

c. Engine ground operations. When required, warm-up and ground operation power setting shall be specified. Any special precaution or limitation shall be stated. For rotary 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.

5.125.1.15.3.9.2 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.

5.125.1.15.3.10 Normal operation – Flight

Data Module Type: Crew/Operator Information Code: 131C

a. Takeoff. Takeoff techniques required to produce the results shown on the takeoff charts in Chapter 7 shall be covered in detail. When appropriate, manipulation of brakes and throttles/power levers, etc., shall be described. Detailed information shall be given regarding unique reactions of the aircraft during takeoff. Criteria for continuing a takeoff or aborting under various circumstances shall be included. Operational consideration and general rules contributing to hovering capability and power availability shall be stated. Unique hover/taxi, sideward and rearward flight techniques, and power check shall be included. The necessity for a prepared runway shall be discussed for various conditions of altitude and weight of aircraft that may be required to operate from temporary or unfinished runways.

b. After takeoff. All actions and techniques to be accomplished immediately after takeoff shall be listed. If flap retraction procedures differ under various conditions including, but not limited to, heavy weight and weather, it shall be so stated. When applicable, minimum airspeed and altitude for retracting flaps shall be covered. A minimum flap retraction airspeed chart shall be included

for aircraft of highly variable gross weight. All actions needed to establish the required climb shall be covered, including the airspeed at which the climb should be started.

c. Climb. A description of unique climb techniques required to produce the results stated in the climb charts in Chapter 7 shall be included. Unusual characteristics of the aircraft in climb shall be described. Since the preceding paragraph includes the climb checklist, this paragraph shall contain discussion only.

d. Cruise. An explanation shall be provided for all actions that shall be performed when the transition from climb to cruise is made. Any particular matters that shall be considered during cruise flight shall be described. Reference shall be made to Chapters 2 and 7 concerning fuel system management and other actions that should be considered during flight. Actual procedures shall not be covered here.

e. Descent-arrival. A checklist and discussion of this phase of operation shall be included as appropriate. The checklist shall include all checks that shall be made immediately before and during a descent preparatory to landing. Special instructions regarding various types of descent shall be included as applicable, including any special devices that may be provided to facilitate descent.

f. Before landing. All checks that shall be made immediately before entering the traffic pattern until the aircraft is committed to landing shall be covered.

g. Landing. A landing checklist and a narrative discussion of the landing problems and techniques shall be provided. The landing checklist shall include all actions to be performed from the time the landing is committed until it is affected. Landing techniques required to produce the results stated in the landing charts in Chapter 7 shall be included. Braking techniques and devices used during the landing and after-landing roll shall be described. Approach and landing airspeed corrections required to compensate for gusts shall be covered. In addition, landing techniques from the viewpoint of recommended maximum and minimum approach and landing airspeeds as related to aircraft flight classification, aircraft strength, aircraft touchdown bounce characteristics, and other aircraft characteristics shall be included. Reference shall be made to Chapter 7 for supplemental information provided by landing and approach speed charts. Coverage of approach and landing shall include cautions, when applicable, in the use of the engine during approach, performing a go-around, for the use of the angle-of-attack indicator in making an approach, etc. Shipboard landing techniques, when applicable, shall be included for rotary wing aircraft when unusual characteristics dictate.

h. Touch and go landings/go-around. All instructions including, but not limited to, trim changes and flap settings for executing these procedures shall be included. Proper throttle/power lever technique shall be emphasized, when applicable.

5.125.1.15.3.11 Normal Operation – Post flight

Data Module Type: Crew/Operator Information Code: 131D

a. After landing. All checks and operations to be performed from immediately after landing until the parking area is reached shall be included.

b. Engine shutdown. A checklist shall be provided covering proper procedures and precautions for stopping engines.

c. Before leaving the aircraft. A checklist of settings of all controls, control locks, and safety devices for securing the aircraft shall be provided for pilots and crew. A statement similar to the following shall be included:

In addition to established requirements for reporting any system defects or unusual and excessive operations such as hard landings, the flight crew shall also make entries on DA Form 2408-13-1 to indicate when any limits of the operator's manual have been exceeded.

d. Checklist changes. The specific checks described above may be deleted or new checks added when approved by the acquiring activity.

5.125.1.15.4 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.

5.125.1.15.5 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.

5.125.1.15.5.1 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.

5.125.1.15.5.2 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.

5.125.1.15.5.3 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.

5.125.1.15.5.4 Diving.

The diving characteristics of the aircraft shall be described with particular emphasis on high speed diving and compressibility effects. Dive recovery techniques and precautions shall be given, including any special information regarding power plant operation and trim changes. For highly maneuverable aircraft, dive recovery charts shall be included for various G pullouts given varying parameters of altitude, airspeed, and dive angle.

5.125.1.15.5.5 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.

5.125.1.15.5.6 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.

5.125.1.15.5.7 Level flight.

Characteristics of level flight under slow, cruising, and high speed conditions shall be described.

5.125.1.15.5.8 External loads.

Changes in flight characteristics due to external loads shall be described.

5.125.1.15.5.9 Asymmetrical loads.

Coverage of characteristics and techniques to be employed when operating with asymmetrical loads or configurations shall be presented.

5.125.1.15.6 Section V – Normal operataion – 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.

5.125.1.15.6.1 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.

5.125.1.15.6.1.1 Preparation for flight.

Special problems including, but not limited to, application of heat, removal of ice and snow from the aircraft surfaces, fuel and oil tank vents, pitot tubes, props, and supplying external power shall be addressed.

5.125.1.15.6.1.2 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.

5.125.1.15.6.1.3 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.

5.125.1.15.6.1.4 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.

5.125.1.15.6.1.5 Before takeoff.

Checks for ice and snow buildup on the aircraft shall be included.

5.125.1.15.6.1.6 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.

5.125.1.15.6.1.7 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.

5.125.1.15.6.1.8 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.

5.125.1.15.6.1.9 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.

5.125.1.15.6.1.10 Engine shutdown.

The proper method of shutting down the engine shall be given, including a table showing the required oil dilution time for various temperatures, and the techniques and precautions to be observed in using oil dilution shall be covered. Operation of systems depending on engine oil (including, but not limited to, supercharger clutch and propeller governor), to ensure that these systems are supplied with diluted oil, shall be included. Complete instructions for purging normal fuel from the system and replacing with special fuel shall be included. Time, speed or other requirements for turbine temperature stabilization prior to shutdown shall be stated.

5.125.1.15.6.2 Desert and hot weather operations.

The same requirements and procedures outlined in cold weather operations shall apply to desert and hot weather operation.

5.125.1.15.6.3 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.

5.125.1.15.6.4 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.

5.125.1.15.6.5 Additional sections.

When specified by the acquiring activity, additional sections may be used.

5.125.1.16 Aircraft Operator's Manual Chapter 9 -Emergency Procedures.

5.125.1.16.1 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
h. Flight controls
i. Bailout/ejection
j. Mission equipment (when applicable)
k. Shelter malfunctions
l. Other UAS components

Within an emergency classification, emergencies that have identical corrective actions may be combined under one paragraph heading. Those checks that shall be performed immediately in an emergency procedure shall be underlined, and a statement that such underlined steps shall be performed immediately without reference to the checklist shall be included. The underline presentation shall be achieved by using the element `<inlineSignificantData>` (see 5.59.1.30).

5.125.1.16.2 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 PMC)."

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.

d. The following definitions shall be included:

(1) LAND WITHOUT DELAY is defined as a landing in which the primary consideration is continued control of the aircraft and survival of the occupants. It is meant to be more urgent than LAND AS SOON AS POSSIBLE. The situation may not permit the aircrew to maneuver the aircraft to a suitable landing area (e.g., open field). If maneuvering to an open area is not practical, then the crew shall make a decision to land in an area that will have the least amount of negative impact on crew survivability. (Over dense forest, select an area with the smallest trees; in the mountainous area, choose an area with the least amount of slope.)

(2) LAND AS SOON AS POSSIBLE is defined as landing at the nearest suitable landing area (e.g., open field) without delay. The primary consideration is to ensure the survival of occupants.

(3) LAND AS SOON AS PRACTICABLE is defined as landing at a suitable landing area. The primary consideration is the urgency of the emergency.

(4) AUTOROTATE is defined as adjusting the flight controls as necessary to establish an autorotational descent and landing.

5.125.1.16.2.1 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.

5.125.1.16.2.2 Engine.

Emergency procedures shall be described in the event of an engine malfunction under a variety of conditions.

5.125.1.16.2.2.1 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.

5.125.1.16.2.2.2 Engine malfunction under specific conditions.

Additional paragraphs shall be included as necessary to indicate action to be taken in the event of engine malfunction under various conditions. Partial engine malfunctions as well as complete engine failure shall be described. A complete checklist procedure to be followed in shutting down the malfunctioning engine and establishing continued flight shall be included. Insofar as possible, shutdown procedure shall be identical to that required in the event of engine fire. Recommended best techniques and procedures for crash landing while operating within avoidance areas shall be discussed.

5.125.1.16.2.2.3 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).

5.125.1.16.2.2.4 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.

5.125.1.16.2.2.5 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.

5.125.1.16.2.2.6 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.

5.125.1.16.2.2.7 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.

5.125.1.16.2.2.8 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.

5.125.1.16.2.2.9 Landing with one or more engines inoperative.

The recommended procedure shall be described, including important precautions. A brief discussion of any changes that include, but are not limited to, the use of landing gear, wing flaps, and slats during such landing shall be included. For single-engine and twin-engine aircraft, proper landing procedures with no power shall be emphasized. For rotary wing aircraft, reference shall be made to the height velocity diagram.

5.125.1.16.2.2.10 Go-around with one or more engines inoperative (fixed wing).

Recommended procedures shall be described, including important precautions.

5.125.1.16.2.2.11 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.

5.125.1.16.2.3 Propeller/ rotor, transmissions, and drive systems.

Emergency procedures shall be described in the event of propeller/rotor, transmission, or drive system failure.

5.125.1.16.2.3.1 Propeller failure.

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.

5.125.1.16.2.3.2 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.

5.125.1.16.2.3.3 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.

5.125.1.16.2.4 Other emergencies.

Other emergencies such as ground resonance and mast bumping shall be described. Restrictions and preventive actions shall be described.

5.125.1.16.2.5 Fire.

Emergency procedures shall be included for aircraft fires as directed in the following paragraphs.

5.125.1.16.2.5.1 Engine fire.

Instructions shall be included regarding the recommended method of dealing with engine fires on the ground and during flight. Insofar as possible, engine shutdown procedures shall be identical to those used during engine failure.

5.125.1.16.2.5.2 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.

5.125.1.16.2.5.3 Wing fire.

Instructions shall be included on means of dealing with wing fires, including shutting down systems which may be feeding the fire.

5.125.1.16.2.5.4 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.

5.125.1.16.2.5.5 Smoke and fume elimination.

Instructions shall be given for most rapid means of dissipating smoke and toxic fumes.

5.125.1.16.2.6 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.

5.125.1.16.2.7 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.

5.125.1.16.2.8 Hydraulic system.

Instructions shall be given for dealing with hydraulic system component failures.

5.125.1.16.2.9 Landing and ditching.

Instructions shall be given regarding landing and ditching emergency procedures as described in the following paragraphs.

5.125.1.16.2.9.1 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.

5.125.1.16.2.9.2 Landing emergencies.

Preparation, warning signals to crew, approach, crew/passenger positions, harness locks, landing technique, routes, and methods of crew exits shall be included for both hard and soft ground. Landings with one or more landing gears retracted, flat tires, no wing flaps, and landing on unprepared runways shall also be covered. Information regarding pilot techniques for forced landings in trees or wooded areas shall also be included.

5.125.1.16.2.9.3 Body positions.

The body positions to be used by passengers and crew in emergency landings shall be illustrated.

5.125.1.16.2.9.4 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.

5.125.1.16.2.10 Flight controls.

Procedures to be employed in event of flight control failure shall be provided.

5.125.1.16.2.11 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.

5.125.1.16.3 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.

5.125.1.16.3.1 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.

5.125.1.16.3.2 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.

5.125.1.16.3.3 Ground Control Station Malfunctions.

Procedures to be employed in event of ground control equipment failure shall be provided.

5.125.1.16.3.4 Data Link Malfunctions.

Procedures to be employed in event of Primary or secondary Data link failure shall be provided.

5.125.1.16.3.5 Ground Control Support Equipment Malfunctions.

Procedures to be employed in event of UAS system support equipment failure that constitutes a safety hazard during flight/system operation shall be provided. (Launcher/RATO/Arresting gear Failure, Automated Landing Systems Failure etc.)

5.125.1.17 Rear Matter:

See 5.131.2.2.1 for rear matter content requirements.

5.125.2 Project decisions.

5.125.2.1 Emergency systems.

Emergency systems may be located in Chapter 9 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."

5.125.3 Aircraft Operator Checklist

5.125.3.1 Army business rules.

5.125.3.1.1 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.

5.125.3.1.2 Special Style and Format Rules.

5.125.3.1.2.1 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).

5.125.3.1.2.2 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.

5.125.3.1.2.3 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.

5.125.3.1.3 Scope.

The operator's checklist is a condensed version of Chapter 8 and 9 of the operator's manual which consist of a series of controls (or checks) and the required actions. The sequence of items (or checks) appearing in the operator's checklist shall be identical to those appearing in the amplified checklist of the operator's manual. In unusual circumstances, explanatory material shall be used in the operator's checklist

in the form of warnings, cautions, and notes, only if specified by the acquiring activity. The contents of the checklist shall be as described in the paragraphs below.

5.125.3.1.4 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.

5.125.3.1.4.1 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

5.125.3.1.4.2 Front Matter:

See 5.131.1 for front matter content requirements.

5.125.3.1.4.3 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.

5.125.3.1.4.4 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.

5.125.3.1.4.5 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.

5.125.3.1.4.6 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 shall be developed. The emergency requirements shall be subdivided into 12 classifications as listed in 5.125.1.15.6.5. 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. When required by the acquiring activity, a list of crewmembers' duties shall be prepared.

5.125.3.1.4.7 Normal operation checklist - Performance data.

Data Module Type: Crew/Operator Information Code: 131N

5.125.3.1.4.7.1 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 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.

5.125.3.1.4.8 Rear Matter:

See 5.132.1 for rear matter content requirements.

5.125.3.1.5 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 5.125.3.1.4.4 and 5.125.3.1.4.6.

5.125.3.2 Project decisions.

5.125.3.2.1 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.

5.125.4 Aircraft Operator Maintenance test flight manual

5.125.4.1 Army business rules.

5.125.4.1.1 General.

Aircraft operator Maintenance test flight manual information sets shall be prepared using the data module types and info codes specified in the corresponding content selection matrix in A.5.

5.125.4.1.2 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

5.125.4.1.3 Front matter.

See 5.131.1 for front matter content requirements.

5.125.4.1.4 Section I – Introduction.

Data Module Type: Crew/Operator Information Code: 018A

5.125.4.1.4.1 General.

Information of a general nature including the definition of an MTF, the purpose, and instructions specific to the checklist shall be provided.

5.125.4.1.4.2 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.

5.125.4.1.4.3 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.

   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.

   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.

NOTE - Highlights an essential operating or maintenance procedure, condition, or statement.

5.125.4.1.4.4 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 number 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 number 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.

5.125.4.1.4.5 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.

   The symbols identified and described in 5.125.1.15.3.2 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 (See to 5.59.1.10 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.

f. 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 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.

5.125.4.1.5 Section 2 – 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.

5.125.4.1.6 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.

5.125.4.1.7 Section 4 – Special/Detailed Procedures.

Data Module Type: Crew/Operator Information Code: (unspecified)

Those special/detailed procedures that are referenced in Section 2 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.

5.125.4.1.8 Section 5 – Charts and Forms.

Data Module Type: Crew/Operator Information Code: 00YB

5.125.4.1.8.1 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.

5.125.4.1.8.2 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.

5.125.4.1.8.3 Maintenance test flight check sheets.

A check sheet shall be provided for use by the person(s) conducting the checks.

5.125.4.1.9 Appendices.

Appendices shall immediately follow the last chapter of the manual. Appendixes shall be included when specified by the acquiring activity.

5.125.4.1.10 Rear matter:

See 5.132.1 for rear matter content requirements.

5.125.4.1.10.1 Metric conversion chart.

A chart shall be included at the back of the manual.

5.125.4.2 Project decisions.

5.125.4.2.1 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.

5.125.5 Troubleshooting introduction (Aircraft Troubleshooting TMs/IETPs only)

Data Module Type: Descriptive Information Code: 018C

5.125.5.1 Army business rules.

5.125.5.1.1 General.

A single descriptive data module shall be used.

5.125.5.1.2 Scope.

A trouble shooting introduction data module (Aircraft Troubleshooting TMs/IETPs only) 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.

5.125.5.2 Project decisions.

None.

5.125.6 Technical description (Aircraft Troubleshooting Manuals only)

Data Module Type: Descriptive Information Code: 011C

5.125.6.1 Army business rules.

5.125.6.1.1 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.

5.125.6.1.1.1 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.

5.125.6.1.2 Controls and indicators.

When it is necessary to provide information concerning the description and use of the controls and indicators to support the testing and troubleshooting procedures, it shall be prepared in accordance with the requirements provided in 5.107.5.1.7.2, 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.

5.125.6.1.3 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.

5.125.6.2 Project decisions.

None.

5.125.7 PMS inspection (aircraft preventive maintenance services only)

Data Module Type: Checklist Information Code: 310E

5.125.7.1 Army business rules.

5.125.7.1.1 General.

Preventive maintenance services (PMS) inspection data modules shall be developed for each specific inspection interval, 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 inserted here "and all armament shall be safetied, deactivated, and cleared (insert technical manuals here)").

5.125.7.1.2 Mandatory safety-of-flight inspection items.

Mandatory safety-of-flight inspection items shall be highlighted using the element `<inlineSignificantData>` (see 5.59.1.30). 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:

"FSCAP WARNING

Certain inspections are mandatory Safety of Flight requirements, and the inspection intervals cannot be exceeded. In the event these inspections cannot be accomplished at the specified interval, the aircraft condition status symbol will be immediately changed to a red X."

5.125.7.1.3 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.

5.125.7.1.4 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."

5.125.7.2 Project decisions.

None.

5.125.8 PM inspection (aircraft phased maintenance checklist only)

Data Module Type: Checklist Information Code: 310F

5.125.8.1 Army business rules.

5.125.8.1.1 General.

Phased maintenance (PM) inspection information set shall be prepared.

5.125.8.1.2 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.

5.125.8.1.3 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."

5.125.8.2 Project decisions.

None.

5.125.9 Preventive maintenance inspection (aircraft only)

Data Module Type: Checklist Information Code: 200D

5.125.9.1 Army business rules.

5.125.9.1.1 General.

Preventive maintenance inspections data module (aircraft only) shall be prepared as directed by acquiring activity.

5.125.9.1.1.1 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)."

5.125.9.1.1.2 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."

5.125.9.1.2 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 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.

5.125.9.2 Project decisions.

None.

5.125.10 Aircraft inventory master guide (aircraft only)

Data Module Type: Descriptive Information Code: 102B

5.125.10.1 Army business rules.

5.125.10.1.1 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.

5.125.10.1.2 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, Modification Work Orders (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.

5.125.10.1.3 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.

5.125.10.1.4 Inventoriable items.

The selection of inventoriable items to be listed is to be without regard to the agency (governmental or contractual) furnishing the items.

a. Items to be listed are as follows.

    1. Items essential to the execution of the designated mission of the aircraft, such as electronic, photographic, armament, special mission instruments, and safety and comfort equipment.
    2. Loose equipment delivered with the aircraft and items subject to pilferage or readily converted to personal use.
    3. Modification kits which are reissued or distributed to using organizations for installation and which are not immediately placed in use. These shall be recorded on the affected aircraft's DA Form 2408-17, Aircraft Inventory Record, and identified as loose equipment until modification is completed.
    4. Equipment required for operation in a specific environment.

b. Items to be excluded are as follows.

    1. 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.

5.125.10.1.5 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."

5.125.10.2 Project decisions.

None.

5.125.11 Storage of aircraft

5.125.11.1 Army business rules.

5.125.11.1.1 General.

This information set shall be prepared as directed by acquiring activity and information described in this section.

5.125.11.1.2 General information for storage of aircraft information set.

Data Module Type: Procedural	Information Code: 810B (Flyable storage of aircraft)
Data Module Type: Descriptive	Information Code: 810F (Short term storage of aircraft)
Data Module Type: Descriptive	Information Code: 810G (Intermediate storage of aircraft)

The following text shall be included verbatim.

"STORAGE OF AIRCRAFT GENERAL INFORMATION

Components Involved in an Accident

Any component removed for reason of accident shall not be preserved, but shall be shipped in the same condition it was in after the accident.

Categories of Storage

1. Flyable storage - no time limit.

2. Short term (administrative storage) - 1 to 45 days.

3. Intermediate storage - 46 to 180 days.

5.125.11.1.3 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.

5.125.11.2 Project decisions.

None.

5.125.12 Shipment of Army Aircraft

5.125.12.1 Army business rules.

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.

5.125.12.1.1 Specific contents and format.

Each TM/IETP shall apply to a single aircraft series. Specific requirements and procedures relating to shipment by cargo aircraft, vessel, truck, crated shipment, containerized shipment, and external transport by helicopter shall be detailed. Procedures necessary for tactical, minimum disassembly (logistical), maximum density (logistical) and palletized shipments shall be described. Each TM/IETP shall be written in the same format so that the same type of information is presented in the same order in each TM/IETP. The following is the format which shall be followed:

a. Front matter
b. Chapter 1 – Introduction
    1. Section I – Purpose and scope
    2. Section II – General
    3. Section III – Aircraft description
    4. Section IV – Shipping characteristics
    5. Section V – Ground handling
    6. Section VI – Safety
    7. Section VII – Preservation/depreservation check sheets
c. Chapter 2 – Shipment by Cargo Aircraft
    1. Section I – General
    2. Section II – Shipment by C-5 aircraft
    3. Section III – Shipment by C-17 aircraft
    4. Section IV – Shipment by C-141 aircraft
    5. Section V – 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 US 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
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)

5.125.12.1.2 Front Matter.

See 5.131.1 for front matter content requirements.

5.125.12.1.3 Shipment of Army Aircraft – Chapter 1 – Introduction.

5.125.12.1.4 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.

5.125.12.1.5 Section II – How to use this manual (General).

Data Module Type: Descriptive Information Code: 018B

5.125.12.1.5.1 General.

This section shall include general administrative information relating to the use of the TM/IETP including:

5.125.12.1.5.2 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.

5.125.12.1.5.3 Classified materials.

If classified items are located in specific aircraft, that shall be noted, as well as specific handling requirements.

5.125.12.1.5.4 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.

5.125.12.1.5.5 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."

5.125.12.1.6 Section III – Description (Aircraft description).

Data Module Type: Descriptive Information Code: 040B

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.

5.125.12.1.6.1 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 5.125.12.1.6.3. For TMs covering different models that exhibit external differences, drawings shall be included for each model.

5.125.12.1.6.2 Scale.

The drawings shall be as large as practicable, consistent with the space available. Scale shall be indicated by use of a graphic bar.

5.125.12.1.6.3 Dimensional data.

All dimensions on drawings shall be shown to the nearest 1/10 of an inch, including the following (some dimensions are only applicable for certain types of aircraft):

a. Lateral dimensions
    1. Landing gear width
    2. Wingspan
    3. Propeller diameter
    4. Fuselage (maximum width)
    5. Main rotor blade chord
    6. Horizontal stabilizer span
b. Longitudinal dimensions
    1. Fuselage length
    2. Overall length
    3. Main rotor diameter(s)
    4. Tail rotor diameter
    5. Wing chord
    6. Horizontal stabilizer chord
    7. Distance from the nose to centerline of nearest wheel or tip of skid and distance from the tail to centerline of nearest wheel or tip of skid
    8. Centerline of front wheels to centerline of rear wheels
    9. Skid length
c. Vertical dimensions
    1. Ground to fuselage (minimum)
    2. Ground to fuselage at midpoint between landing gear
    3. Ground to propeller (minimum)
    4. Ground to top of vertical stabilizer (maximum)
    5. Ground to tip of tail rotor (maximum)
    6. Ground to tip of main rotor (minimum)
    7. Ground to topmost point of main rotor
    8. Maximum height, if not previously covered
    9. Ground to lowest part of wing
    10. Ground to bottom of horizontal stabilizer
d. Additional dimensions relevant to clearances needed for transportability

5.125.12.1.7 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.

5.125.12.1.7.1 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.

5.125.12.1.7.2 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.

5.125.12.1.7.3 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).

5.125.12.1.7.4 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.

5.125.12.1.7.5 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.

5.125.12.1.7.6 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.

5.125.12.1.7.7 Unusual characteristics.

This paragraph shall list and explain aircraft peculiar equipment requiring special environmental, handling, and or security precautions.

5.125.12.1.7.8 International shipment.

Reference shall be made to Appendix F for information on customs and quarantine clearance.

5.125.12.1.8 Section V – Ground handling.

Data Module Type: Descriptive Information Code: 912F

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.

5.125.12.1.9 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.

5.125.12.1.10 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.

5.125.12.1.11 Shipment of Army Aircraft – Chapter 2, – Shipment by Cargo Aircraft.

5.125.12.1.11.1 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.

5.125.12.1.11.1.1 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, C-141, 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.

5.125.12.1.11.1.2 Functions of cargo aircraft crew.

This paragraph shall list Air Force cargo aircraft crew responsibilities and the type and limits of assistance that Army personnel may expect. The TM/IETP shall make clear that the Air Force loadmaster is the final authority on all actions relating to the configuration, loading, tiedown, and unloading of all cargo on the cargo aircraft. The following functions shall be included in the TM/IETP:

a. Preparing the cargo aircraft for loading and unloading.

b. Rigging and operations of all loading/offloading aids that are part of the cargo aircraft.

c. Designating aircraft and equipment locations within the cargo aircraft.

d. Providing tiedown devices.

e. Inspecting and determining acceptability of tiedowns.

5.125.12.1.11.1.3 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 insure that fuel on board does not exceed 150 gallons, or 3/4 full per tank, whichever is less.

c. Insure that Army aircraft are ready for loading on schedule.

d. Mark the longitudinal center-of-gravity (CG) and weight on each side of the aircraft fuselage and provide the weight of each aircraft and major component. Insure 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.

5.125.12.1.11.1.4 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, grounding, and fresh water.

5.125.12.1.11.1.5 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.

5.125.12.1.11.1.6 Security.

Specific physical security instructions relevant to shipment of aircraft and equipment onboard shall be provided.

5.125.12.1.11.1.7 Safety.

General safety considerations applicable to shipment by cargo aircraft shall be listed.

5.125.12.1.11.2 Sections II, III, IV, and V – Shipment by C-5, C-17, C-141, and C-130 aircraft.

These sections shall contain all information specific to transporting the aircraft by C-5, C-17, C-141, 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.

5.125.12.1.11.2.1 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: 800E (C-141)
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.

5.125.12.1.11.2.2 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: 800Q (C-141) (may be combined with 800E)
Data Module Type: Procedural	Information Code: 800R (C-130) (may be combined with 800F)

This paragraph shall detail all requirements for preparing the aircraft for shipment. Requirements shall be included for the four types of shipment. The following shall also be included:

a. Left side, front, and top view drawings shall be made of the aircraft in its operational configuration. For TMs covering different models that exhibit external differences, drawings shall be included for each model.

b. Resources required to ship the aircraft shall be detailed. Quantities shall be shown both for shipping one aircraft and a full load. Notes shall be provided to indicate requirements on a per unit basis, such as one each per aircraft shipped or one per cargo aircraft. This information shall be provided for each type of shipment.

    1. All tools and equipment shall be listed by nomenclature, reference number, national stock 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 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.

2. All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference shall be made to Appendix D 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 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.

5.125.12.1.11.2.3 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: 831D (C-141)
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.

5.125.12.1.11.2.4 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: 811J (C-141)
Data Module Type: Procedural	Information Code: 811K (C-130)

Detailed procedures required to tiedown the aircraft and components shall be noted. Provide plan, front, rear, and side views to show tiedown installation. This paragraph shall detail equipment and material requirements for shoring and securing the aircraft and components. All equipment used shall be described and pictured, and instructions for use shall be provided. A table shall be provided listing quantities required to ship one aircraft and also a full load of aircraft for each type of shipment. Equipment to be provided by the Air Force shall be noted.

5.125.12.1.11.2.5 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: 841D (C-141)

Data Module Type: Procedural Information Code: 841E (C-130)

Step-by-step procedures for unloading shall be provided for each type of shipment.

5.125.12.1.11.2.6 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: 870H (C-141)

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.

5.125.12.1.12 Shipment of Army Aircraft – Chapter 3 – Shipment by Vessel.

5.125.12.1.12.1 Section I – Shipment of Aircraft – General.

Data Module Type: Descriptive Information Code: 812B

5.125.12.1.12.1.1 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.

5.125.12.1.12.1.2 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 US Navy air capable ships and the relative merits and disadvantages of each. Reference shall be made to Chapter 5 for complete information on crated and intermodal shipments.

5.125.12.1.12.1.3 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 (MSC) 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 MSC will supervise all loading and tiedown procedures.

5.125.12.1.12.1.4 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.

5.125.12.1.12.1.5 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. Insure 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. Insure 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.

5.125.12.1.12.1.6 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 for part and quantity required, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.

5.125.12.1.12.1.7 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.125.12.1.12.1.8 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.

5.125.12.1.12.1.9 Facility requirements.

Indicate specific requirements such as shelter, fire protection, electrical power, fresh water, and grounding.

5.125.12.1.12.1.10 Aircraft security.

Physical security requirements during preparation and shipment shall be listed.

5.125.12.1.12.1.11 Safety.

State general safety considerations applicable to shipment by vessel.

5.125.12.1.12.1.12 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.

5.125.12.1.12.2 Section II – Tactical shipment.

This section shall contain all information pertaining to transporting aircraft in a tactical configuration by vessel.

5.125.12.1.12.2.1 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 5.125.12.1.11 for details of the type of information that will go into this paragraph.

5.125.12.1.12.2.2 Loading – Vessel, Tactical.

Data Module Type: Procedural Information Code: 831F

Detailed information shall be presented for loading the aircraft for LOLO and RORO vessels.

a. For LOLO vessels detailed instructions shall be included for installing hoisting equipment and tag lines (guide ropes) on the aircraft. Diagrams and/or drawings shall be included as required for clarification. Rigging procedures shall be complete and not reference other publications. Step-by-step instructions shall be provided for loading each aircraft and piece of equipment on-board the vessel. Instructions for maintaining hatch clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed. Hoisting procedures shall be complete without reference to other publications.

b. State detailed procedures for loading aircraft on RORO ships. Provide the maximum ramp angles that the aircraft can negotiate without shoring.

c. A plan drawing of the deck shall be provided indicating the placement of aircraft and components.

5.125.12.1.12.2.3 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.

5.125.12.1.12.2.4 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.

5.125.12.1.12.2.5 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.

5.125.12.1.12.3 Section III – Logistical shipment.

This section shall contain all information specific to transporting the aircraft in maximum density logistical configuration.

5.125.12.1.12.3.1 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 5.125.12.1.11 shall be followed for details of the type of information that will go into this paragraph.

5.125.12.1.12.3.2 Loading – Vessel, Logistical.

Data Module Type: Procedural Information Code: 831G

Detailed information shall be presented for loading the aircraft for LOLO and RORO vessels.

a. For LOLO vessels detailed instructions shall be included for installing hoisting equipment and tag lines (guide ropes) on the aircraft. Diagrams and/or drawings shall be included as required for clarification. Rigging procedures shall be complete and not reference other publications. Step-by-step instructions shall be provided for loading each aircraft and piece of equipment on-board the vessel. Instructions for maintaining hatch clearance shall be provided as required. Diagrams and/or drawings shall be provided as needed. Hoisting procedures shall be complete and not reference 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.

5.125.12.1.12.3.3 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.

5.125.12.1.12.3.4 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.

5.125.12.1.12.3.5 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.

5.125.12.1.12.4 Section IV – Shipment by US 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).

5.125.12.1.12.4.1 Preparing the aircraft- Vessel, US Navy Capable.

Data Module Type: Descriptive Information Code: 800U

This paragraph shall detail all requirements for preparing the aircraft for shipment on an air capable vessel. The categories of information to be entered here shall include: drawings; required resources (equipment, consumable materials, and manpower requirements); disassembly, preservation and packing; and load plan. Paragraph shall be followed for details of the type of information that will go into this paragraph. The differences in preparation requirements shall be specified for aircraft that will be operated and /or maintained during transport and those that will not.

5.125.12.1.12.4.2 Loading – Vessel, US 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 US 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.

5.125.12.1.12.4.3 Tiedown – Vessel, US 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.

5.125.12.1.12.4.4 Unloading – Vessel, US Navy Capable.

Data Module Type: Procedural Information Code: 841H

This paragraph shall provide all information needed to unload the aircraft.

5.125.12.1.12.4.5 Depreservation and reassembly – Vessel, US Navy Capable.

Data Module Type: Procedural Information Code: 870M

Provide step-by-step procedures for depreservation and reassembly to return the aircraft to flyable status. Reference appropriate maintenance manuals by chapter for the procedures. Tasks that are unique to transportability shall be completely described with drawings and diagrams provided as needed.

5.125.12.1.13 Shipment of Army Aircraft – Chapter 4 – Shipment by Truck.

5.125.12.1.13.1 Section I – Shipment of Aircraft – General.

Data Module Type: Descriptive Information Code: 812B

5.125.12.1.13.1.1 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.

5.125.12.1.13.1.2 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 US 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 US 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."

5.125.12.1.13.1.3 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 insure 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 insure the availability of appropriate lifting devices for unloading the aircraft.

c. Prepare the aircraft for shipment.

d. Provide all necessary equipment and materials to prepare, load, and secure aircraft to the trailer.

e. Furnish and rig all lifting devices.

f. Provide lifting device operator with technical assistance, if needed, in lifting the aircraft.

g. Secure aircraft and components to the trailer as specified in the preparations for shipment manual.

5.125.12.1.13.1.4 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 for part and quantity required, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.

5.125.12.1.13.1.5 Material requirements.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.125.12.1.13.1.6 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.

5.125.12.1.13.1.7 Facility requirements.

Specific facility needs shall be listed.

5.125.12.1.13.1.8 Safety requirements.

Safety considerations applicable to shipment by truck shall be listed.

5.125.12.1.13.2 Section II – Aircraft recovery and tactical transport.

This section shall contain information relevant to tactical shipment and recovery of the aircraft by truck.

5.125.12.1.13.2.1 Shipping Characteristics – Aircraft Recovery.

Data Module Type: Descriptive Information Code: 800G

Drawings. Left side, front, and top view drawings shall be made of the aircraft prepared for shipment and secured to the M270A1 trailer.

Dimensions. The length, height, and width of the trailer and the overall length, height, and width of the load shall be stated.

Capabilities. Capabilities of the M270A1 trailer shall be listed.

Limitations. Limitations of the loaded trailer shall be discussed including terrain, surface, slope, speed, weight, and permit requirements.

Load characteristics. Gross weight, and axle load and spacing for the shipment shall be provided.

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 insure 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."

5.125.12.1.13.2.2 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 for part and quantity required, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 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 for detailed information on preservation and packaging and to Appendix G 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:

a. 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.

b. 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.

c. 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.

d. 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.

5.125.12.1.13.3 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 5.125.12.1.13.2.

5.125.12.1.14 Shipment of Army Aircraft – Chapter 5 – Crated and Intermodal Container Shipment.

5.125.12.1.14.1 Section I – Shipment of Aircraft – General (Crated shipment).

Data Module Type: Descriptive Information Code: 812B

5.125.12.1.14.1.1 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)."

5.125.12.1.14.1.2 Characteristics.

This paragraph shall include the intended use of crated shipment, intended modes of transport, and the advantages and disadvantages of crated shipment.

5.125.12.1.14.1.3 Handling methods.

Handling methods and devices shall be identified, described, and pictured as required.

5.125.12.1.14.1.4 Security requirements.

Physical security needs relevant to crated shipment of the aircraft and components shall be indicated.

5.125.12.1.14.1.5 Facility requirements.

Information on facility requirements such as shelter, overhead crane, electricity, etc., required during crating of the aircraft shall be provided.

5.125.12.1.14.1.6 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 for part and units of issue, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.

5.125.12.1.14.1.7 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.125.12.1.14.1.8 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.

5.125.12.1.14.1.9 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 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.

5.125.12.1.14.1.10 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.

c. Include the list of materials, working drawings, and instructions for constructing the crates.

d. Include step-by-step instructions for packing the aircraft and components. A drawing shall be included showing the completed crating.

e. This subparagraph shall contain marking information. It shall include the following:

a. Mark each side and end of each crate with 2-inch letters, “USE NO GRAB HOOKS”.

b. Stencil opening instructions in 1-inch letters on one end of each crate.

c. 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

d. strips.

e. Indicate sling points by conspicuous arrows and “SLING HERE” in 1-inch letters.

f. 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)”.

g. 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. See MIL-STD-129 (part 4) for additional reference.

5.125.12.1.14.1.11 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.

5.125.12.1.14.2 Section II – Shipment of Aircraft – General (Intermodal container shipment).

Data Module Type: Descriptive Information Code: 812B

5.125.12.1.14.2.1 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)."

5.125.12.1.14.2.2 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.

5.125.12.1.14.2.3 Drawings.

Drawings showing interior dimensions of containers and of the aircraft prepared for containerized shipment shall be provided.

5.125.12.1.14.2.4 Security requirements.

Physical security requirements for containerized shipment shall be listed.

5.125.12.1.14.2.5 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.

5.125.12.1.14.2.6 Safety requirements.

Indicate special safety considerations applicable to containerized shipment.

5.125.12.1.14.2.7 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 for part and quantity required, Chapter 7 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.

5.125.12.1.14.2.8 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D for part number and unit of issue. Include a table to show comparative data for consumable materials, for each type of shipment.

5.125.12.1.14.2.9 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.

5.125.12.1.14.2.10 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.

5.125.12.1.14.2.11 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.

5.125.12.1.14.2.12 Tiedown – Intermodal Container.

Data Module Type: Procedural Information Code: 811P

This paragraph shall contain all information required to tiedown aircraft and components in the container.

a. List equipment and material requirements needed to tiedown the aircraft and components. Instructions for use of tiedown equipment shall be provided.

b. Detailed procedures for tiedown shall be included. Provide plan, front, rear, and side views to show tiedown installation.

5.125.12.1.14.2.13 Unloading – Intermodal Container.

Data Module Type: Procedural Information Code: 841J

Provide step-by-step procedures for unloading the container.

5.125.12.1.14.2.14 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.

5.125.12.1.15 Shipment of Army Aircraft – Chapter 6 – Preservation and Packaging.

5.125.12.1.15.1 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.

5.125.12.1.15.2 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 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. Materials. All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D 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.

Step-by-step procedures for cleaning the aircraft shall be listed. Reference shall be made to specific procedures in maintenance manuals.

5.125.12.1.15.3 Section III – Preservation of aircraft.

Data Module Type: Procedural Information Code: 811B

Rationale shall be provided for preserving aircraft for the various periods of inactivity.

a. 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.

b. Materials. List materials needed for aircraft preservation by noun nomenclature , reference number, and quantity. Make reference to Appendix D for part number and unit of issue. Provide a table indicating materials needed for each term of inactivity.

c. 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.

Step-by-step procedures for preserving aircraft for each period of inactivity shall be listed. Reference procedures in maintenance manuals, as applicable.

5.125.12.1.15.4 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 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. 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 and referenced.

5.125.12.1.15.5 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 insure that they will be installed in the proper position.

c. Preservation information. Note that such information shall be supplied by tagging each aircraft in a conspicuous location with the following:

"AIRCRAFT PRESERVED FOR UP TO (insert specified number of days)",

and

"REPRESERVE IF NOT ACTIVATED BY (insert that date which is equal to the "preserved to" date plus a specified number of additional days)".

The same information shall be included with the shipping documents.

5.125.12.1.15.6 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.

5.125.12.1.16 Shipment of Army Aircraft – Chapter 7 – Transportability Equipment Fabricated at Unit Level.

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.

5.125.12.1.17 Shipment of Army Aircraft – Chapter 8 – Operator and Maintenance Instructions for Transportability Equipment Including Illustrated Parts Data.

5.125.12.1.17.1 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.

5.125.12.1.17.2 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.

5.125.12.1.17.3 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, Source Maintenance Recoverability (SMR) Code, NSN, Commercial and Government Entity (CAGE) Code, 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.

5.125.12.1.18 Shipment of Army Aircraft – Chapter 9 – External Transport by Helicopter (Aerial Recovery).

5.125.12.1.18.1 Section I – Aerial Recovery - General.

Data Module Type: Descriptive Information Code: 812F

5.125.12.1.18.1.1 General.

5.125.12.1.18.1.2 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.

5.125.12.1.18.1.3 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.

5.125.12.1.18.1.4 Safety.

Safety considerations applicable to external transport by helicopter shall be listed. This shall include inspection and load testing of rigging equipment.

5.125.12.1.18.1.5 Structurally damaged aircraft.

Include the following statement in Chapter 9 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.”

5.125.12.1.18.1.6 Drag.

Data shall be presented in the TM/IETP concerning the approximate flat plate drag equivalent of the external load.

5.125.12.1.18.2 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.

5.125.12.1.18.2.1 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.

5.125.12.1.18.2.2 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 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 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.

5.125.12.1.18.2.3 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.

5.125.12.1.18.3 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.

5.125.12.1.18.4 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.

5.125.12.1.18.5 Section V – Aerial Recovery - Dual Cargo Hook Hard Point Lift.

Data Module Type: Procedural Information Code: 812J

This section shall provide all information required to rig and transport the helicopter using the airframe hard points as the lift point and a recovery helicopter equipped with dual cargo hooks. The paragraphs and subparagraphs in this section shall have the same format and the same type of information found in Section II.

5.125.12.1.18.6 VI – Aerial Recovery - Single Cargo Hook Belly Band Lift.

Data Module Type: Procedural Information Code: 812M

5.125.12.1.18.6.1 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.

5.125.12.1.18.6.2 Alternate methods.

The five methods of aerial recovery discussed in Chapter 9 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.

5.125.12.1.19 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.

5.125.12.1.20 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.

5.125.12.1.21 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.

5.125.12.1.22 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, part number, 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.

5.125.12.1.23 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, part number, 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.

5.125.12.1.24 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.

5.125.12.1.25 Shipment of Army Aircraft – Appendix G – Heat Shrink Film Protective Covering.

5.125.12.1.25.1 Preparation of Aircraft – Protective Covering.

Data Module Type: Procedural Information Code: 812Q

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.

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.

Fuel and battery vents. This paragraph shall list procedures to insure that fuel and battery vents are vented to the atmosphere during shipment.

Installation of ventilators. Information on the need to vent the covering and instructions for the installation of ventilators shall be provided.

5.125.12.1.25.2 Hoisting.

Data Module Type: Procedural Information Code: 812R

Procedures for hoisting the aircraft with the shrink film covering installed shall be provided.

5.125.12.1.25.3 Tiedown - General.

Data Module Type: Procedural Information Code: 811F

Procedures for restraining the aircraft with shrink film covering installed shall be listed.

5.125.12.1.25.4 Enroute maintenance.

Data Module Type: Procedural Information Code: 664B

Instructions shall be provided for enroute maintenance of the shrink film.

5.125.12.1.25.5 Shipment of Aircraft - Protective Covering, Removal.

Data Module Type: Procedural Information Code: 812S

Procedures shall be provided for the removal of shrink film covering.

5.125.12.1.26 Shipment of Army Aircraft – Tools and equipment, Consumable materials, and Manpower.

Data Module Type: Descriptive Information Code: 802A

5.125.12.1.26.1 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 for fabrication of equipment at the unit level, and Chapter 8 for equipment operating instructions, as applicable.

5.125.12.1.26.2 Consumable materials.

All consumable materials shall be listed by nomenclature, reference number, NSN, and quantity required. Reference Appendix D for part number and unit of issue. Include a table to show comparative data for consumable materials for each type of shipment.

5.125.12.1.26.3 Manpower.

An estimate shall be made of the personnel needs, required man-hours, and elapsed time for application and removal of heat shrink film.

5.125.12.1.27 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.

5.125.12.1.28 Shipment of Army Aircraft – Rear Matter.

See 5.132.1 for rear matter content requirements

5.125.12.2 Project decisions.

5.125.12.2.1 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 information set. 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.

5.126 S1000D Chapter 5.2.3.1 – Land/Sea specific information sets – Crew/operator descriptive information

5.126.1 Army business rules.

The information referenced in S1000D Chapter 5.2.3.1 is not required for US 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.

5.126.2 Project decisions.

None.

5.127 S1000D Chapter 5.2.3.2 – Land/sea specific information sets – Crew/operator operation

5.127.1 Army business rules.

The information referenced in S1000D Chapter 5.2.3.2 is not required for US 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.

5.127.2 Project decisions.

None.

5.128 S1000D Chapter 5.2.3.3 – Land/sea specific information sets – Crew/operator sequential operation

5.128.1 Army business rules.

The information referenced in S1000D Chapter 5.2.3.3 is not required for US 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.

5.128.2 Project decisions.

None.

5.129 S1000D Chapter 5.2.3.4 – Land/sea specific information sets – Crew/operator fault detection, isolation and resolution

5.129.1 Army business rules.

The information referenced in S1000D Chapter 5.2.3.4 is not required for US 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.

5.129.2 Project decisions.

None.

5.130 S1000D Chapter 5.2.3.5 – Land/sea specific information sets – International, national and regulatory scheduled check

5.130.1 Army business rules.

The information referenced in S1000D Chapter 5.2.3.5 is not required for US 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.

5.130.2 Project decisions.

None.

5.131 S1000D Chapter 5.3.1.1 – Common requirements – Front matter

5.131.1 Front Matter – Page Oriented Materials

5.131.1.1 Army business rules.

5.131.1.1.1 Content, Page-based.

Material preceding the first text data module for all manuals except those referenced in 5.131.1.1.2 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.

5.131.1.1.2 Content, Reduced page-based.

For Hand Receipts, Checklists, MWOs, Demilitarization of Surplus Items, Warranty Technical Bulletins, Depot Test, Measurement, and Diagnostic Equipment manuals, material preceding the first text data module shall consist of the following descriptive DMs in the order specified below. All other front matter content is prohibited. (R=Required, AR=As Required [Project Decision])

a. (R) Front cover (auto generated from publication module meta data)

b. (AR) 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.

5.131.1.1.3 Front cover.

5.131.1.1.3.1 General.

A front cover shall be prepared for each publication using a descriptive data module. Unless otherwise specified the front cover shall contain the following content information in the order listed. If the front cover is generated by a publishing system it is not required to be prepared with a Descriptive data module. (R=Required, AR=As Required [Project Decision])

a. (AR) Security classification.

b. (R) Publication module code.

c. (AR) National Overhaul Standard Statement (DMWRs/NMWRs with NMP Overhaul Standards Only).

d. (R) Publication title.

e. (AR) National stock number (NSN) for item(s) covered.

f. (AR) End Item Code (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.

5.131.1.1.3.2 National Overhaul Standards statement (NMWR/DMWR 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".

5.131.1.1.3.3 National Stock Number (NSN) and End Item Code (EIC).

National Stock Number (NSN) and End Item Code (EIC) shall be included on the front cover of equipment publications but may not be required for general equipment and other types of publications.

5.131.1.1.3.4 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)."

5.131.1.1.3.5 Supersedure notice.

When a supersedure notice is included, an asterisk (*) shall prefix the supersedure notice and the publication module code.

5.131.1.1.3.6 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 of any other markings on the document, it will not be downgraded or declassified without written approval of the originating United States agency."

5.131.1.1.3.7 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 DoD 5230.24.

5.131.1.1.3.8 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."

5.131.1.1.3.9 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 DoD 5230.24.

5.131.1.1.3.10 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.

5.131.1.1.3.11 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.

5.131.1.1.4 Promulgation letter (MC Only).

Data Module Type: Descriptive Information Code: 023M

A promulgation letter provided by the acquiring activity shall be included.

5.131.1.1.5 Safety summary (Warning summary).

Data Module Type: Descriptive Information Code: 012J

The Warning Summary is a general description of the warnings that should be provided in the front of the publication using a descriptive data module. The warning summary is not a word-for-word repetition of all the warnings in the publication and should be limited to alerting the user of the different types of hazards, in general terms, that will be encountered in operating and maintaining the weapon system or equipment covered within the manual. Icons used throughout the manual should be included in the warning summary at the beginning of the manual along with their definitions. The warning summary shall include first aid data, and explanations of all general safety warning icons and hazardous material icons used in the manual. It shall also include descriptions and hazardous materials warnings that have major impact throughout the publication. Only warnings that meet these criteria shall be included. Warnings shown in the warning summary shall not be acknowledged. As applicable, the warning summary shall consist of the following in the order specified below:

a. First aid data

b. Warning icons

c. Warning description.

d. Hazardous materials icons

e. Hazardous materials descriptions

5.131.1.1.5.1 First aid.

First Aid data shall be included in warning summary. The first paragraph shall reference FM 4-25.11, First Aid. Any additional first aid data not described in FM 4-25.11 shall be described in this section.

5.131.1.1.5.2 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.

5.131.1.1.6 Revision summary.

Data Module Type: Descriptive Information Code: 003C

Revision summary data 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 number and 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).

5.131.1.1.7 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.

c. Depot Maintenance Work Requirements (DMWRs).

d. National Maintenance Work Requirement (NMWRs).

e. Preventive Maintenance Services (PMS) Manuals.

f. Preventive Maintenance Inspections Manuals.

g. Aircraft Troubleshooting Manuals.

h. Technical Bulletins (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.

5.131.1.1.7.1 List of effective data modules content

The LOEDM shall contain data module code, title, sequence number, and issue number. (JS)

5.131.1.1.7.2 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.

5.131.1.1.7.3 Dates of Issue for Changes.

At the top of the LOEDM, the date of the basic manual and the date of each change that appears in the change number column shall be listed.

5.131.1.1.8 Title page.

Data Module Type: Descriptive Information Code: 001B

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.

5.131.1.1.8.1 Reporting errors and recommending improvements statement.

A reporting errors and recommending improvements statement shall appear below the prime title, NSN, EIC, and subtitle (if any) on the title block page. The mailing address, e-mail address, and fax number of the responsible proponent shall be inserted in the statement. Additional information may be added as required by the acquiring activity (e.g., how to submit an electronic 2028).

a. Unclassified/standard publication. Except for classified publications, oversize publications, pocket size publications, and publications with less than eight pages, the following statement shall precede the table of contents title.

(1) Army only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual directly to: (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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: (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via email or by fax. Our fax number is (insert DSN and commercial number of proponent). Our e-mail address is (insert address of proponent). A reply will be furnished to you."

b. Pocket size publications, oversize publications, and publications with less than eight pages. For pocket-size publications, oversize publications, and publications with less than eight pages, the following statement shall precede the table of contents title.

(1) Army only publications. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 (name and address of proponent). You may also send in your recommended changes via electronic 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 (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 (name and address of proponent).

(b) (MC) Marine Corps - Address your correspondence to (name and address of proponent).

(c) (N) Navy - Address your correspondence to (name and address of proponent).

(d) (F) Air Force - Address your correspondence to (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."

Preventive maintenance services and phased maintenance inspection manuals title block page with warning data (Aviation only). For preventive maintenance services and phased maintenance inspection only, the warning data page shall include the reporting errors and recommending improvement statement and the following additional verbatim statement.

"WARNING

Certain inspections are Mandatory Safety-of-Flight requirements, and the inspection intervals cannot be exceeded. In the event these inspections cannot be accomplished at the specified

interval, the aircraft condition status symbol will be changed to a red X. Mandatory Safety-of-Flight inspection items are printed in bold face type.

NOTE

Inspection items contained in this manual are considered the minimum requirements for performing phased maintenance and shall be performed. The cumulative effects of inspection deferrals are unknown and could result in catastrophic failure or increased maintenance at a later date. Therefore, the use of special lettering to emphasize Mandatory Safety-of-Flight Items is not to be construed as authority for deferral of other inspections."

5.131.1.1.9 Table of Contents.

Data Module Type: Descriptive Information Code: 009A

5.131.1.1.9.1 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 Functional Group Codes (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, Part Number and (as applicable) reference designator cross-reference indexes shall be listed.

5.131.1.1.9.2 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)

5.131.1.1.9.3 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)

5.131.1.1.9.4 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)

5.131.1.1.10 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.

5.131.1.1.11 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, Preventive Maintenance Checks and Services (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.

5.131.1.1.11.1 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.

"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."

5.131.1.2 Project decisions.

5.131.1.2.1 Part figures.

When a publication includes the parts information chapter, the listing of part figures in the table of contents is optional.

5.131.1.2.2 Access illustrations.

The project shall decide if Access illustrations should be included and what should be contained in Access illustrations.

5.131.1.2.3 List of symbols.

The project shall decide if List of symbols should be included and what should be contained in List of symbols.

5.131.1.2.4 Technical standard record.

The project shall decide if Technical standard record should be included and what should be contained in Technical standard record.

5.131.1.2.5 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.

5.131.2 Front Matter – IETP.

5.131.2.1 Army business rules.

5.131.2.1.1 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)

e. (AR) Revision summary (information code 003C) [1]

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)

[1] A revision summary is required only when changes exist in the manual.

5.131.2.1.2 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.

5.131.2.1.3 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.

5.131.2.1.4 Promulgation letter (MC Only).

Data Module Type: Descriptive Information Code: 023M

A promulgation letter provided by the acquiring activity shall be included.

5.131.2.1.5 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:

a. First aid data. The first paragraph shall reference FM 4-25.11, First Aid. 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.

5.131.2.1.5.1 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.

5.131.2.1.6 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.

5.131.2.1.7 Identification information.

Data Module Type: Descriptive Information Code: 001B

Identification information shall be prepared for each IETP. Identification information shall include National Stock Number (NSN) and End Item Code (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/NMWR/DMWR with NMP Overhaul Standards only).

d. (R) TM title.

e. (AR) National stock number (NSN) for item(s) covered (when required).

f. (AR) End Item Code (EIC), as specified in the Army Master Data File (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.

t. (R) User feedback link.

5.131.2.1.7.1 IETP number.

IETPs shall be numbered the same as page-based publications in accordance with 5.80.1.1. Publication medium shall never be IETP, IETM, ETM, or EP. The number shall not include additional words such as Apache or HEMMIT.

5.131.2.1.7.2 National Overhaul Standards statement (NMWR/DMWR 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".

5.131.2.1.7.3 Weapon system name.

When required the name of the weapon system to which this publication applies shall be included.

5.131.2.1.7.4 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 electronic mail or by fax. Our fax number is (insert DSN and commercial number of proponent). Our e-mail address is (insert address of proponent). A reply will be furnished to you."

(2) Marine Only TM. The following statements shall be included:

"REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this IETP. If you find any mistakes or if you know of a way to improve the procedures, please let us know. If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of a NAVMC Form 10772, Recommended Changes to Publications and Blank Forms. Your IETP may include a partially completed NAVMC Form 10772. Print out the form and complete filling in the pertinent information. For IETPs without a printable NAVMC Form 10772, blank forms should be available through your publications system. Complete the NAVMC Form 10772 and mail it directly to: (Insert name and address of proponent). If you are unable to obtain a NAVMC Form 10772, you may provide the recommendations by letter to the above address. You may also send in your recommended changes via electronic 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) (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) (MC) 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) (N) 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) (F) Air Force - If your IETP supports online forms, fill in the electronic publication change request and when connected to the internet, transmit the form. If your IETP does not support online forms, obtain a copy of an AFTO Form 22, Technical Order Publications Improvement Report. Your IETP may include a partially completed AFTO Form 22. Print out the form and complete filling in the pertinent information. For IETPs without a printable AFTO Form 22, blank forms should be available through your publications system. Complete the AFTO Form 22 and mail it directly to: (Insert name and address of proponent). If you are unable to obtain an AFTO Form 22, you may provide the recommendations by letter to the above address. You may also send in your recommended changes via electronic 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…"

5.131.2.1.7.5 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)."

5.131.2.1.7.6 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.

5.131.2.1.7.7 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."

5.131.2.1.7.8 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.

5.131.2.1.7.9 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.”

5.131.2.1.7.10 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.

5.131.2.1.7.11 General purpose notice.

When specified by the acquiring activity, additional notice(s) may be included that are not addressed by the notices in 5.2.1.6.7 through 5.2.1.6.11. The notice shall have a title followed by the notice text.

5.131.2.1.7.12 Service nomenclature.

All TMs shall include the service or acquiring activity’s nomenclature

5.131.2.1.7.13 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).

5.131.2.1.7.14 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.

5.131.2.1.8 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.

5.131.2.1.9 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)

5.131.2.1.10 How to use this manual.

Data Module Type: Descriptive Information Code: 018B

a. 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, Preventive Maintenance Checks and Services (PMCS) are explained; and repair, maintenance instructions, and other pertinent information are explained. b. 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.

b. 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.

c. 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.

d. An explanation on how to identify hotspots and how they are used and activated.

e. 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.

f. 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.

g. 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.

h. An explanation and use of all icons and buttons.

i. A link may be made to an IETP tutorial (when required) to explain use of the IETP.

j. 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."

5.131.2.1.11 Reporting errors and recommending improvements (DA Form 2028).

Data Module Type: Descriptive Information Code: 023B

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.

5.131.2.1.12 Blank forms.

Unless otherwise specified, blank forms (DA Form 2028) shall not be included in IETPs.

5.131.2.1.13 Glossary.

If a glossary or index is used in an IETP, it shall be located in the general information section.

5.131.2.2 Project decisions.

5.131.2.2.1 "How To Use This IETP" information.

Project shall decide whether to prepare "How To Use This IETP" information.

5.132 Common requirements – Rear matter

5.132.1 Rear Matter – Page oriented manuals

5.132.1.1 Army business rules.

5.132.1.1.1 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) [1]

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)

[1] Maintenance Test Flight, Checklists, and manuals smaller than A-size do not require DA-Form 2028.

5.132.1.1.2 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.

5.132.1.1.3 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 number, 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.

5.132.1.1.4 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).

5.132.1.1.5 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.

5.132.1.1.6 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 number. For classified publications, security classification markings shall be included on the back cover. When applicable, a metric conversion table, covering applicable units included in the publication, shall be placed on the inside back cover. The PIN number shall be placed in the lower right hand corner of the back cover.

5.132.1.2 Project decisions.

5.132.1.2.1 Alphabetical index use.

Project shall determine the use of an alphabetical index.

5.132.1.2.2 Alphabetical index detail.

The alphabetical index may be an index of data modules only or it may be a detailed index.

5.132.2 Rear Matter – IETP

No rear matter is required for IETP.

5.133 S1000D Chapter 5.3.1.1 – Common requirements – Technical content

5.133.1 Army business rules.

The technical content referenced in S1000D Chapter 5.3.1.2 is not required for US Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.133.2 Project decisions.

None.

5.134 S1000D Chapter 5.3.1.3 – Common requirements – Illustrated parts data

5.134.1 Army business rules.

The parts data referenced in S1000D Chapter 5.3.1.3 are not required for US Army TMs/IETPs. Refer to the Content Selection matrices and 5.36.2.5 for content requirements.

5.134.2 Project decisions.

None.

5.135 S1000D Chapter 5.3.2 – Publications – Requirements for air specific publications

5.135.1 Army business rules.

The air specific publications referenced in S1000D Chapter 5.3.2 are not required for US Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.135.2 Project decisions.

None.

5.136 S1000D Chapter 5.3.2.1 – Air specific publications – Aircrew information

5.136.1 Army business rules.

The aircrew information referenced in S1000D Chapter 5.3.2.1 is not required for US Army TMs/IETPs. Refer to the Content Selection matrices and 5.125 for content requirements.

5.136.2 Project decisions.

None.

5.137 S1000D Chapter 5.3.2.2– Air specific publications – Cross servicing guide

5.137.1 Army business rules.

The cross servicing guide referenced in S1000D Chapter 5.3.2.2 is not required for US Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.137.2 Project decisions.

None.

5.138 S1000D Chapter 5.3.3 – Publications – Requirements for land/sea specific publications

5.138.1 Army business rules.

The land/sea publications referenced in S1000D Chapter 5.3.3 are not required for US Army TMs/IETPs. Refer to the Content Selection matrices for content requirements.

5.138.2 Project decisions.

None.

5.139 S1000D Chapter 6 – Information presentation/use

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

Chapter 6	Information presentation/use
Chapter 6.1	Information presentation/use – Introduction
Chapter 6.3	Information presentation/use – IETP
Chapter 6.4.3	Functionality – Acquisition management

5.140 S1000D Chapter 6.2 – Information presentation/use – Page-oriented publications

5.140.1 Army business rules.

5.140.1.1 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)

5.140.2 Project decisions.

None.

5.141 S1000D Chapter 6.2.1 – Information presentation/use – Page layout, paper publications, headers and footers

5.141.1 Page layout.

5.141.1.1 Army business rules.

5.141.1.1.1 Page size.

Technical manual page sizes shall be selected from the following list:

a. Standard page size shall be 11 inches by 8 ½ inches. The usable area shall be 10 inches by 7 1/4 inches. In addition to standard manuals, the following shall also use the standard page size:
    1. Operator's technical manual
    2. Alternate operator's Maintenance Test Flight (MTF) manual
    3. Alternate operator's checklist
b. Double standard page size shall be 17 inches by 11 inches. The usable area shall be 15 3/4 inches by 9 inches.
c. Logbook page size shall be 9 ½ inches by 6 ½ inches. The usable area shall be 8 ½ inches by 5 ½ inches.
d. Pocket page size shall be 5 ½ inches by 4 inches. The usable area shall be 5 inches by 3 1/8 inches.
e. The standard operator's checklist and standard operator's MTF manual page size shall be 4 ½ inches wide by 8 inches in length. Usable area: 3 1/2 x 7 1/2.

5.141.1.1.2 Text position.

Text shall be positioned above and below the illustration, and not on the illustration’s left or right sides.

5.141.1.1.3 Pocket-size manuals.

Text for pocket-size manuals shall be on the right-hand pages with supporting illustration on the facing left-hand pages.

5.141.1.1.4 Emergency procedures.

The checklist pages that contain emergency procedure information/steps shall have heavy black diagonal lines around three edges. However, for operator's alternate checklists, page borders for emergency procedures shall be placed in the left and right margins only, instead of on three sides of the page.

5.141.1.1.5 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.

5.141.1.1.6 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)

5.141.1.2 Project decisions.

5.141.1.2.1 Page sizes.

Project shall determine when to use the available page sizes.

5.141.1.2.2 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.

5.141.1.2.3 Use of double column text.

The project shall decide whether to use double column text or not, and under what circumstances.

5.141.2 Header and footer

5.141.2.1 Army business rules.

5.141.2.1.1 Logotype.

Manufacturer’s, project’s, or sponsor’s logotype shall not be included in the header.

5.141.2.1.2 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.

5.141.2.1.3 Use.

Headers and footers shall be prepared for all pages except covers, authentication pages, and forms (e.g., DA Form 2028).

5.141.2.1.4 Use of mirrored headers and footers.

Mirrored headers and footers shall be used (to accomplish double-sided printing).

5.141.2.1.5 End of…

The words “End of [data module title]” shall be placed at the end of every data module.

5.141.2.2 Project decisions.

5.141.2.2.1 Applicability.

When applicability is used, the project shall determine the use of either applicability codes, or a human readable expression.

5.141.3 Page identification

5.141.3.1 Army business rules.

5.141.3.1.1 Presentation of publication module code.

The project shall use the S1000D standard page-oriented presentation rules for the publication module code.

5.141.3.1.2 Presentation of data module code.

The project shall use the S1000D standard page-oriented presentation rules for the data module code.

5.141.3.1.3 Presentation of issue date.

The project shall use the S1000D standard page-oriented presentation rules for the issue date.

5.141.3.1.4 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.

5.141.3.1.5 Presentation of page number.

The project shall use the S1000D standard page-oriented presentation rules for the page number.

5.141.3.1.6 Presentation of applicability annotation.

The project shall use the S1000D standard page-oriented presentation rules for the applicability annotation.

5.141.3.1.7 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”.

5.141.3.1.8 Blank pages, numbering.

A blank page shall be assigned a number, but it shall appear on the preceding or following page.

5.141.3.1.9 Use of page numbers.

Page numbers shall be published as follows:

a. Each data module shall initially be assigned a four digit data module sequence number beginning with the number 0001. The data module sequence numbers shall run consecutively throughout the manual.

b. Pages shall be numbered with the data module-sequence number followed by a page number beginning at 1 separated by a hyphen. For example, "0021-4" is the 4th page in the 21st data module in a manual.

c. If a data module needs to be inserted between two existing data modules, the new data module-sequence number is increased by a decimal number. For example if a data module is added between the 21st and 22nd data modules, its number will be 0021.1. When a manual is revised, data modules shall be renumbered so that there are no decimal sequence numbers. (JS)

5.141.3.1.10 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.

5.141.3.1.11 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.

5.141.3.2 Project decisions.

5.141.3.2.1 Double sided printing of foldout pages.

The project shall decide whether to use double sided printing on foldout pages.

5.141.4 Security markings.

5.141.4.1 Army business rules.

5.141.4.1.1 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.

5.141.4.1.2 Markings.

Classification markings are not required at the top and bottom of pages in an unclassified manual.

5.141.4.1.3 Commercial classification.

Commercial classification (value of attribute `commercialClassificiation`) shall not be presented.

5.141.4.1.4 End of data module.

A dynamic phrase comprised of the words "End of " followed by the data module title shall be presented in the body following one blank line following the last item (e.g. line of text, graphic, table) in the content.

5.141.4.2 Project decisions.

5.141.5 Folding and binding.

5.141.5.1 Army business rules.

5.141.5.1.1 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.

5.141.5.1.2 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.

5.141.5.1.3 Use with IPD.

Foldouts shall not be used in illustrated parts data (IPD) or operator-only manuals.

5.141.5.1.4 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>`.

5.141.5.2 Project decisions.

5.141.5.2.1 Foldouts.

The project shall determine if and when to use foldouts.

5.142 S1000D Chapter 6.2.2 – Information presentation/use – Typography – Layout elements

5.142.1 Font.

5.142.1.1 Army business rules.

5.142.1.1.1 Text.

All text (except where fixed font is required) shall be written in Arial font. (JS)

5.142.1.1.2 Fixed font.

Fixed font, if needed, shall be Courier New.

5.142.1.1.3 Text color.

Only black print shall be used for operator's checklist manuals.

5.142.1.2 Project decisions.

None.

5.142.2 Headings and titles.

5.142.2.1 Army business rules.

5.142.2.1.1 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)

5.142.2.1.2 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).

5.142.2.1.3 Fig. caption.

The caption "Fig." shall not be added before the figure number in the list of illustrations.

5.142.2.1.4 Table caption.

The caption "Table" shall not be added before the table number in the list of tables.

5.142.2.2 Project decisions.

None.

5.142.3 Paragraphs of text.

5.142.3.1 Army business rules.

5.142.3.1.1 Text justification.

Text shall be left margin justified, with ragged (unjustified) right-hand edge. (JS)

5.142.3.1.2 Primary paragraphs.

Primary paragraph titles shall be capital case. Block text shall start on a separate line and shall have a blank line between title and text block.

5.142.3.1.3 Subparagraphs.

Subparagraph Level 1 shall be flush left. Titles shall be bold and title case. Block text shall start on a separate line and shall have a blank line between title and text block. Subparagraph Level 2 shall be flush left. Titles shall be bold, title case, and end with a period. Block text shall start immediately after the title. Subparagraph Level 3 shall indent first line 5 spaces and the remaining text flush left. Titles shall be bold, title case and end with a period. Block text shall start immediately after the title. Subparagraph Level 4 shall indent first line 10 spaces and the remaining text flush left. Titles shall be bold, title case and end with a period. Block text shall start immediately after the title.

5.142.3.1.4 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.

5.142.3.1.5 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.

5.142.3.1.6 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).

5.142.3.1.7 Emphasis.

The `<emphasis>` tag (e.g., bold text) shall not be used. In cases where text has special meaning the element `<inlineSignificantData>` (see 5.59.1.30) or the attribute `quantityType` (see 5.59.1.24) shall be used with appropriate attribute values that can be styled as needed.

5.142.3.1.8 Project decisions.

None.

5.142.4 Lists.

5.142.4.1 Army business rules.

5.142.4.1.1 Checklist titles.

All checklist titles shall be left justified and in 10 point 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.)".

5.142.4.2 Project decisions.

None.

5.142.5 Footnotes.

5.142.5.1 Army business rules.

5.142.5.1.1 Inline footnotes.

Inline footnotes shall not be used.

5.142.5.1.2 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.

5.142.5.1.3 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)

5.142.5.2 Project decisions.

None.

5.142.6 Tables.

5.142.6.1 Army business rules.

5.142.6.1.1 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.

5.142.6.1.2 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.

5.142.6.1.3 Linking.

Tables shall be linked to the appropriate text to allow for display.

5.142.6.1.4 Column headers.

Table column headers shall be in boldface, uppercase letters.

5.142.6.1.5 Vertical rule.

All tables shall have outside vertical rules.

5.142.6.1.6 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.

5.142.6.1.7 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.

5.142.6.2 Project decisions.

None.

5.142.7 Figures.

5.142.7.1 Army business rules.

5.142.7.1.1 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.

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)

5.142.7.1.2 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)

5.142.7.2 Project decisions.

5.142.7.2.1 Color.

Unless specified otherwise by the acquiring activity, black and shades of black (gray scale) shall be used for figures in page oriented publications.

5.142.8 Warnings, cautions, and notes.

5.142.8.1 Army business rules.

5.142.8.1.1 Placement.

Warnings and cautions shall appear as follows:

a. Warnings shall be presented immediately after the associated title (if present) and immediately preceding the associated text.

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)

5.142.8.1.2 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.

5.142.8.1.3 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.

5.142.8.1.4 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.

5.142.8.1.5 Indentation.

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

5.142.8.1.6 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)

5.142.8.1.7 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).

5.142.8.2 Project decisions.

5.142.8.2.1 Use of numbered notes within a data module.

The project shall decide whether to use numbered notes within a data module or not.

5.142.9 Highlighted text.

5.142.9.1 Army business rules.

The attribute `emphasisType` shall not be used. In cases where text has special meaning the element `<inlineSignificantData>` (see 5.59.1.30) or the attribute `quantityType` (see 5.59.1.24) shall be used with appropriate attribute values that can be styled as needed.

5.142.9.2 Project decisions.

None.

5.142.10 Change marks.

5.142.10.1 Army business rules.

5.142.10.1.1 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.

5.142.10.1.2 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)

5.142.10.1.3 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)

5.142.10.1.4 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.

5.142.10.1.5 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.

5.142.10.1.6 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.

5.142.10.1.7 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.

5.142.10.1.8 Presentation of data module titles in the reference table.

Data module titles shall be presented in the reference table.

5.142.10.2 Project decisions.

5.142.10.2.1 Presentation of publication module/non S1000D publication titles in the reference table.

The project shall decide whether to present the title (element `<pmTitle>`/element `<externalPubTitle>`) or the short title (element `<shortPmTitle>`/element `<shortExternalPubTitle>`), or both, in the reference table.

5.142.10.2.2 Inline presentation of non S1000D publication titles.

The project shall decide whether to present the external publication code (element `<externalPubCode>`), the title (element `<externalPubTitle>`) or the short title (element `<shortExternalPubTitle>`) as the inline reference.

5.142.10.2.3 Presentation of name of spares, supplies and support equipment.

The project shall decide whether to present the name (element `<name>`) or the abbreviated alternate name (element `<shortName>`), as the cross-reference in the text.

5.142.11 Aircraft Operator Style and Format.

5.142.11.1 Army business rules

5.142.11.1.1 Linear dimensions.

Except for weight and balance values in Chapter 6 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 and 9 of an Operator’s manual shall be stated in bold capital lettering in the text and on illustrations.

5.142.11.1.2 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

5.142.11.1.3 Emergency procedures.

Emergency procedure pages (Chapter 9) of the operator's manual that contain emergency procedure information/steps shall have heavy black diagonal lines around three edges

5.142.11.1.4 Designator symbols.

Designator symbols such as 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`" (see 5.59.1.30). 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.

5.142.11.1.5 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.

5.142.11.2 Project decisions.

None.

5.143 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.

5.144 S1000D Chapter 6.3.1 – IETP – Output specification

5.144.1 General.

5.144.1.1 Army business rules

5.144.1.1.1 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)

5.144.1.1.2 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.

5.144.1.1.3 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).

5.144.1.1.4 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.

5.144.1.2 Project decisions.

None.

5.144.2 Title bar.

5.144.2.1 Army business rules

The Title Bar shall contain the publication module code, publication module title and security classification of the displayed publication module (if the publication is classified). (JS)

5.144.2.2 Project decisions.

None.

5.144.3 Inner shell.

5.144.3.1 Army business rules

The inner shell shall contain, as a minimum:

a. Reset area

b. Table of contents panel

c. Navigation panel

d. Subtitle bar

e. Main menu bar

f. Main content area (JS)

5.144.3.2 Project decisions.

5.144.3.2.1 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.

5.144.3.2.2 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.

5.144.4 Table of contents panel.

5.144.4.1 Army business rules

5.144.4.1.1 General.

The table of contents panel shall include at a minimum (links to):

a. Table of contents

b. Safety summary (as applicable)

c. List of illustrations

d. List of tables (JS)

5.144.4.1.2 TOC order.

TOC information shall be displayed in the order mandated by the applicable content selection matrix.

5.144.4.1.3 TOC items.

TOC items shall be generated from the data module titles which contain official nomenclature from the parts information.

5.144.4.1.4 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.

5.144.4.1.5 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.

5.144.4.1.6 References.

TOC references shall require a single click.

5.144.4.2 Project decisions.

5.144.4.3 Additional TOC items.

The project shall decide the use of additional items in the TOC.

5.144.5 Reset area.

5.144.5.1 Army business rules

5.144.5.1.1 General.

The mandatory reset area provides a special mechanism for navigation and preferences.

5.144.5.1.2 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.

5.144.5.1.3 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)

5.144.5.1.4 Functions.

The reset area shall provide the following mandatory functions:

a. Reset user interface to standard default view.

b. View revision summary/link to highlights

c. Exit reset area menu

d. Suspend (conditional).

e. Restart (conditional)

If any of the above are not applicable to the data module being displayed, it shall be grayed out. (JS)

5.144.5.1.5 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.

5.144.5.2 Project decisions.

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.

5.144.6 Navigation panel.

5.144.6.1 Army business rules

5.144.6.1.1 Placement.

The navigation panel shall appear above the main content area.

5.144.6.1.2 Subtitle bar.

The subtitle bar is mandatory and shall not be toggled off.

5.144.6.1.3 Subtitle bar contents.

The Subtitle Bar shall contain the data module code, data module title and security classification of the displayed data module (if the data module or the publication module is classified). (JS)

5.144.6.1.4 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.

5.144.6.1.5 Main menu bar.

The main menu bar is mandatory and shall not be toggled off.

5.144.6.1.6 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)

5.144.6.1.7 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.

5.144.6.1.8 Custom IETP functions.

Any custom functions that the IETP provides shall be placed in the additional information bar.

5.144.6.1.9 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.

5.144.6.1.10 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 XLIV. Session control icons.

SESSION	DESCRIPTION	INDICATOR	ICON
Complete	Normal exit save and update history. Clear state table.	Icon: Check Mark (Wingdings 2 #080) Text: Complete (Optional)	✓
Suspend	Save current state and do not update history.	Icon: Pause (two vertical bars) (Webdings #059) Text: Pause Session (Optional)	
Restart	Reinstate previous suspended session.	Text: Session Restart	Session Restart
Abort	Browse only - Do not save session or update history. Clear state table.	Icon: Rain Clouds (Webdings #219) Text: Abort (Optional)	

5.144.6.1.11 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 XLV. Bookmark icons.

BOOKMARK	FUNCTION	INDICATOR	ICON
Create	Shall ask whether creating or navigating to Bookmark.	Icon: Open Book (Wingdings #038) Location: Additional information bar.	

BOOKMARK	FUNCTION	INDICATOR	ICON
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) Location: Additional information bar.	🕮
Minimized	Indicates location is a bookmark.	Icon: Open Book (Wingdings #038) Location: Content pane.	🕮

5.144.6.1.12 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 XLVI. 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) 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) Location: Content pane.	✍

5.144.6.1.13 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.

Table XLVII. Redline function icons.

ELEMENT	FUNCTION	INDICATOR	ICON
Redline mode	Toggle on and off redline functionality	Icon: Red pencil (Wingdings #033) 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) Location: Additional information bar.	🗋

ELEMENT	FUNCTION	INDICATOR	ICON
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) Location: Content pane.	🗋

5.144.6.1.14 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 XLVIII. 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) 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) 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) Location: Additional information bar.	⇉
Mode indicator	Denotes to user the system is in browse mode.	Icon: Eyeglasses (Wingdings #036) Text: Browse Mode On 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) Text: Browse Mode Off Location: Status bar	👓⃠
End	Ends browse mode capability by single click on icon button. Denotes to user the system is not in browse mode.	Icon: Eyeglasses unselected (Wingdings #036) Location: Additional information bar.	👓

5.144.6.1.15 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 XLIX. Navigation icons.

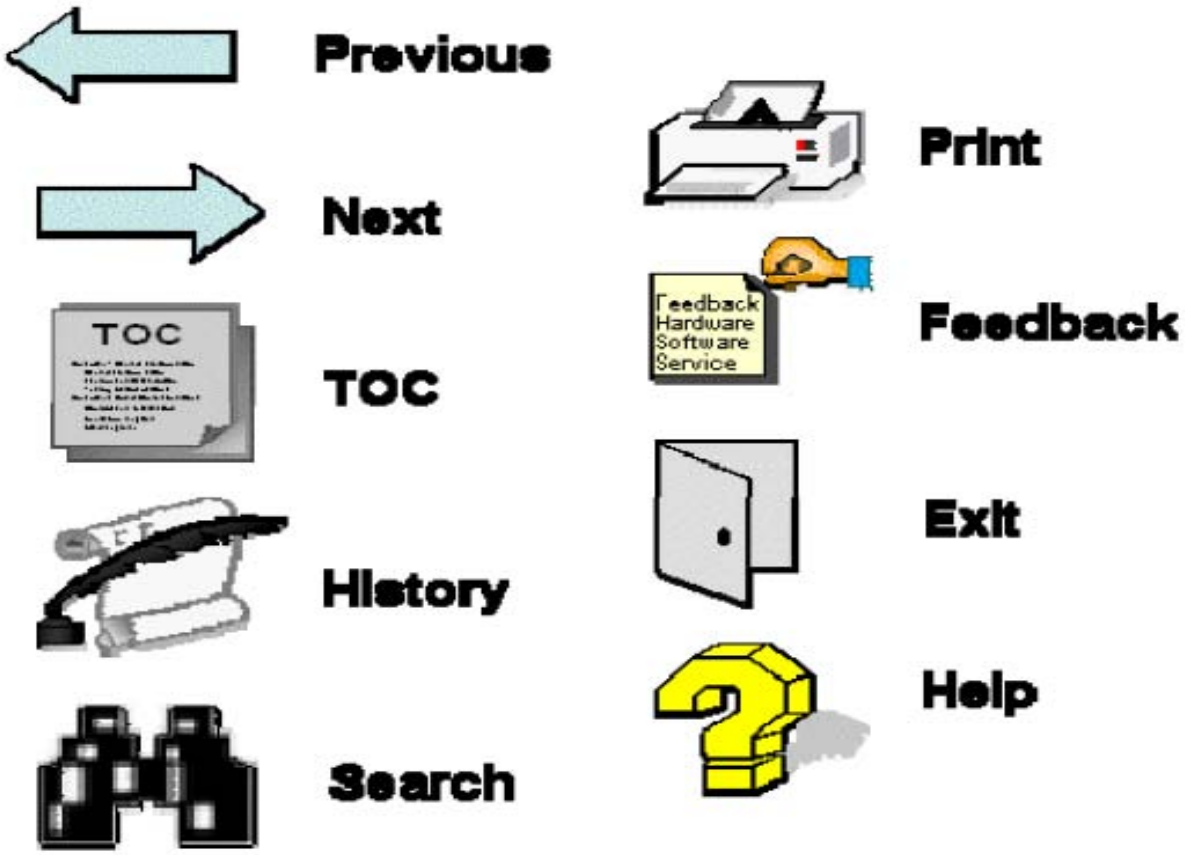
ELEMENT	FUNCTION	INDICATOR	ICON
Save to a disk	Save a graphic to a disk	Icon: 3.5” Floppy Disk (Wingdings #060) Location: Navigation panel	🖫
Print	Print the graphic	Icon: Printer (Wingdings 2 #054) Location: Navigation panel	🖶
E-Mail	E-mail the graphic	Icon: Unopened envelope (Wingdings #042) Location: 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	✋

5.144.6.2 Project decisions.

5.144.6.2.1 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.

Figure 1. Main menu bar navigation icons.



5.144.6.2.2 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.

5.144.7 Inner shell status bar.

5.144.7.1 Army business rules

5.144.7.1.1 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.

5.144.7.1.2 Toggle.

The inner shell status bar shall have the capability to be toggled on or off.

5.144.7.2 Project decisions.

None.

5.144.8 Main content area.

5.144.8.1 Army business rules

There are no Army business rules in this section.

5.144.8.1.1 Project decisions.

None.

5.144.9 Style and format

5.144.9.1 Army business rules

5.144.9.1.1 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)

5.144.9.1.2 Font (specific).

Arial font shall be used for all titles, headings, narrative, callouts and special characters.

5.144.9.1.3 IETP font size

Text shall not be displayed smaller than 8 points. (JS)

5.144.9.2 Project decisions.

5.144.9.2.1 Font size.

The minimum recommended font size is 12 pt. Based on intended viewing environment, projects may decide upon an alternate minimum font size.

5.144.10 Dialog boxes.

5.144.10.1 Army business rules

5.144.10.1.1 Curser movement.

Cursor movement within dialog boxes shall be consistent throughout the IETP.

5.144.10.1.2 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).

5.144.10.1.3 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.

5.144.10.1.4 Push buttons, general.

Dialog boxes shall contain graphical controls called push buttons as a means for the user to communicate with the IETP.

5.144.10.1.5 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.

5.144.10.1.6 Push button functions.

The common function push buttons shall be displayed in the following order centered along the bottom of the dialog box: ""OK"", and where they exist, ""CANCEL"" and ""HELP".

a. The “OK” push button shall communicate the entered or selected information to the IETP and proceed to the next action.

b. The “CANCEL” push button shall not send user-inputted information to the IETP and the IETP shall return to its previous display.

c. The “HELP” function shall provide further information about the current dialog box in message dialog box.

5.144.10.2 Project decisions.

5.144.10.2.1 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.

5.144.10.2.2 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).

5.144.10.2.3 Display.

The project shall specify in their project-specific business rules how the viewer will handle dialogs (pop-up vs. in-line).

5.144.11 Lists.

5.144.11.1 Army business rules

There are no Army business rules in this section.

5.144.11.2 Project decisions.

None.

5.144.12 Steps/Procedural.

5.144.12.1 Army business rules

Procedural steps and their corresponding illustrations shall be presented together. Illustrations shall not be presented with non-corresponding steps.

5.144.12.2 Project decisions.

None.

5.144.13 Tables.

5.144.13.1 Army business rules

5.144.13.1.1 Table titles.

Table titles shall appear above the table. If a table is scrollable, the table shall have "sticky" column headers.

5.144.13.1.2 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)

5.144.13.1.3 Shading.

If shading alternate rows is decided by the project, the alternate shaded rows shall be gray (Hexadecimal value: #CECECE).

5.144.13.2 Project decisions.

5.144.13.2.1 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.

5.144.13.2.2 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.

5.144.14 Hyperlinks.

5.144.14.1 Army business rules

5.144.14.1.1 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.

5.144.14.1.2 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.

5.144.14.1.3 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.

5.144.14.1.4 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.

5.144.14.1.5 Display.

Hyperlink formatting shall be consistent throughout the IETP.

5.144.14.2 Project decisions.

None.

5.144.15 Warnings, cautions, and notes.

5.144.15.1 Army business rules

5.144.15.1.1 Placement.

Warnings and cautions shall appear in-line as follows:

a. For tasks, they shall follow the title of the associated task.

b. For procedures, they shall follow the title of the associated procedure.

c. For steps, they shall precede the associated step.

d. Alert paragraphs shall be indented from left and right margins.

5.144.15.1.2 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.

5.144.15.1.3 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.

5.144.15.1.4 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.

5.144.15.1.5 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.

5.144.15.1.6 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.

5.144.15.1.7 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.

5.144.15.1.8 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).

5.144.15.1.9 Acknowledgement of alerts.

If acknowledgment of alerts is used, alerts shall be displayed and acknowledged as follows:

a. An "OK" pushbutton in the alert shall be used for acknowledgment. The text following the alert shall not be displayed until the alert is acknowledged. The alerts shall stay inline after the user acknowledges the alert. All functions (including the scrolling function if provided) shall be disabled until the alert has been acknowledged.

b. When multiple alerts are displayed in the same pane, the "OK" pushbutton in each alert shall be used for acknowledgment. The text following an alert shall not be displayed until that alert is acknowledged.

c. When alerts apply to the entire task or procedure, the alerts shall be displayed in-line prior to the applicable data.

d. After an alert has been acknowledged, the applicable persistent alert icon shall be displayed in the status bar of the inner shell and remain persistent until the applicable step, task and/or procedure has been completed. Clicking on the persistent alert icon, at any time during the task or procedure, shall display the applicable alert(s).

5.144.15.1.10 Icons.

The following rules apply to warning and caution icons.

a. Equipment damage caution icons shall be approved by the acquiring activity. Icons used shall be defined in the General Data data module (info code 010A) under the list of abbreviations/acronyms.

b. The use of standardized icons to improve readers' recognition of hazards is required (https://www.logsa.army.mil/mil40051/tmsspecs.cfm). Additional non-standardized warning icons shall be approved by the acquiring activity.

c. Hazards that result from a combination of materials shall clearly be identified to indicate that mixing or combining the materials creates the hazard.

d. Hazardous materials warnings with icons consist of a WARNING header, the icon(s), and a full description of the hazardous material and the precautions to be taken.

5.144.15.1.11 Hazardous materials icons

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

5.144.15.1.12 Notes, placement.

Notes shall appear in-line as follows:

a. For tasks, they shall follow the title of the associated task.

b. For procedures, they shall follow the title of the associated procedure.

c. For steps, they shall precede the associated step.

5.144.15.1.13 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.

5.144.15.1.14 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.

5.144.15.1.15 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.

5.144.15.1.16 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.

5.144.15.2 Project decisions.

5.144.15.2.1 Acknowledgement of Alerts.

The project shall determine if acknowledgement of alerts will be required.

5.144.16 Change marks.

5.144.16.1 Army business rules

5.144.16.1.1 General.

Each change shall be discretely marked or identified in the IETP.

5.144.16.1.2 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.

5.144.16.1.3 Links.

There shall not be links from changed material to the highlights page.

5.144.16.1.4 Reason for update.

Reason for update shall not be displayed to the user (via pop up or any other means).

5.144.16.2 Project decisions.

None.

5.144.17 Acronyms and abbreviations.

5.144.17.1 Army business rules

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.

5.144.17.2 Project decisions.

None.

5.144.18 Illustrations.

5.144.18.1 Army business rules

5.144.18.1.1 Modes of visual indication.

The following shall be the three acceptable modes of visual indication of hotspots in graphics:

a. Persistent visual indication that an area is hot.

b. Cursor changes shape or color when cursor is over a hotspot area.

c. Object changes shape or color when cursor is over a hotspot area.

5.144.18.1.2 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.

5.144.18.1.3 Tool tips.

Tooltips shall not be used in IPD graphics.

5.144.18.2 Project decisions.

5.144.18.2.1 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).

5.144.18.2.2 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).

5.144.18.2.3 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.

5.144.19 Printed output from IETP.

5.144.19.1 Army business rules

5.144.19.1.1 General.

The IETP shall 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)”.

5.144.19.2 Project decisions.

None.

5.145 S1000D Chapter 6.4 – Information presentation/use – Functionality.

5.145.1 Army business rules

5.145.1.1 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)

5.145.2 Project decisions.

None.

5.146 S1000D Chapter 6.4.1 – Functionality – Background and explanation

5.146.1 Access.

5.146.1.1 Army business rules

5.146.1.1.1 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.

5.146.1.1.2 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.

5.146.1.1.3 Suspend.

The ability to suspend a session at any time (e.g., for a break or emergency) shall be provided.

5.146.1.1.4 Restart.

A restart function shall be capable of restarting the session at the same point it was suspended.

5.146.1.1.5 Restart conditions.

At the time of restart, the user shall be advised that some key parameters/condition settings may be out-of-date.

5.146.1.1.6 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).

5.146.1.2 Project decisions.

None.

5.146.2 Annotations.

There are no Army business rules or project decisions in this section.

5.146.3 Delivery and distribution.

5.146.3.1 Army business rules

5.146.3.1.1 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 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.

5.146.3.1.2 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.

5.146.3.1.3 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. Delivery of the source file shall be in accordance with MIL-STD-1840, or as directed by the contracting activity. XML applications shall contain: document instance and a style sheet.

5.146.3.2 Project decisions.

None.

5.146.4 Diagnostics.

5.146.4.1 Army business rules

5.146.4.1.1 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.

5.146.4.1.2 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.

5.146.4.2 Project decisions.

None.

5.146.5 External processes.

There are no Army business rules or project decisions in this section.

5.146.6 Graphics.

5.146.6.1 Army business rules

5.146.6.1.1 Photos.

Photos shall not be the primary instruction to perform the task, but shall be a supplement to the narrative instruction.

5.146.6.2 Project decisions.

None.

5.146.7 Linking.

There are no Army business rules or project decisions in this section.

5.146.8 Navigation and tracking.

5.146.8.1 Army business rules.

5.146.8.1.1 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

5.146.8.1.2 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.

5.146.8.1.3 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.

5.146.8.1.4 Browse, distinct visual indication.

The presentation system shall provide a distinct visual indication that the system is in browse mode.

5.146.8.1.5 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.

5.146.8.2 Project decisions.

5.146.8.2.1 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.

5.146.9 Printing.

There are no Army business rules or project decisions in this section.

5.146.10 Special content.

5.146.10.1 Army business rules

5.146.10.1.1 Multimedia.

Multimedia shall never be the primary means of presenting information.

5.146.10.1.2 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.

5.146.10.1.3 Classified information.

Neither audio nor video shall be provided for classified information.

5.146.10.1.4 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.

5.146.10.1.5 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.

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 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.

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.

5.146.10.2 Project decisions.

None.

5.146.11 Updates.

There are no Army business rules or project decisions in this section.

5.146.12 User operation mode.

There are no Army business rules or project decisions in this section.

5.147 S1000D Chapter 6.4.2 – Functionality – Functionality matrices

5.147.1 Army business rules.

5.147.1.1 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
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.

5.147.2 Project decisions.

5.147.2.1 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.

5.148 S1000D Chapter 7 – Information processing.

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

Chapter 7	Information processing
Chapter 7.3.1	CSDB objects – Data module Schema
Chapter 7.3.1.1	Data module Schema – Version summary
Chapter 7.3.1.2	Data module Schema – Modular structure

Chapter 7.3.1.3	Data module Schema – Invocation
Chapter 7.3.1.4	Data module Schema – Backwards compatibility
Chapter 7.3.1.5	Data module Schema – Configuration of attributes
Chapter 7.3.2	CSDB objects – Graphics
Chapter 7.4	Information processing – Generation of publications
Chapter 7.4.1	Generation of publications – IETP
Chapter 7.4.1.2	IETP – Resource resolution
Chapter 7.4.2	Generation of publications – Publication module Schema
Chapter 7.4.2.1	Publication module Schema – Version summary
Chapter 7.5	Information processing – Information interchange
Chapter 7.5.2	Information interchange – Interchange Schemas
Chapter 7.5.2.1	Interchange Schema – Version summary
Chapter 7.5.4	Information interchange – LOM metadata
Chapter 7.6	Information processing – Software requirements
Chapter 7.6.1	Software requirements – Process data module requirements
Chapter 7.7	Information processing – Guidance and examples
Chapter 7.7.1	Guidance and examples – Logic engine
Chapter 7.7.2	Guidance and examples – Process data module nodes
Chapter 7.7.3	Guidance and examples – Resource resolution
Chapter 7.7.4	Guidance and examples – XLink
Chapter 7.7.5	Guidance and examples – XPath

5.149 S1000D Chapter 7.1 – Information processing – Introduction.

5.149.1 Army business rules.

5.149.1.1 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 (www.s1000d.org) shall be used.

5.149.2 Project decisions.

None.

5.150 S1000D Chapter 7.2 – Information processing – Basic concepts.

5.150.1 Army business rules.

5.150.1.1 Use of XML.

Data modules shall be coded in XML.

5.150.1.2 XML and the CSDB.

Authored data modules and publication modules shall reside in the CSDB in XML format.

5.150.1.3 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.

5.150.2 Project decisions.

None.

5.151 S1000D Chapter 7.3.3 – CSDB Objects – Multimedia.

5.151.1 Army business rules.

None

5.151.2 Project decisions.

5.151.2.1 Use of multimedia.

The project shall determine if multimedia is suitable for the environment in which the project will operate.

5.151.2.2 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

5.151.2.3 Capture rates.

To ensure consistency of a given type, the project shall determine the capture rates to be used.

5.151.2.4 Multimedia types.

The project shall determine the multimedia types used.

5.152 S1000D Chapter 7.4.1.1 – IETP – Generation process.

5.152.1 Army business rules.

5.152.1.1 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.

5.152.1.2 Use of S1000D Schemas

S1000D provided Schemas shall not be modified. (JS)

5.152.1.3 Resource description framework metadata.

rdf.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.152.1.4 Dublin core metadata.

dc.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.152.1.5 Xlink.

xlink.xsd shall be used and the metadata shall be auto generated during the publication process. (JS)

5.152.2 Project decisions.

None.

5.153 S1000D Chapter 7.4.3 – Generation of publications – Inclusion of legacy information.

5.153.1 Army business rules.

None.

5.153.2 Project decisions.

5.153.2.1 Population of the element `<externalpubCode>`.

The project shall decide the preferred syntax applied to identify legacy data by a publication code.

5.153.2.2 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.

5.153.2.3 Method to include legacy information in an 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.

5.153.2.4 IETP reference format.

The project shall decide the syntax and semantic of the links established to reference legacy data.

5.154 S1000D Chapter 7.5.1 – Software interchange – File based transfer.

5.154.1 Army business rules.

None.

5.154.2 Project decisions.

5.154.2.1 Use of file compression techniques.

The project shall decide whether to use compression techniques on files being transferred or not.

5.154.2.2 Defined file formats.

The project shall decide on the allowable file formats, if any, beyond those given in S1000D Chapter 7.5.1.

5.154.2.3 Use of multimedia.

The project shall decide on the use of multimedia.

5.154.2.4 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.

5.154.2.5 Training SMC extensions.

The project shall decide whether to use the learn code and learn event code or not.

5.155 S1000D Chapter 7.5.3 – Information interchange – RDF/DC metadata.

5.155.1 Army business rules.

None.

5.155.2 Project decisions.

5.155.2.1 Inclusion of 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.

5.156 S1000D Chapter 7.6.2 – Software requirements – Resource resolution service.

5.156.1 Army business rules.

5.156.1.1 Resource resolution.

The guidelines in S1000D Chapter 7.6.2 shall be used when implementing a resolution service.

5.156.2 Project decisions.

None.

5.157 S1000D Chapter 7.8 – Information processing – Applicability.

5.157.1 Army business rules.

None.

5.157.2 Project decisions.

5.157.2.1 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.

5.157.2.2 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.

5.158 S1000D Chapter 8 – Standard numbering systems, information and learn codes.

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

Chapter 8.0	Standard numbering systems, information codes and learn codes
Chapter 8.2	Maintained SNS
Chapter 8.4.1	Information codes – Short definitions
Chapter 8.4.2	Information codes – Full definitions
Chapter 8.5	SNS, information codes and learn codes – Learn codes
Chapter 8.5.1	Learn codes – Human performance technology codes
Chapter 8.5.2	Learn codes – Training codes

5.159 S1000D Chapter 8.1 – SNS, information and learn codes – General.

5.159.1 Army business rules.

None.

5.159.2 Project decisions.

5.159.2.1 Use of SNS.

The project shall decide whether to use the maintained SNS, the example SNS or to write their own.

5.160 S1000D Chapter 8.2.1 – Maintained SNS – Generic.

5.160.1 Army business rules.

5.160.1.1 Generic SNS.

The generic SNS provided in S1000D Chapter 8.2.1 shall be used by project decision only in cases where a data module applies across multiple model identification codes or applies to no specific model identification code.

5.160.1.2 Equipment-based SNS.

Unless the generic SNS provided in S1000D Chapter 8.2.1 is used, the SNS used in data modules shall apply to the breakdown of the equipment for which it applies.

5.160.2 Project decisions.

5.160.2.1 Use of the Generic SNS.

Within the constraints of 5.160.1.1, the project shall decided if and how to use the generic SNS provided in S1000D Chapter 8.2.1.

5.160.2.2 Definitions.

If the Generic SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.161 S1000D Chapter 8.2.2 – Maintained SNS – Support and training equipment

5.161.1 Army business rules.

None.

5.161.2 Project decisions.

5.161.2.1 Use of the support and training equipment SNS.

The project shall decided if and how to use the support and training equipment SNS provided in S1000D Chapter 8.2.2.

5.161.2.2 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".

5.162 S1000D Chapter 8.2.3 – Maintained SNS – Ordnance

5.162.1 Army business rules.

None.

5.162.2 Project decisions.

5.162.2.1 Use of the ordnance SNS.

The project shall decided if and how to use the ordnance SNS provided in S1000D Chapter 8.2.3.

5.162.2.2 Definitions.

If the ordnance SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.163 S1000D Chapter 8.2.4 – Maintained SNS – General communications

5.163.1 Army business rules.

None.

5.163.2 Project decisions.

5.163.2.1 Use of the general communications SNS.

The project shall decided if and how to use the general communications SNS provided in S1000D Chapter 8.2.4.

5.163.2.2 Definitions.

If the general communications SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.164 S1000D Chapter 8.2.5 – Maintained SNS – Air vehicle, engines and equipment

5.164.1 Army business rules.

None.

5.164.2 Project decisions.

5.164.2.1 Use of the air vehicle SNS.

The project shall decided if and how to use the air vehicle SNS provided in S1000D Chapter 8.2.5.

5.164.2.2 Definitions.

If the air vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.165 S1000D Chapter 8.2.6 – Maintained SNS – Tactical missiles

5.165.1 Army business rules.

None.

5.165.2 Project decisions.

5.165.2.1 Use of the tactical missiles SNS.

The project shall decided if and how to use the tactical missiles SNS provided in S1000D Chapter 8.2.6.

5.165.2.2 Definitions.

If the tactical missiles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.166 S1000D Chapter 8.2.7 – Maintained SNS – General surface vehicles

5.166.1 Army business rules.

None.

5.166.2 Project decisions.

5.166.2.1 Use of the surface vehicles SNS.

The project shall decided if and how to use the surface vehicles SNS provided in S1000D Chapter 8.2.7.

5.166.2.2 Definitions.

If the surface vehicles SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.167 S1000D Chapter 8.2.8 – Maintained SNS – General sea vehicles

5.167.1 Army business rules.

None.

5.167.2 Project decisions.

5.167.2.1 Use of the sea vehicle SNS.

The project shall decided if and how to use the sea vehicle SNS provided in S1000D Chapter 8.2.8.

5.167.2.2 Definitions.

If the sea vehicle SNS is used, the project shall allocate definitions to the SNS that are defined as "Available for projects".

5.168 S1000D Chapter 8.3 – SNS and Information Codes (SNS and IC) – Example SNS – General

5.168.1 Army business rules.

None.

5.168.2 Project decisions.

5.168.2.1 Use of the example SNS.

The project shall decided if and how to use the example SNS provided at http://www.s1000d.org.

5.169 S1000D Chapter 8.4 – Standard Numbering System (SNS) and Information Codes (IC) – Information codes.

5.169.1 Army business rules.

5.169.1.1 Information codes.

The information codes in S1000D Chapter 8.4 and 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.

5.169.1.2 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)

5.169.1.3 Information code use with Schemas

Information codes and information names shall not be restricted to specific schemas. (JS)

5.169.1.4 Information code variants.

Information code variants shall be used as defined in B.5.

5.169.1.5 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.

5.169.2 Project decisions.

None.

5.170 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

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

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-3031 document during retrieval searches,

a. Additional authorization list (AAL)

b. Basic issue items (BII)

c. Basis of issue (BOI)

d. Continuous Acquisition Life-cycle Support (CALS) raster

e. Computer graphics metafile (CGM)

f. Components of end item (COEI)

g. Depot maintenance work requirement (DMWR)

h. Expendable and durable items list

i. Extensible Markup Language (XML)

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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 – Identifies the title of the content requirement.

b. Column Heading: Req'ment – 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.

d. Column Heading: PM Type – Identifies the publication module entry type to be used with the corresponding content (see 5.59.1.23). The publication module type applies to all rows spanned by the cell. Unless otherwise directed by the acquiring activity, a single publication module shallbe 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.4.4 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 www.logsa.army.mil.

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 (Tables Table A-V through Table A-XXXVII) to form the basis for the project publication output requirements.

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.

Table A-I. Publications Types, Titles and Associated Content Matrix Tables.

Title	Applicable Table
IETP Introductory Matter	Table A-II
Page-Based Front Matter	Table A-III
Page-Based Front Matter – Reduced	Table A-III
Page-Based Rear Matter	Table A-V

Table A-I. Publications Types, Titles and Associated Content Matrix Tables.

Title	Applicable Table
Interactive Electronic Technical Publication (IETP)	
Operator Interactive Electronic Technical Publication (IETP)	Table A-VI
Operator & Field and Operator, Field, & Sustainment Maintenance Interactive Electronic Technical Publication (IETP)	Table A-VII
Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP)	Table A-VIII
DMWR & NMWR Interactive Electronic Technical Publication (IETP)	Table A-IX
Excluding Conventional and Chemical Ammunition	
Operator's Manual	Table A-X
Sustainment Maintenance Manual including Parts List	Table A-XI
Field and Sustainment Maintenance Manual including Parts List	
Aviation Field Maintenance Manual including Parts List	Table A-XIII
Parts and Special Tools List	
Depot Maintenance Work Requirements (DMWR) and National Maintenance Work Requirements (NMWR)	Table A-XV
DMWR with Overhaul Standards	
Aviation Field Troubleshooting	Table A-XVII
Aircraft Preventive Maintenance	Table A-XVIII
Aircraft Phased Maintenance Inspection Checklist	Table A-XIX
Conventional and Chemical Ammunition	
Operator's Manual	Table A-XX
Sustainment Maintenance Manual	Table A-XXI
Field and Sustainment Maintenance Manual	Table A-XXII
Specialized Content	
Hand Receipt Technical Manuals	Table A-XXIII
Supplemental Information for Commercial Off-The-Shelf (COTS) Manuals	Table A-XXIV
Preventive Maintenance Checklists	Table A-XXV
Modification Work Orders (MWOs)	Table A-XXVI
Battle Damage Assessment and Repair (BDAR)	Table A-XXVII
Preparation for Shipment of Army Aircraft Manuals	Table A-XXVIII
Depot Maintenance Work Requirements (DMWRs) For Maintenance/Demilitarization of Conventional and Chemical Ammunition	Table A-XXIX
Munition Equipment and Ammunition Data Sheet Manuals	Table A-XXX
Aircraft Operator Technical Manuals	Table A-XXXI
Aircraft Operator Checklist	Table A-XXXII
Maintenance Test Flight Manual	Table A-XXXIII
Demilitarization of Surplus Military Items Manuals	Table A-XXXIV

Table A-I. Publications Types, Titles and Associated Content Matrix Tables.

Title	Applicable Table
Warranty Technical Bulletins (WTBs)	Table A-XXXV
Destruction of Equipment to Prevent Enemy Use Manuals	Table A-XXXVI
Depot Test, Measurement and Diagnostic Equipment Manuals	Table A-XXXVII

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Table A-II. IETP Introductory Matter.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131.2					
Identification Information	R	5.131.2.1.7	Generated from PM metadata		N/A	N/A	Identification Information
(MC) Promulgation Letter	AR	5.131.2.1.4	Front Matter	Descriptive	023	M	Promulgation Letter
DA Form 2028	R	5.132.1.1.3		Descriptive / Comment	023	B	Reporting Errors and Recommending Improvements
Warning Summary	AR	5.131.2.1.5		Descriptive	012	J	Safety summary
Revision Summary Frame	AR	5.131.2.1.6		Descriptive	003	C	Revision Summary
Table of Contents	R	5.131.2.1.8		Descriptive	009	A	Table of Contents
How To Use This IETP	AR	5.131.2.1.10		Descriptive	018	B	How To Use This Manual

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Table A-III. Page-Based Front Matter.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131.1					
Front Cover	R	5.131.1.1.3	Generated from PM metadata		N/A	N/A	Front Cover
Title Block Page	R	5.131.1.1.8	Front Matter PM	Descriptive	001	A	Title Page
(MC) Promulgation Letter	AR	5.131.1.1.4		Descriptive	023	M	Promulgation Letter
Warning Summary	AR	5.131.1.1.5		Descriptive	012	J	Safety summary
Revision Summary	AR	5.131.1.1.5.2		Descriptive	003	C	Revision summary
List of Effective Data Modules	R	5.131.1.1.7		Descriptive	00S	A	List of Effective Data Modules
Table of Contents	R	5.131.1.1.9		Descriptive	009	A	Table of Contents
Glossary		5.131.1.1.10		Descriptive	006	A	List of Terms
How to Use This Manual		5.131.1.1.11		Descriptive	018	B	How to Use This Manual

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Table A-IV. Page-Based Front Matter – Reduced.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131.1					
Front Cover	R	5.131.1.1.3	Generated from PM metadata		N/A	N/A	Front Cover
Title Block Page	R[1]	5.131.1.1.8	Front Matter PM	Descriptive	001	A	Title Page
(MC) Promulgation Letter	AR	5.131.1.1.4		Descriptive	023	M	Promulgation Letter
Table of Contents	R[2]	5.131.1.1.9		Descriptive	009	A	Table of Contents
How to Use This Manual		5.131.1.1.11		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	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Rear Matter	R	5.132.1	Rear Matter PM				
Alphabetical Index		5.132.1.1.2		Descriptive	014	B	Alphabetical Index
Authentication Page	R	5.132.1.1.4		Descriptive	023	C	Authentication Page
DA Form 2028	R[1]	5.132.1.1.3		Descriptive	023	B	Reporting Errors and Recommending Improvements
Foldout Pages		5.132.1.1.5		Descriptive	PD		
Back Cover	R	5.132.1.1.6		Descriptive	001	C	Back Cover

Notes:

[1] Maintenance Test Flight, Checklists, and manuals smaller than A-size do not require DA-Form 2028.

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Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
General Information, Equipment Description and Theory of Operation	R		Chapter PM				
General Information	R	5.96.3		Descriptive	010	A	General Data
Scope	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)		5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	5.96.3.1.5					
Nomenclature Cross-Reference List		5.96.3.1.6					
List of Abbreviations/Acronyms	R	5.96.3.1.7					
Safety, Care, and Handling	AR	5.96.3.1.8					
Calibration		5.96.3.1.9					
Copyright Credit Line		5.96.3.1.11					
Maintenance Forms, Records, and Reports	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	5.96.4.1.3					
Hand Receipt (HR) Information		5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	5.96.4.1.6					
Warranty Information		5.96.4.1.7					
Nuclear Hardness		5.96.4.1.9					

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Equipment Description and Data	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	5.96.5.1.2					
Location and Description of Major Components (not Required for Conventional and Chemical Ammunition IETMs)	R	5.96.5.1.3					
Differences Between Models		5.96.5.1.4					
Equipment Data	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal		5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	5.96.6		Descriptive	042	F	Theory of Operation
Operator Instructions	R	5.95	Chapter PM				
Description and Use of Operator Controls and Indicators	R	5.95.4		Descriptive	111	A	Controls and Indicators
Operation Under Usual Conditions	R	5.95.5					
Security Measures for Electronic Data	AR	5.95.5.1.2		Descriptive	990	D	Security Measures for Electronic Data
Siting Requirements	AR	5.95.5.1.3		Procedural	122	B	Siting Requirements
Shelter Requirements	AR	5.95.5.1.4		Procedural	123	B	Shelter Requirements
Assembly and Preparation for Use	AR	5.95.5.1.5		Procedural	710	B	Assembly and Preparation for Use
Initial Adjustments, Before Use and Self-Test	AR	5.95.5.1.6		Procedural	121	B	Initial Adjustments, Before Use and Self-Test
Operating Procedures	R	5.95.5.1.7		Procedural	131	A	Normal Operation Procedures
Decals and Instruction Plates	AR	5.95.5.1.8		Descriptive	067	A	Decals and Instruction Plates
Operating Auxiliary Equipment	AR	5.95.5.1.9		Procedural	131	A	Normal Operation Procedures
Preparation for Movement	AR	5.95.5.1.10		Procedural	131	S	Preparation for Movement

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Operation Under Unusual Conditions	R	5.95.6					
Security Measures for Electronic Data	AR	5.95.5.1.2		Descriptive	990	C	Security Measures for Electronic Data (Unusual Conditions)
Unusual Environment / Weather	R	5.95.6.1.2		Procedural	142	B	Unusual Environment/Weather
Fording and Swimming	AR	5.95.6.1.3		Procedural	131	R	Fording and Swimming
Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures	AR	5.95.6.1.4		Procedural	139	B	Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures
Jamming and Electronic Countermeasures (ECM) Procedures	AR	5.95.6.1.5		Procedural	144	A	Jamming and Electronic Countermeasures (ECM) Procedures
Degraded Operation Procedures	R	5.95.6.1.6		Procedural	142	C	Degraded Operation Procedures
Emergency		5.95.7		Procedural	140	B	Operation under Emergency Conditions
Stowage and Decal / Data Plate Guide		5.95.8		Descriptive	067	B	Stowage and Decal / Data Plate Guide
On-Vehicle Equipment Loading Plan		5.109.1.1		Crew	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.		5.98	Chapter PM				
Troubleshooting Index		5.98.4		Fault	410	F	Malfunction Index
				Fault	410	B	Symptom Index
				Fault	410	C	System/Subsystem Index

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
***Operational Checkout**	AR	5.98.7		Descriptive	018	V	Introduction
				Procedural	331	B	Pretest Setup Procedures
				Procedural	320	C	Operational Checkout Test Procedure
				Fault	410	G	Message Index
				Fault	410	J	Fault Reports
				Procedural	334	C	Post-Operational Checkout Shutdown Procedures
***Troubleshooting Procedures**	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
				Procedural	331	B	Pretest Setup Procedures
				Fault	421	B	Troubleshooting Procedure
				Procedural	334	B	Post-Troubleshooting Shutdown Procedures
***Diagnostics**	AR	5.146.4		Process	429	A	Diagnostics
Maintenance Instructions	R	5.97	Chapter PM				
***PMCS Introduction**		5.97.6		Descriptive	018	F	PMCS Introduction
***PMCS, Including Lubrication Instructions**		5.97.7		Checklist	200	B	PMCS
Maintenance	R	5.97.9					
Servicing	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Installation	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	5.97.9.1.19.2					
Calibration	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	5.97.9.1.29		Procedural	120	G	Procedures to Activate Ammunition
Additional Maintenance Task	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	5.97.10		Procedural	PD		
General Maintenance		5.97.11		Procedural	PD		
Lubrication Instructions		5.97.12		Procedural	240	B	Lubrication Instructions
Auxiliary Equipment Maintenance Instructions			Chapter PM				
Auxiliary Equipment Maintenance		5.107.2		Procedural	PD		
Ammunition Maintenance Instructions			Chapter PM				
Ammunition Maintenance		5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information		5.97.20		Procedural	067	C	Ammunition Marking
Destruction of Equipment to Prevent Enemy Use		5.111.3	Chapter PM				

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Scope		5.111.3.1.6.2		Descriptive	997	D	Destruction General Information
Authorization		5.111.3.1.6.3					
Reporting Destruction		5.111.3.1.6.4					
General Destruction Information		5.111.3.1.6.5					
Degree of Damage		5.111.3.1.6.6					
Essential Components and Spare Parts		5.111.3.1.6.7					
Specific Destruction Procedures		5.111.3.1.8		Procedural	997	B	Destruction Procedures
Classified Equipment and Documents		5.111.3.1.9		Procedural	997	C	Destruction Procedures - Classified Equipment
Battle Damage Assessment and Repair (BDAR)			Chapter PM				
General Information		5.112.1.4		Descriptive	018	G	Introduction
Assessing Battlefield Damage							
General Fault Assessment Tables		5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair							
Repair Procedure		5.112.1.8.2		Procedural	PD		
Major Functional Groups							
Repair Procedure		5.112.1.8.2		Procedural	PD		
Auxiliary Equipment							
Repair Procedure		5.112.1.8.2		Procedural	PD		
Special or Fabricated Tools		5.112.1.10		Descriptive	605	B	Support Equipment and Tools
Substitute Materials/Parts		5.112.1.12		Descriptive	607	D	Substitute Materials/Parts
Supporting Information	R	5.116.1	Chapter PM				
References	R	5.116.1.1.2		Descriptive	017	B	References
Components of End Item (COEI) and Basic Issue Items (BII) Lists	R	5.103.11 5.103.12		Descriptive	105	D	Components of End Item (COEI) List
				Descriptive	105	C	Basic Issue Items (BII) List
Additional Authorization List (AAL)		5.103.13		Descriptive	104	C	Additional Authorization List (AAL)
Expendable and Durable	R	5.103.14		Descriptive	070	D	Expendable and Durable Items

Table A-VI. Operator Interactive Electronic Technical Publication (IETP).

Content	OPI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Items List							List
Critical Safety Items and Flight Safety Critical Aircraft Parts		5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
				Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information		5.116.1.1.4		Descriptive	PD		

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	5.131	Front Matter PM				
General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Hand Receipt (HR) Information			5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	AR	AR	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components (Not Required for Conventional and Chemical Ammunition TMs)	R	R	5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal	R	R	5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	R	5.96.6		Descriptive	042	F	Theory of Operation
Operator Instructions	R	R	5.95	Chapter PM				
Description and Use of Operator Controls and Indicators	R	R	5.95.4		Descriptive	111	A	Controls and Indicators
Operation Under Usual Conditions	R	R	5.95.5					
Security Measures for Electronic Data	AR	AR	5.95.5.1.2		Descriptive	990	D	Security Measures for Electronic Data
Siting Requirements	AR	AR	5.95.5.1.3		Procedural	122	B	Siting Requirements

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Shelter Requirements	AR	AR	5.95.5.1.4		Procedural	123	B	Shelter Requirements
Assembly and Preparation for Use	AR	AR	5.95.5.1.5		Procedural	710	B	Assembly and Preparation for Use
Initial Adjustments, Before Use and Self-Test	AR	AR	5.95.5.1.6		Procedural	121	B	Initial Adjustments, Before Use and Self-Test
Operating Procedures	R	R	5.95.5.1.7		Procedural	131	A	Normal Operation Procedures
Decals and Instruction Plates	AR	AR	5.95.5.1.8		Descriptive	067	A	Decals and Instruction Plates
Operating Auxiliary Equipment	AR	AR	5.95.5.1.9		Procedural	131	A	Normal Operation Procedures
Preparation for Movement	AR	AR	5.95.5.1.10		Procedural	131	S	Preparation for Movement
Operation Under Unusual Conditions	R	R	5.95.6					
Security Measures for Electronic Data	AR	AR	5.95.5.1.2		Descriptive	990	C	Security Measures for Electronic Data (Unusual Conditions)
Unusual Environment / Weather	R	R	5.95.6.1.2		Procedural	142	B	Unusual Environment/Weather
Fording and Swimming	AR	AR	5.95.6.1.3		Procedural	131	R	Fording and Swimming
Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures	AR	AR	5.95.6.1.4		Procedural	139	B	Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures
Jamming and Electronic Countermeasures (ECM) Procedures	AR	AR	5.95.6.1.5		Procedural	144	A	Jamming and Electronic Countermeasures (ECM) Procedures
Degraded Operation Procedures	AR	AR	5.95.6.1.6		Procedural	142	C	Degraded Operation Procedures
Emergency			5.95.7		Procedural	140	B	Operation under Emergency Conditions
Stowage and Decal / Data Plate Guide			5.95.8		Descriptive	067	B	Stowage and Decal / Data Plate Guide

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
On-Vehicle Equipment Loading Plan			5.109.1.1		Crew	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		Chapter PM				
Introduction			5.125.5		Descriptive	018	C	Troubleshooting Introduction
Technical Description			5.125.6		Descriptive	011	C	Technical Description
Equipment Description and Data			5.125.6.1.1.1					
Controls and Indicators			5.125.6.1.2					
Theory of Operation			5.125.6.1.3					
Troubleshooting Index	AR	AR	5.98.4		Fault	410	F	Malfunction Index
					Fault	410	B	Symptom Index
					Fault	410	C	System/subsystem Index
****Operational Checkout***	AR	AR	5.98.7		Descriptive	018	V	Introduction
					Procedural	331	B	Pretest Setup Procedures
					Procedural	320	C	Operational Checkout Test Procedure
					Fault	410	G	Message Index
					Fault	410	J	Fault Reports
					Procedural	334	C	Post-Operational Checkout Shutdown Procedures
****Troubleshooting Procedures***	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
					Procedural	331	B	Pretest Setup Procedures
					Fault	421	B	Troubleshooting Procedure
					Procedural	334	B	Post-Troubleshooting Shutdown Procedures

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
***Diagnostics**	AR	AR	5.98.8.1.6.2		Process	429	A	Diagnostics
Maintenance Instructions	R	R		Chapter PM				
Service Upon Receipt	R	R	5.97.4					
Siting	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	R	R	5.97.4.1.4					
Unpacking	R	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	R	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	R	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	AR	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	AR	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Circuit Alignment	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Other Service Upon Receipt Task	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)			5.107.1		Procedural	913	B	Equipment/User Fitting Instructions
PMCS Introduction			5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instruction			5.97.7		Checklist	200	B	PMCS
Maintenance	R	R	5.97					
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication			5.97.12		Procedural	240	B	Lubrication instructions

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Auxiliary Equipment Maintenance Instructions				Chapter PM				
Auxiliary Equipment Maintenance			5.107.2		Procedural	PD		
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Ammunition Maintenance Instructions				Chapter PM				
Ammunition Maintenance			5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information			5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)			5.97.21		Procedural	011	B	Foreign Ammunition
Aircraft PMS				Chapter PM				
General Information			5.96.7		Descriptive	010	D	General information
PMS Inspection			5.125.7		Checklist	310	E	PMS Inspection
Aircraft Phased Maintenance				Chapter PM				
General Information			5.96.8		Descriptive	010	E	General Information
PM Inspection			5.125.8		Checklist	310	F	PM Inspection
General Inspection			5.125.8					
Aircraft Area Inspection			5.125.8					
Aircraft Power On Checks			5.125.8					
Aircraft Final Inspection			5.125.8					
Parts Information	R	R		Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Item			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List
NSN Index	AR	AR	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
Part Number Index	AR	AR	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Destruction of Equipment to Prevent Enemy Use			5.111.3	Chapter PM				
Scope			5.111.3.1.6.2		Descriptive	997	D	Destruction General Information
Authorization			5.111.3.1.6.3					
Reporting Destruction			5.111.3.1.6.4					
General Destruction Information			5.111.3.1.6.5					
Degree of Damage			5.111.3.1.6.6					
Essential Components and Spare Parts			5.111.3.1.6.7					
Specific Destruction Procedures			5.111.3.1.8		Procedural	997	B	Destruction Procedures
Classified Equipment and Documents			5.111.3.1.9		Procedural	997	C	Destruction Procedures - Classified Equipment
Battle Damage Assessment and Repair (BDAR)				Chapter PM				
General Information			5.112.1.4		Descriptive	018	G	BDAR Introduction
Assessing Battlefield Damage								
General Fault Assessment Tables			5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair								
Repair Procedure			5.112.1.8		Procedural	PD		
Major Functional Groups								
Repair Procedure			5.112.1.8.2		Procedural	PD		
Auxiliary Equipment								
Repair Procedure			5.112.1.8		Procedural	PD		
Special or Fabricated Tools			5.112.1.10		Descriptive	605	B	Support Equipment and Tools
Substitute Materials/Parts			5.112.1.12		Descriptive	607	D	Substitute Materials/Parts

Table A-VII. Operator & Field and Operator, Field & Sustainment Maintenance Interactive Electronic Technical Publication (IETP).

Content	M3B Req'ment	M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard Format MAC	R (Unit Only)	R (Unit Only)	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	R (Unit Only)	R (Unit Only)	5.104.3		Schedule	916	A	MAC
Components of End Item (COEI) List	R (Operator Only)	R (Operator Only)	5.103.11		Descriptive	105	D	Components of End Item (COEI) List
Basic Issue Items (BII) List	R (Operator Only)	R (Operator Only)	5.103.12		Descriptive	105	C	Basic Issue Items (BII) List
Additional Authorization List (AAL)			5.103.13		Descriptive	104	C	Additional Authorization List (AAL)
Expendable and Durable Items List	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Critical Safety Items (CSI) and Flight Safety Critical Aircraft Parts (FSCAP)			5.103.16		Descriptive	075	E	Critical Safety Items (CSI)
			5.103.17		Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		

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Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	5.131	Front Matter PM				
General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Hand Receipt (HR) Information			5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	R	R	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Quality Assurance (QA) (Aviation Only).	R	P	5.96.4.1.11					
Flight Safety Critical Aircraft Part	R	P	5.96.4.1.12					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components (Not Required for Conventional and Chemical Ammunition IETPs)	R	R	5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal			5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	R	5.96.6		Descriptive	042	F	Theory of Operation

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Troubleshooting Procedures *Note:* The notation (*) indicates that, if required, at least one of these content items shall be included	R	R		Chapter PM				
Introduction			5.125.5		Descriptive	018	C	Troubleshooting Introduction
Technical Description			5.125.6		Descriptive	011	C	Technical Description
Equipment Description and Data			5.125.6.1.1.1					
Controls and Indicators			5.125.6.1.2					
Theory of Operation			5.125.6.1.3					
Troubleshooting Index			5.98.4		Fault	410	F	Malfunction Index
					Fault	410	B	Symptom Index
					Fault	410	C	System/Subsystem Index
****Operational Checkout***	AR	AR	5.98.7		Descriptive	018	V	Introduction
					Procedural	331	B	Pretest Setup Procedures
					Procedural	320	C	Operational Checkout Test Procedure
					Fault	410	G	Message Index
					Fault	410	J	Fault Reports
					Procedural	334	C	Post-Operational Checkout Shutdown Procedures
****Troubleshooting Procedures***	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
					Procedural	331	B	Pretest Setup Procedures
					Fault	421	B	Troubleshooting Procedure
					Procedural	334	B	Post-Troubleshooting Shutdown Procedures

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
***Diagnostics**	AR	AR	5.98.8.1.6.2		Process	429	A	Diagnostics
Maintenance Instructions	R	R		Chapter PM				
Service Upon Receipt	R	R	5.97.4					
Siting	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	AR	AR	5.97.4.1.4					
Unpacking	AR	AR	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	AR	AR	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	AR	AR	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	AR	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	AR	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	AR	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	AR	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	AR	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Additional Service Upon Receipt Task	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)			5.107.1		Procedural	913	B	Equipment/User Fitting Instructions
PMCS Introduction	P		5.97.6		Descriptive	018	F	PMCS Introduction
PMCS	P		5.97.7		Checklist	200	B	PMCS
Preventive Maintenance Inspection (Aircraft Only)	R	P	5.125.9		Checklist	200	D	Preventive Maintenance Inspection
Maintenance	R	R	5.97.9					
Assembly and Preparation for Use (Aviation Only)	AR	P	5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Overhaul and Retirement Schedule (Aviation Only)	AR	P	5.97.9.1.24		Procedural	288	A	Overhaul and Retirement Schedule
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication Instruction			5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Aircraft Inventory Master Guide (Aircraft Only)		P	5.125.10		Descriptive	102	B	Aircraft Inventory Master Guide
Storage of Aircraft (Aircraft Only)		P	5.125.11		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)	R	P	5.105.1		Procedural	160	B	Weighing and Loading
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Auxiliary Equipment Maintenance Instructions				Chapter PM				

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Auxiliary Equipment Maintenance			5.107.2		Procedural	PD		
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Ammunition Maintenance Instructions				Chapter PM				
Ammunition Maintenance			5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information			5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)			5.97.21		Procedural	011	B	Foreign Ammunition
Aircraft PMS				Chapter PM				
General Information			5.96.7		Descriptive	010	D	General Information
PMS Inspection			5.125.7		Checklist	310	E	PMS Inspection
Aircraft Phased Maintenance				Chapter PM				
General Information			5.96.8		Descriptive	010	E	General Information
PM Inspection			5.125.8		Checklist	310	F	PM Inspection
General Inspection			5.125.8					
Aircraft Area Inspection			5.125.8					
Aircraft Power On Checks			5.125.8					
Aircraft Final Inspection			5.125.8					
Parts Information	R	R		Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Items			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
NSN Index	AR	AR	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
Part Number Index	AR	AR	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Battle Damage Assessment and Repair (BDAR)				Chapter PM				
General Information			5.112.1.4		Descriptive	018	G	BDAR Introduction
Assessing Battlefield Damage								
General Fault Assessment Tables			5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair								
Repair Procedure			5.112.1.8		Procedural	PD		
Major Functional Groups								
Repair Procedure			5.112.1.8.2		Procedural	PD		
Auxiliary Equipment								
Repair Procedure			5.112.1.8		Procedural	PD		
Special or Fabricated Tools			5.112.1.10		Descriptive	605	B	Support Equipment and Tools
Substitute Materials/Parts			5.112.1.12		Descriptive	607	D	Substitute Materials/Parts
Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard Format MAC	P	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	P	R	5.104.3		Schedule	916	B	Aviation MAC
Maintenance Allocation Chart	R	P	5.104.3		Schedule	916	A	MAC
Expendable and Durable Items List	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List			5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts			5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items and Flight Safety Critical Aircraft Parts			5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
					Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)

Table A-VIII. Field Maintenance Manual including Parts Information and Field and Sustainment Maintenance Manual including Parts Information (IETP).

Content	M2B Req'ment	M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		

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Table A-IX. DMWR & NMWR Interactive Electronic Technical Publication (IETP).

Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	R	5.131	Front Matter PM				
General Information, Description and Theory of Operation	R	R	R		Chapter PM				
General Information	R	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)				5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List				5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	AR	5.96.3.1.8					
Calibration				5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment				5.96.3.1.10					

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Copyright Credit Line				5.96.4					
Maintenance Forms, Records, and Reports	R	R	R	5.96.4.1.2					
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	5.96.4.1.3					
Corrosion Prevention and Control (CPC)	R	R	R	5.96.4.1.6					
Warranty Information				5.96.4.1.7					
Quality of Material	R	R	R	5.96.4.1.8					
Nuclear Hardness				5.96.4.1.9					
Quality Assurance (QA)				5.96.4.1.11		Descriptive	010	B	General Information
Flight Safety Critical Aircraft Parts (FSCAP) (Aircraft Only)				5.96.4.1.12					
Engineering Change Proposals (ECP)	R	R	R	5.96.4.1.13					
Modifications				5.96.4.1.14					
Deviations and Exceptions	R	R	R	5.96.4.1.15					
Mobilization Requirements	R	R	R	5.96.4.1.16					
Cost Considerations	R	R	R	5.96.4.1.17					

Table A-IX. DMWR & NMWR Interactive Electronic Technical Publication (IETP).

Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Equipment Description and Data	R	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	R	5.96.5.1.2					
Location and Description of Major Components	R	R	R	5.96.5.1.3					
Differences Between Models				5.96.5.1.4					
Equipment Data	R	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal				5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	AR	AR	AR	5.96.6		Descriptive	042	F	Theory of Operation
Troubleshooting Procedures	R	R	R	5.98.2.17 5.98.8.1.8	Chapter PM				
Introduction				5.125.5		Descriptive	018	C	Troubleshooting Introduction
Technical Description				5.125.6		Descriptive	011	C	Technical Description
Equipment Description and Data				5.125.6.1.1.1					
Controls and Indicators				5.125.6.1.2					
Theory of Operation				5.125.6.1.3					
Troubleshooting Index				5.98.4		Fault	410	F	Malfunction Index
						Fault	410	B	Symptom Index
						Fault	410	C	System/Subsystem Index
Preshop Analysis				5.98.5		Procedural	341	C	Preshop Analysis

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Component Checklist				5.98.6		Descriptive	341	B	Component Checklist
Operational Checkout				5.98.7		Descriptive	018	V	Introduction
						Procedural	331	B	Pretest Setup Procedures
						Procedural	320	C	Operational Checkout Test Procedure
						Fault	410	G	Message Index
						Fault	410	J	Fault Reports
						Procedural	334	C	Post-Operational Checkout Shutdown Procedures
Troubleshooting Procedures				5.98.8		Descriptive	018	C	Troubleshooting Introduction
						Procedural	331	B	Pretest Setup Procedures
						Fault	421	B	Troubleshooting Procedure
						Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Diagnostics				5.146.4		Process	429	A	Diagnostics
Maintenance Instructions	R	R	R		Chapter PM				
Maintenance	R	R	R	5.97.9					
Assembly and Preparation for Use (Aviation Only)	AR	AR	AR	5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Servicing	AR	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Ground Handling	AR	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	AR	5.97.9.1.22		Procedural	340	C	Testing

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Preservation, Packaging, and Marking	R	R	R	5.97.9.1.23		Procedural	810	H	Preservation, Packaging, and Marking
Overhaul and Retirement Schedule (Aircraft Only)	AR	AR	AR	5.97.9.1.24		Procedural	288	A	Overhaul and Retirement Schedule
Preparation for Storage or Shipment	AR	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	AR	5.97.10		Procedural	PD		
General Maintenance				5.97.11		Procedural	PD		
Lubrication Instructions				5.97.12		Procedural	240	B	Lubrication instructions
Facilities				5.97.13		Descriptive	915	A	Facilities
Overhaul Inspection Procedures (OIP)				5.97.14		Procedural	310	C	Overhaul Inspection Procedures
Depot Mobilization Requirements				5.97.15		Descriptive	800	K	Depot Mobilization Requirements
Quality Assurance Requirements	R	R	R	5.97.16		Descriptive	315	A	Quality Assurance Requirements

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Illustration List of Manufactured Items				5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits				5.97.18		Procedural	711	B	Torque Limits
Aircraft Inventory Master Guide (Aircraft Only)				5.125.10		Descriptive	102	B	Aircraft Inventory Master Guide
Storage of Aircraft (Aircraft Only)			AR	5.125.11		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)				5.105.1		Procedural	160	B	Weighing and Loading
Wiring Diagrams				5.102.1		Descriptive	051	A	Wiring Diagrams
Auxiliary Equipment Maintenance Instructions					Chapter PM				
Auxiliary Equipment Maintenance				5.107.2		Procedural	PD		
Illustrated List of Manufactured Items				5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits				5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams				5.102.1		Descriptive	051	A	Wiring Diagrams
Ammunition Maintenance Instructions					Chapter PM				
Ammunition Maintenance				5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking				5.97.20		Procedural	067	C	Ammunition

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Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Information									Marking
Foreign Ammunition (NATO)				5.97.21		Procedural	011	B	Foreign Ammunition
Parts Information (DMWR, NMWR) (DMWR w/Parts, NMWR w/Parts)	P R	P R	P R		Chapter PM				
Introduction	R	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools				5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List				5.103.7		IPD	607	C	Kit Parts List
Bulk Items				5.103.8		IPD	603	B	Bulk Items
Special Tools List				5.103.9		IPD	604	B	Special Tools List
NSN Index	AR	AR	AR	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
Part Number Index	AR	AR	AR	5.103.10.1.6					
Reference Designator Index	AR	AR	AR	5.103.10.1.7					
Supporting Information	R	R	R	5.116.1	Chapter PM				
References	R	R	R	5.116.1.1.2		Descriptive	017	B	References
Expendable and Durable Items List	R	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List	R	R	R	5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts	R	R	R	5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items (CSI) and Flight Safety	R	R	R	5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)

Table A-IX. DMWR & NMWR Interactive Electronic Technical Publication (IETP).

Content	DWR & DWP Req'ment	DWO & DOR Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Critical Aircraft Parts (FSCAP)						Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Support Items				5.116.1.1.1		Descriptive	061	B	Support Equipment and Tools
Additional Supporting Information				5.116.1.1.4		Descriptive	PD		

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Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R	R		Chapter PM				
General Information	R	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)				5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List				5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	AR	5.96.3.1.8					
Calibration				5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment	P			5.96.3.1.10					
Copyright Credit Line				5.96.3.1.11					

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	5.96.4.1.3					
Hand Receipt (HR) Manuals				5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	R	5.96.4.1.6					
Warranty Information				5.96.4.1.7					
Quality of Material	P	AR	AR	5.96.4.1.8					
Nuclear Hardness				5.96.4.1.9					
Equipment Description and Data	R	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	R	5.96.5.1.2					
Location and Description of Major Components	R	R	R	5.96.5.1.3					
Differences Between Models				5.96.5.1.4					
Equipment Data	R	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal				5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Theory of Operation	R	R	R	5.96.6		Descriptive	042	F	Theory of Operation
Chapter X. Operator Instructions	R	R	R	5.95	Chapter PM				
Description and Use of Operator Controls and Indicator	R	R	R	5.95.4		Descriptive	111	A	Controls and Indicators
Operation Under Usual Conditions	R	R	R	5.95.5					
Security Measures for Electronic Data	AR	AR	AR	5.95.5.1.2		Descriptive	990	D	Security Measures for Electronic Data
Siting Requirements	AR	AR	AR	5.95.5.1.3		Procedural	122	B	Siting Requirements
Shelter Requirements	AR	AR	AR	5.95.5.1.4		Procedural	123	B	Shelter Requirements
Assembly and Preparation for Use	AR	AR	AR	5.95.5.1.5 5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Initial Adjustments, Before Use and Self-Test	AR	AR	AR	5.95.5.1.6		Procedural	121	B	Initial Adjustments, Before Use and Self-Test
Operating Procedures	R	R	R	5.95.5.1.7		Procedural	131	A	Normal Operation Procedures
Decals and Instruction Plates	AR	AR	AR	5.95.5.1.8		Descriptive	067	A	Decals and Instruction Plates
Operating Auxiliary Equipment	AR	AR	AR	5.95.5.1.9		Procedural	131	A	Normal Operation Procedures
Preparation for Movement	AR	AR	AR	5.95.5.1.10		Procedural	131	S	Preparation for Movement

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Operation Under Unusual Conditions	R	R	R	5.95.6					
Security Measures for Electronic Data	AR	AR	AR	5.95.5.1.2		Descriptive	990	C	Security Measures for Electronic Data (Unusual Conditions)
Unusual Environment / Weather	R	R	R	5.95.6.1.2		Procedural	142	B	Unusual Environment/Weather
Fording and Swimming	AR	AR	AR	5.95.6.1.3		Procedural	131	R	Fording and Swimming
Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures	AR	AR	AR	5.95.6.1.4		Procedural	139	B	Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures
Jamming and Electronic Countermeasures (ECM) Procedures	AR	AR	AR	5.95.6.1.5		Procedural	144	A	Jamming and Electronic Countermeasures (ECM) Procedures
Degraded Operation Procedures	AR	AR	AR	5.95.6.1.6		Procedural	142	C	Degraded Operation Procedures
Emergency				5.95.7		Procedural	140	B	Operation under Emergency Conditions
Stowage and Decal / Data Plate Guide				5.95.8		Descriptive	067	B	Stowage and Decal / Data Plate Guide
On-Vehicle Equipment Loading Plan				5.109.1.1		Crew	160	C	On-vehicle equipment loading plan

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Troubleshooting Master Index					Chapter PM				
Troubleshooting Index	R	R	R	5.98.4.1.4		Fault	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	5.98	Chapter PM				
Troubleshooting Index				5.98.4		Fault	410	F	Malfunction Index
						Fault	410	B	Symptom Index
						Fault	410	C	System/Subsystem Index
***Operational Checkout**	AR	AR	AR	5.98.7		Descriptive	018	V	Introduction
						Procedural	331	B	Pretest Setup Procedures
						Procedural	320	C	Operational Checkout Test Procedure
						Fault	410	G	Message Index
						Fault	410	J	Fault Reports
						Procedural	334	C	Post-Operational Checkout Shutdown Procedures

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
***Troubleshooting Procedures**	AR	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
						Procedural	331	B	Pretest Setup Procedures
						Fault	421	B	Troubleshooting Procedure
						Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Chapter X. PMCS Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.					Chapter PM				
PMCS Introduction	R	R	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	R	R	5.97.7		Checklist	200	B	PMCS
Chapter X. Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.	R	R	R		Chapter PM				
Service Upon Receipt	P	R	R	5.97.4					
Siting	P	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	P	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Service Upon Receipt of Materiel				5.97.4.1.4					
Unpacking	P	R	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	P	R	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	P	R	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	P	AR	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	P	AR	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	P	AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	P	AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	P	AR	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	P	AR	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	P	AR	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	P	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	P	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	P	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Handling Ammunition	P	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	P	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Other Service Upon Receipt Task	P	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	P	AR	AR	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)	P			5.107.1		Procedural	913	B	Equipment/User Fitting Instructions
PMCS Introduction	R	R	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	R	R	5.97.7		Checklist	200	B	PMCS
Maintenance	R	R	R	5.97.9					
Servicing	AR	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection-Acceptance and Rejection Criteria	AR	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Repair or Replacement	AR	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	AR	5.97.10		Procedural	PD		

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
General Maintenance				5.97.11		Procedural	PD		
Lubrication Instructions				5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items	P			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits	P			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams	P			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions									
Auxiliary Equipment Maintenance				5.107.2	Chapter PM	Procedural	PD		
Illustrated List of Manufactured Items	P			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits	P			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams	P			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Ammunition Maintenance Instructions									
Ammunition Maintenance				5.97.19	Chapter PM	Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information				5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)				5.97.21		Procedural	011	C	Foreign Ammunition

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Parts Information (Operator, Field and Sustainment Manuals) (Operator, Field and Sustainment Manuals with parts)	P P	P R	P R		Chapter PM				
Introduction	P	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	P	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools	P			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List	P			5.103.7		IPD	607	C	Kit Parts List
Bulk Item	P			5.103.8		IPD	603	B	Bulk Items
Special Tools List	P			5.103.9		IPD	604	B	Special Tools List
NSN Index	P	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	P	R	R	5.103.10.1.6					
Reference Designator Index	P	AR	AR	5.103.10.1.7					
Chapter X. Destruction of Equipment to Prevent Enemy Use				5.111.3	Chapter PM				
Scope				5.111.3.1.6.2		Descriptive	997	D	Destruction General Information
Authorization				5.111.3.1.6.3					
Reporting Destruction				5.111.3.1.6.4					
General Destruction Information				5.111.3.1.6.5					
Degree of Damage				5.111.3.1.6.6					
Essential Components and Spare Parts				5.111.3.1.6.7					

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Specific Destruction Procedures				5.111.3.1.8		Procedural	997	B	Destruction Procedures
Classified Equipment and Documents				5.111.3.1.9		Procedural	997	C	Destruction Procedures - Classified Equipment
Chapter X. Battle Damage Assessment and Repair (BDAR)					Chapter PM				
General Information				5.112.1.4		Descriptive	018	G	BDAR Introduction
Assessing Battlefield Damage									
General Fault Assessment Tables				5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair									
Repair Procedure				5.112.1.8		Procedural	PD		
Major Functional Groups									
Repair Procedure				5.112.1.8.2		Procedural	PD		
Auxiliary Equipment									
Repair Procedure				5.112.1.8		Procedural	PD		
Special or Fabricated Tools				5.112.1.10		Descriptive	605	B	Support Equipment and Tools
Substitute Materials/Parts				5.112.1.12		Descriptive	607	D	Substitute Materials/Parts
Chapter X. Supporting Information	R	R	R	5.116.1	Chapter PM				
References	R	R	R	5.116.1.1.2		Descriptive	017	B	References

Table A-X. Operator's Manuals (Excluding Conventional and Chemical Ammunition).

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Introduction for Standard MAC	P	R	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	P	R	R	5.104.3		Schedule	916	A	MAC
Components of End Item (COEI) and Basic Issue Items (BII) Lists	R	R	R	5.103.11 5.103.12		Descriptive	105	D	Components of End Item (COEI) List
						Descriptive	105	C	Basic Issue Items (BII) List
Additional Authorization List (AAL)				5.103.13		Descriptive	104	C	Additional Authorization List (AAL)
Expendable and Durable Items List	R	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List	P			5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts	P			5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items and Flight Safety Critical Aircraft Parts				5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
						Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information				5.116.1.1.4		Descriptive	PD		
Rear Matter	R	R	R	5.132.1	Rear Matter PM				

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Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R		Chapter PM				
General Information	R	5.96.3		Descriptive	010	A	General Data
Scope	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)		5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	5.96.3.1.5					
Nomenclature Cross-Reference List		5.96.3.1.6					
List of Abbreviations	R	5.96.3.1.7					
Safety, Care, and Handling	AR	5.96.3.1.8					
Calibration		5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment		5.96.3.1.10					
Copyright Credit Line		5.96.3.1.11					

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	5.96.4.1.3					
Hand Receipt (HR) Manuals	P	5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	5.96.4.1.6					
Warranty Information		5.96.4.1.7					
Quality of Material	R	5.96.4.1.8					
Nuclear Hardness		5.96.4.1.9					
Equipment Description and Data	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	5.96.5.1.2					
Location and Description of Major Components	R	5.96.5.1.3					
Differences Between Models		5.96.5.1.4					
Equipment Data	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal		5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	5.96.6		Descriptive	042	F	Theory of Operation
Chapter X. Troubleshooting Master Index			Chapter PM				
Troubleshooting Index	R	5.98.4.1.4		Fault	410	D	Master Index
Chapter X. Troubleshooting Procedures *Note:* The notation (*) indicates that at least one of these content items shall be included.	R		Chapter PM				
Troubleshooting Index		5.98.4		Fault	410	F	Malfunction Index
				Fault	410	B	Symptom Index
				Fault	410	C	System/Subsystem Index
****Operational Checkout***	AR	5.98.7		Descriptive	018	V	Introduction

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
				Procedural	331	B	Pretest Setup Procedures
				Procedural	320	C	Operational Checkout Test Procedure
				Fault	410	G	Message Index
				Fault	410	J	Fault Reports
				Procedural	334	C	Post-Operational Checkout Shutdown Procedures
***Troubleshooting Procedures**	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
				Procedural	331	B	Pretest Setup Procedures
				Fault	421	B	Troubleshooting Procedure
				Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Chapter X. PMCS Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.			Chapter PM				
PMCS Introduction	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	5.97.7		Checklist	200	B	PMCS
Chapter X. Maintenance Instructions	R		Chapter PM				
Service Upon Receipt	P	5.97.4					
Siting	P	5.97.4.1.2		Procedural	122	A	Siting
Shelter	P	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	P	5.97.4.1.4					
Unpacking	P	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	P	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	P	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	P	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	P	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	P	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	P	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Preliminary Servicing of Equipment	P	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	P	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	P	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	P	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	P	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	P	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	P	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	P	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Additional Service Upon Receipt Task	P	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	P	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)		5.107.1		Procedural	913	B	Equipment/User Fitting Instructions
PMCS Introduction	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	5.97.7		Checklist	200	B	PMCS
Maintenance	R	5.97.9					
Servicing	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	5.97.9.1.14		Procedural	272	A	Align

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Painting	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	5.97.9.1.19.2					
Calibration	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	5.97.10		Procedural	PD		
General Maintenance		5.97.11		Procedural	PD		
Lubrication Instructions		5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items		5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits		5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams		5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions			Chapter PM				
Auxiliary Equipment Maintenance		5.107.2		Procedural	PD		
Illustrated List of Manufactured Items		5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits		5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams		5.102.1		Descriptive	051	A	Wiring Diagrams

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Ammunition Maintenance Instructions			Chapter PM				
Ammunition Maintenance		5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information		5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)		5.97.21		Procedural	011	B	Foreign Ammunition
Chapter X. Parts Information (w/out parts) (w/parts)	P R		Chapter PM				
Introduction	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools		5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List		5.103.7		IPD	607	C	Kit Parts List
Bulk Items		5.103.8		IPD	603	B	Bulk Items
Special Tools List		5.103.9		IPD	604	B	Special Tools List
NSN Index	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	5.103.10.1.6					
Reference Designator Index	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	5.116.1	Chapter PM				
References	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard Format MAC	P	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	P	5.104.3		Schedule	916	A	MAC
Expendable and Durable Items	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List		5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts		5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items and Flight Safety Critical Aircraft Parts		5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
				Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information		5.116.1.1.4		Descriptive	PD		

Table A-XI. Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Rear Matter	R	5.132.1	Rear Matter PM				

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Front Matter	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Hand Receipt (HR) Information			5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	R	R	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components	R	R	5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal			5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	R	5.96.6		Descriptive	042	F	Theory of Operation
Chapter X. Troubleshooting Master Index				Chapter PM				
Troubleshooting Index	R	R	5.98.4.1.4		Fault	410	D	Master Index

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Chapter X. Troubleshooting Procedures *Note:* The notation (*) indicates that, if required, at least one of the these content items shall be included.	R	R		Chapter PM				
Troubleshooting Index			5.98.4		Fault	410	F	Malfunction Index
					Fault	410	B	Symptom Index
					Fault	410	C	System/Subsystem Index
***Operational Checkout**	AR	AR	5.98.7		Descriptive	018	V	Introduction
					Procedural	331	B	Pretest Setup Procedures
					Procedural	320	C	Operational Checkout Test Procedure
					Fault	410	G	Message Index
					Fault	410	H	Fault Code Reference Index
					Procedural	334	C	Post-Operational Checkout Shutdown Procedures
***Troubleshooting Procedures**	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
					Procedural	331	B	Pretest Setup Procedures
					Fault	421	B	Troubleshooting Procedure
					Procedural	334	B	Post-Troubleshooting Shutdown Procedures

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Chapter X. PMCS Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.				Chapter PM				
PMCS Introduction	R	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	R	5.97.7		Checklist	200	B	PMCS
Chapter X. Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.	R	R		Chapter PM				
Service Upon Receipt	R	R	5.97.4					
Siting	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter Requirements	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	R	R	5.97.4.1.4					
Unpacking	R	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	R	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	R	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	AR	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	AR	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Preliminary Servicing of Equipment	AR	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	AR	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	AR	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Additional Service Upon Receipt Task	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)			5.107.1		Procedural	913	B	Equipment/User fitting instructions
PMCS Introduction	R	R	5.97.6		Descriptive	018	F	PMCS Introduction
PMCS, Including Lubrication Instructions	R	R	5.97.7		Checklist	200	B	PMCS
Maintenance	R	R	5.97.9					
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication Instructions			5.97.12		Procedural	240	B	Lubrication Instructions

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions				Chapter PM				
Auxiliary Equipment Maintenance			5.107.2		Procedural	PD		
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Ammunition Maintenance Instructions				Chapter PM				
Ammunition Maintenance			5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information			5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)			5.97.21		Procedural	011	B	Foreign Ammunition
Chapter X. Parts Information (w/out parts) (w/ parts)	P R	P R		Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Item			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List
NSN Index	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	R	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Chapter X. Battle Damage Assessment and Repair (BDAR)				Chapter PM				
General Information			5.112.1.4		Descriptive	018	G	BDAR Introduction
Assessing Battlefield Damage								
General Fault Assessment Tables			5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair								
Repair Procedure			5.112.1.8		Procedural	PD		
Major Functional Groups								
Repair Procedure			5.112.1.8.2		Procedural	PD		
Auxiliary Equipment								
Repair Procedure			5.112.1.8		Procedural	PD		
Special or Fabricated Tools			5.112.1.10		Descriptive	605	B	Support Equipment and Tools
Substitute Materials/Parts			5.112.1.12		Descriptive	607	D	Substitute materials/parts
Chapter X. Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard Format MAC	R	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	R	R	5.104.3		Schedule	916	A	MAC

Table A-XII. Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Field and Sustainment Maintenance Manuals (Excluding Conventional and Chemical Ammunition) **Field Maintenance Manual, Field Maintenance Manual Including Parts List** **Field and Sustainment Maintenance Manual, Field and Sustainment Maintenance Manual Including Parts List**								
Content	**MM2, M2B & M2P Req'ment**	**MM4, M4B & M4P Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Expendable and Durable Items	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List			5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts			5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items and Flight Safety Critical Aircraft Parts			5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
					Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		
Rear Matter	R	R	5.132.1	Rear Matter PM				

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Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R		Chapter PM				
General Information	R	5.96.3		Descriptive	010	A	General Data
Scope	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)		5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	5.96.3.1.5					
Nomenclature Cross-Reference List		5.96.3.1.6					
List of Abbreviations	R	5.96.3.1.7					
Safety, Care, and Handling	AR	5.96.3.1.8					
Calibration		5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment		5.96.3.1.10					
Copyright Credit Line		5.96.3.1.11					
Maintenance Forms, Records, and Reports	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	5.96.4.1.3					
Hand Receipt (HR) Manuals		5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	5.96.4.1.6					
Warranty Information		5.96.4.1.7					
Quality of Material	R	5.96.4.1.8					
Nuclear Hardness		5.96.4.1.9					
Quality Assurance (QA)		5.96.4.1.11					
Flight Safety Critical Aircraft Parts (FSCAP)	R	5.96.4.1.12					

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Equipment Description and Data	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	5.96.5.1.2					
Location and Description of Major Components	R	5.96.5.1.3					
Differences Between Models		5.96.5.1.4					
Equipment Data	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal		5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	R	5.96.6		Descriptive	042	F	Theory of Operation
Chapter X. Troubleshooting Master Index			Chapter PM				
Troubleshooting Index	R	5.98.4.1.4		Fault	410	D	Master Index
Chapter X. Troubleshooting Procedures *Note:* The notation (*) indicates that at least one of these content items shall be included.	R		Chapter PM				
Troubleshooting Index		5.98.4		Fault	410	F	Malfunction Index
				Fault	410	B	Symptom Index
				Fault	410	C	System/Subsystem Index
****Operational Checkout***	AR	5.98.7		Descriptive	018	V	Introduction
				Procedural	331	B	Pretest Setup Procedures
				Procedural	320	C	Operational Checkout Test Procedure
				Fault	410	G	Message Index
				Fault	410	J	Fault Reports
				Procedural	334	C	Post-Operational Checkout Shutdown Procedures

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
***Troubleshooting Procedures**	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
				Procedural	331	B	Pretest Setup Procedures
				Fault	421	B	Troubleshooting Procedure
				Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Chapter X. Aircraft Maintenance Instructions	R		Chapter PM				
Service Upon Receipt	R	5.97.4					
Siting	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	R	5.97.4.1.4					
Unpacking	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	5.97.4.1.19		Procedural	PD		

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Follow-On Maintenance	AR	5.97.10		Procedural	PD		
Equipment / User Fitting Instructions (Personal Use Equipment)		5.107.1		Procedural	913	B	Equipment/User Fitting Instructions
Preventive Maintenance Inpection		5.125.9		Procedural	200	D	Preventive Maintenance Inspection
Maintenance	R	5.97.9					
Assembly and Preparation for Use (Aviation Only)	AR	5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Servicing	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	5.97.9.1.19.2					
Calibration	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	5.97.9.1.22		Procedural	340	C	Testing
Overhaul and Retirement Schedule (Aircraft Only)	AR	5.97.9.1.24		Procedural	288	A	Overhaul and Retirement Schedule

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Preparation for Storage or Shipment	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	5.97.10		Procedural	PD		
General Maintenance		5.97.11		Procedural	PD		
Lubrication Instructions		5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items		5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits		5.97.18		Procedural	711	B	Torque Limits
Aircraft Inventory Master Guide		5.125.10		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	5.105.1		Procedural	160	B	Weighing and Loading
Wiring Diagrams		5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions							
Auxiliary Equipment Maintenance		5.107.2	Chapter PM	Procedural	PD		
Illustrated List of Manufactured Items		5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits		5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams		5.102.1		Descriptive	051	A	Wiring Diagrams

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Ammunition Maintenance Instructions			Chapter PM				
Ammunition Maintenance		5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information		5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)		5.97.21		Procedural	011	B	Foreign Ammunition
Chapter X. Parts Information (Field and Field Sustainment) (Field w/Parts and Field Sustainment w/Parts)	P R		Chapter PM				
Introduction	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools		5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List		5.103.7		IPD	607	C	Kit Parts List
Bulk Items		5.103.8		IPD	603	B	Bulk Items
Special Tools List		5.103.9		IPD	604	B	Special Tools List
NSN Index	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	5.103.10.1.6					
Reference Designator Index	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	5.116.1	Chapter PM				
References	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Aviation MAC	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	R			Schedule	916	B	Aviation MAC
Expendable and Durable Items List	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List		5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts		5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items (CSI) and Flight Safety Critical Aircraft Parts (FSCAP)		5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
				Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)

Table A-XIII. Aviation Field Maintenance Manuals (Excluding Conventional and Chemical Ammunition).

Content	MM2, M2B, MM4 & M4B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Additional Supporting Information		5.116.1.1.4		Descriptive	PD		
Rear Matter	R	5.132.1	Rear Matter PM				

Table A-XIV. Parts and Special Tools List (Excluding Conventional and Chemical Ammunition).

Content	M0P Req'ment	Ref.	PM Type	Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. **Repair Parts and Special Tools List for** (Enter Equipment Name)	R		Chapter PM				
Introduction	R	5.103.4		Descriptive	018	E	Parts introduction
Repair Parts List	R	5.103.5		IPD	607	E	Repair parts information
Repair Parts for Special Tools		5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List		5.103.7		IPD	607	C	Kit Parts List
Bulk Item		5.103.8		IPD	603	B	Bulk Items
Special Tools List		5.103.9		IPD	604	B	Special Tools List
NSN Index	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	5.103.10.1.6					
Reference Designator Index		5.103.10.1.7					
Rear Matter	R	5.132.1	Rear Matter PM				

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Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	R	R	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Quality Assurance (QA)			5.96.4.1.11					
Flight Safety Critical Aircraft Parts (Aircraft Only)			5.96.4.1.12					
Engineering Change Proposals (ECP)	R	R	5.96.4.1.13					
Modifications			5.96.4.1.14					
Deviations and Exceptions	R	R	5.96.4.1.15					
Mobilization Requirements	R	R	5.96.4.1.16					
Cost Considerations	R	R	5.96.4.1.17					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components	R	R	5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal			5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	AR	AR	5.96.6		Descriptive	042	F	Theory of Operation
Chapter X. DMWR/NMWR Troubleshooting Procedures				Chapter PM				
Troubleshooting Index			5.98.4		Fault	410	F	Malfunction Index

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
					Fault	410	B	Symptom Index
					Fault	410	C	System/Subsystem Index
Preshop Analysis	R	R	5.98.5		Procedural	341	C	Preshop Analysis
Component Checklist			5.98.6		Descriptive	341	B	Component Checklist
Operational Checkout			5.98.7		Descriptive	018	V	Introduction
					Procedural	331	B	Pretest Setup Procedures
					Procedural	320	C	Operational Checkout Test Procedure
					Fault	410	G	Message index
					Fault	410	H	Fault Code Reference Index
					Procedural	334	C	Post-Operational Checkout Shutdown Procedures
Troubleshooting Procedures			5.98.8		Descriptive	018	C	Troubleshooting Introduction
					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.				Chapter PM				
Troubleshooting Index			5.98.4.1.4		Fault	410	D	Master Index
****Operational Checkout***	AR	AR	5.98.7		Fault	331	B	Pretest Setup Procedures
****Troubleshooting Procedures***	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
					Procedural	331	B	Pretest Setup Procedures
					Fault	421	B	Troubleshooting Procedure
					Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Chapter X. Depot Maintenance Instructions	R	R		Chapter PM				
Maintenance :	R	R	5.97.9					

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Assembly and Preparation for Use (Aviation Only)	AR	AR	5.95.5.1.5 5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preservation, Packaging, and Marking	R	R	5.97.9.1.23		Procedural	810	H	Preservation, Packaging, and Marking
Overhaul and Retirement Schedule (Aircraft Only)	AR	AR	5.97.9.1.24		Procedural	288	A	Overhaul and Retirement Schedule
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication Instructions			5.97.12		Procedural	240	B	Lubrication Instructions
Facilities			5.97.13		Descriptive	915	A	Facilities
Overhaul Inspection Procedures			5.97.14		Procedural	310	C	Overhaul Inspection Procedures
Depot Mobilization Requirements			5.97.15		Descriptive	800	K	Depot Mobilization Requirements
Quality Assurance Requirements	R	R	5.97.16		Descriptive	315	A	Quality Assurance Requirements
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Aircraft Inventory Master Guide (Aircraft Only)			5.125.10		Descriptive	102	B	Aircraft Inventory Master Guide
Storage of Aircraft (Aircraft Only)			5.125.11		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)			5.105.1		Procedural	160	B	Weighing and Loading
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions				Chapter PM				
Auxiliary Equipment Maintenance			5.107.2		Procedural	PD		
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Ammunition Maintenance Instructions				Chapter PM				
Ammunition Maintenance			5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information			5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)			5.97.21		Procedural	011	B	Foreign Ammunition
Chapter X. Parts Information (DMWR, NMWR) (DMWR With Parts, NMWR With Parts)	P R	P R		Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Items			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List
NSN Index	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	R	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Expendable and Durable Items List	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List			5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts			5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items (CSI) and Flight Safety Critical Aircraft Parts (FSCAP)			5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
					Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		

Table A-XV. DMWR and NMWR (Excluding Conventional and Chemical Ammunition).

Content	DWR & DWP Req'ment	NWR & NWP Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Rear Matter	R	R	5.132.1	Rear Matter PM				

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations/Acronyms	R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	R	R	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Quality Assurance (QA)			5.96.4.1.11					
Flight Safety Critical Aircraft Parts (Aircraft Only)			5.96.4.1.12					
Engineering Change Proposals (ECP)	R	R	5.96.4.1.13					
Modifications			5.96.4.1.14					
Deviations and Exceptions	R	R	5.96.4.1.15					
Mobilization Requirements	R	R	5.96.4.1.16					
Cost Considerations	R	R	5.96.4.1.17					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components	R	R	5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal			5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Theory of Operation	AR	AR	5.96.6		Descriptive	042	F	Theory of Operation

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Depot Troubleshooting Procedures				Chapter PM				
Troubleshooting Index			5.98.4		Fault	410	F	Malfunction Index
					Fault	410	B	Symptom Index
					Fault	410	C	System/subsystem Index
Preshop Analysis	R	R	5.98.5		Procedural	341	C	Preshop Analysis
Component Checklist			5.98.6		Descriptive	341	B	Component Checklist
Operational Checkout			5.98.7		Descriptive	018	V	Introduction
					Procedural	331	B	Pretest Setup Procedures
					Procedural	320	C	Operational Checkout Test Procedure
					Fault	410	G	Message Index
					Fault	410	H	Fault Code Reference Index
					Procedural	334	C	Post-Operational Checkout Shutdown Procedures
Troubleshooting Procedures			5.98.8		Descriptive	018	C	Troubleshooting Introduction
					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 at least one of these content items shall be included.				Chapter PM				
Troubleshooting Index			5.98.4.1.4		Descriptive	410	D	Master Index
****Operational Checkout***	AR	AR	5.98.7		Fault	331	B	Pretest Setup Procedures
****Troubleshooting Procedures***	AR	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
					Procedural	331	B	Pretest Setup Procedures
					Fault	421	B	Troubleshooting Procedure
					Procedural	334	B	Post-Troubleshooting Shutdown Procedures

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Depot Maintenance Instructions	R	R		Chapter PM				
Maintenance	R	R	5.97.9					
Assembly and Preparation for Use (Aviation Only)	AR	AR	5.95.5.1.5 5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preservation, Packaging, and Marking	R	R	5.97.9.1.23		Procedural	810	H	Preservation, Packaging, and Marking
Overhaul and Retirement Schedule (Aircraft Only)	AR	AR	5.97.9.1.24		Procedural	288	A	Overhaul and Retirement Schedule
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication Instructions			5.97.12		Procedural	240	B	Lubrication instructions
Facilities			5.97.13		Descriptive	915	A	Facilities
Overhaul Inspection Procedures			5.97.14		Procedural	310	C	Overhaul Inspection Procedures
Depot Mobilization Requirements	R	R	5.97.15		Descriptive	800	K	Depot Mobilization Requirements
Quality Assurance Requirements	R	R	5.97.16		Descriptive	315	A	Quality Assurance Requirements
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Aircraft Inventory Master Guide (Aircraft Only)			5.125.10		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 (Aircraft Only)			5.105.1		Procedural	160	B	Weighing and Loading
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Auxiliary Equipment Maintenance Instructions				Chapter PM				
Auxiliary Equipment Maintenance			5.107.2		Procedural	PD		
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Ammunition Maintenance Instructions				Chapter PM				
Ammunition Maintenance			5.97.19		Procedural	200	K	Ammunition Maintenance
Ammunition Marking Information			5.97.20		Procedural	067	C	Ammunition Marking
Foreign Ammunition (NATO)			5.97.21		Procedural	011	B	Foreign Ammunition
Chapter X. Parts Information (DMWR With Overhaul Standards) (DMWR With Overhaul Standards With Parts)	P R	P R		Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Items			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List
NSN Index	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	R	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Expendable and Durable Items List	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List			5.113.1		Descriptive	062	B	Tool Identification List
Mandatory Replacement Parts			5.103.15		Descriptive	075	D	Mandatory Replacement Parts
Critical Safety Items (CSI) and Flight Safety Critical Aircraft Parts (FSCAP)			5.103.16 5.103.17		Descriptive	075	E	Critical Safety Items (CSI)
					Descriptive	075	F	Flight Safety Critical Aircraft Parts (FSCAP)

Table A-XVI. DMWR With Overhaul Standards (Excluding Conventional and Chemical Ammunition).

Content	DWO Req'ment	DOR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		
Rear Matter	R	R	5.132.1	Rear Matter PM				

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Table A-XVII. Aviation Field Troubleshooting (Excluding Conventional and Chemical Ammunition).

Content	TTM Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	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	5.125.5		Descriptive	018	C	Troubleshooting Introduction
Technical Description		5.125.6		Descriptive	011	C	Technical Description
Equipment Description and Data		5.125.6.1.1.1					
Controls and Indicators		5.125.6.1.2					
Theory of Operation		5.125.6.1.3					
Troubleshooting Index		5.98.4		Fault	410	F	Malfunction Index
				Fault	410	B	Symptom Index
				Fault	410	C	System/Subsystem Index
***Operational Checkout**	AR	5.98.7		Descriptive	018	V	Introduction
				Procedural	331	B	Pretest Setup Procedures
				Procedural	320	C	Operational Checkout Test Procedure
				Fault	410	G	Message index
				Fault	410	H	Fault Code Reference Index
				Procedural	334	C	Post-Operational Checkout Shutdown Procedures
***Troubleshooting Procedures**	AR	5.98.8		Descriptive	018	C	Troubleshooting Introduction
				Procedural	331	B	Pretest Setup Procedures
				Fault	421	B	Troubleshooting Procedure
				Procedural	334	B	Post-Troubleshooting Shutdown Procedures
Rear Matter	R	5.132.1	Rear Matter PM				

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Table A-XVIII. Aircraft Preventive Maintenance (Excluding Conventional and Chemical Ammunition).

Content	PMD Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R		Chapter PM				
General Information	R	5.96.7		Descriptive	010	D	General Information
Maintenance Activities	R	5.96.7.1.2					
General Information	R	5.96.7.1.3					
Chapter X. Preventive Maintenance Services Maintenance Information	R		Chapter PM	Checklist	310	E	PMS Inspection
PMS Inspection	R	5.125.7					
Checklist Data	R	5.125.7					
Rear Matter	R	5.132.1	Rear Matter PM				

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Table A-XIX. Aircraft Phased Maintenance Inspection Checklist (Excluding Conventional and Chemical Ammunition).

Content	PMI Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description, and Theory of Operation	R		Chapter PM				
General Information	R	5.96.8		Descriptive	010	E	General Information
Chapter X. Phased Maintenance Inspection Maintenance Information	R		Chapter PM				
PM Inspection	R	5.125.8		Checklist	310	F	PM Inspection
General Inspection		5.125.8					
Aircraft Area Inspection		5.125.8					
Aircraft Power On Checks		5.125.8					
Aircraft Final Inspection		5.125.8					
Rear Matter	R	5.132.1	Rear Matter PM				

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Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R	R		Chapter PM				
General Information	R	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)				5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List				5.96.3.1.6					
List of Abbreviations/Acronyms		R	R	5.96.3.1.7					
Safety, Care, and Handling	AR	AR	AR	5.96.3.1.8					
Calibration				5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment	P			5.96.3.1.10					
Copyright Credit Line				5.96.3.1.11					

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	5.96.4.1.3					
Hand Receipt (HR) Manuals				5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	R	5.96.4.1.6					
Warranty Information				5.96.4.1.7					
Quality of Material	P	AR	AR	5.96.4.1.8					
Nuclear Hardness				5.96.4.1.9					
Equipment Description and Data	R	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	R	5.96.5.1.2					
Location and Description of Major Components				5.96.5.1.3					
Differences Between Models				5.96.5.1.4					
Equipment Data	R	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal				5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Operator Instructions	R	R	R	5.95	Chapter PM				
Description and Use of Operator Controls and ***Indicators***	R	R	R	5.95.4		Descriptive	111	A	Controls and Indicators
Operation Under Usual Conditions	R	R	R	5.95.5					
Security Measures for Electronic Data	AR	AR	AR	5.95.5.1.2		Descriptive	990	D	Security Measures for Electronic Data
Siting Requirements	AR	AR	AR	5.95.5.1.3		Procedural	122	B	Siting Requirements
Shelter Requirements	AR	AR	AR	5.95.5.1.4		Procedural	123	B	Shelter Requirements
Assembly and Preparation for Use	AR	AR	AR	5.95.5.1.5 5.97.9.1.4		Procedural	710	B	Assembly and Preparation for Use
Initial Adjustments, Before Use and Self-Test	AR	AR	AR	5.95.5.1.6		Procedural	121	B	Initial Adjustments, Before Use and Self-Test
Operating Procedures	R	R	R	5.95.5.1.7		Procedural	131	A	Normal Operation Procedures
Decals and Instruction Plates	AR	AR	AR	5.95.5.1.8		Descriptive	067	A	Decals and Instruction Plates
Operating Auxiliary Equipment	AR	AR	AR	5.95.5.1.9		Procedural	131	A	Normal Operation Procedures
Preparation for Movement	AR	AR	AR	5.95.5.1.10		Procedural	131	S	Preparation for Movement
Operation Under Unusual Conditions	R	R	R	5.95.6					
Security Measures for Electronic Data	AR	AR	AR	5.95.5.1.2		Descriptive	990	C	Security Measures for Electronic Data (Unusual Conditions)
Unusual Environment / Weather	R	R	R	5.95.6.1.2		Procedural	142	B	Unusual Environment/Weather
Fording and Swimming	AR	AR	AR	5.95.6.1.3		Procedural	131	R	Fording and Swimming

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures	AR	AR	AR	5.95.6.1.4		Procedural	139	B	Interim Chemical, Biological, Radiological, and Nuclear (CBRN) Decontamination Procedures
Jamming and Electronic Countermeasures (ECM) Procedures	AR	AR	AR	5.95.6.1.5		Procedural	144	A	Jamming and Electronic Countermeasures (ECM) Procedures
Degraded Operation Procedures	AR	AR	AR	5.95.6.1.6		Procedural	142	C	Degraded Operation Procedures
Emergency				5.95.7		Procedural	140	B	Operation Under Emergency Conditions
Stowage and Decal / Data Plate Guide				5.95.8		Descriptive	067	B	Stowage and Decal / Data Plate Guide
On-Vehicle Equipment Loading Plan				5.109.1.1		Crew	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	5.97.9					
Service Upon Receipt	P	R	R	5.97.4	Chapter PM				
Siting	P	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	P	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	P	R	R	5.97.4.1.4					
Unpacking	P	R	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	P	R	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Processing Unpacked Equipment	P	R	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	P	R	R	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	P	R	R	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions		AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure		AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	P	AR	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	P	AR	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	P	AR	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	P	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	P	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	P	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	P	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	P	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Additional Service Upon Receipt Task	P	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	P	AR	AR	5.97.10		Procedural	PD		
Maintenance *Note:* PMCS is required as a minimum in one maintenance chapter.	R	R	R	5.97.9					
Servicing	AR	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Inspection of Installed Items	AR	AR	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Additional Maintenance Task	AR	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	AR	5.97.10		Procedural	PD		
General Maintenance				5.97.11		Procedural	PD		
Lubrication Instructions				5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items				5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits	P			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams	P			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Test and Inspection Maintenance Instructions	P				Chapter PM				
Test and Inspection	P	R	R	5.97.9.1.18		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	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Chapter X. Ammunition Marking Maintenance Instructions		R	R		Chapter PM				
Ammunition Marking Information		R	R	5.97.9.1.28		Procedural	067	C	Ammunition Marking

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter X. Parts Information (Operator, Field and Sustainment Manuals) (Operator, Field and Sustainment Manuals With Parts)	P P	P R	P R		Chapter PM				
Introduction	P	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	P	R	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools	P			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List	P			5.103.7		IPD	607	C	Kit Parts List
Bulk Item	P			5.103.8		IPD	603	B	Bulk Items
Special Tools List	P			5.103.9		IPD	604	B	Special Tools List
NSN Index	P	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	P	R	R	5.103.10.1.6					
Reference Designator Index	P	AR	AR	5.103.10.1.7					
Chapter X. Destruction of Equipment to Prevent Enemy Use				5.111.3	Chapter PM				
Scope				5.111.3.1.6.2		Descriptive	997	D	Destruction General Information
Authorization				5.111.3.1.6.3					
Reporting Destruction				5.111.3.1.6.4					
General Destruction Information				5.111.3.1.6.5					
Degree of Damage				5.111.3.1.6.6					
Essential Components and Spare Parts				5.111.3.1.6.7					
Specific Destruction Procedures				5.111.3.1.8		Procedural	997	B	Destruction Procedures

Table A-XX. Conventional and Chemical Ammunition Operator's Manuals.

Content	OPI Req'ment	MM3 & M3B Req'ment	MM1 & M1B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Classified Equipment and Documents				5.111.3.1.9		Procedural	997	C	Destruction Procedures - Classified Equipment
Chapter X. Supporting Information	R	R	R	5.116.1	Chapter PM				
References	R	R	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard MAC	P	R	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	P	R	R	5.104.3		Schedule	916	A	MAC
Components of End Item (COEI) and Basic Issue Items (BII) Lists	R	R	R	5.103.11 5.103.12		Descriptive	105	D	Components of End Item (COEI) List
						Descriptive	105	C	Basic Issue Items (BII) List
Additional Authorization List (AAL)				5.103.13		Descriptive	104	C	Additional Authorization List (AAL)
Expendable and Durable Items List	R	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List	P			5.113.1		Descriptive	062	B	Tool Identification List
Additional Supporting InformationInformation				5.116.1.1.4		Descriptive	PD		
Rear Matter	R	R	R	5.132.1	Rear Matter PM				

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Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manuals.

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R		Chapter PM				
General Information	R	5.96.3		Descriptive	010	A	General Data
Scope	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)		5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	5.96.3.1.5					
Nomenclature Cross-Reference List		5.96.3.1.6					
List of Abbreviations	R	5.96.3.1.7					
Safety, Care, and Handling	AR	5.96.3.1.8					
Calibration		5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment		5.96.3.1.10					
Copyright Credit Line		5.96.3.1.11					

Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manuals.

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Maintenance Forms, Records, and Reports	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	5.96.4.1.3					
Hand Receipt (HR) Manuals	P	5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	5.96.4.1.6					
Warranty Information		5.96.4.1.7					
Quality of Material	R	5.96.4.1.8					
Nuclear Hardness		5.96.4.1.9					
Equipment Description and Data	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	5.96.5.1.2					
Location and Description of Major Components		5.96.5.1.3					
Differences Between Models		5.96.5.1.4					
Equipment Data	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal		5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Chapter X. Maintenance Instructions	R	5.97.9					
Service Upon Receipt	P	5.97.4					
Siting	P	5.97.4.1.2		Procedural	122	A	Siting
Shelter	P	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	P	5.97.4.1.4	Chapter PM				
Unpacking	P	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	P	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	P	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	P	5.97.4.1.5		Procedural	720	A	Install Procedure

Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manuals.

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Assembly of Equipment	P	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	P	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	P	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	P	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Checks and Adjustment of Equipment	P	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Calibration of Equipment	P	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	P	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	P	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	P	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	P	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	P	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition
Additional Service Upon Receipt Task	P	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	P	5.97.10		Procedural	PD		
Maintenance		5.97.9					
Servicing	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	5.97.9.1.7		Procedural	310	J	Inspection of Installed Items
Removal	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	5.97.9.1.16		Procedural	240	A	Lubrication

Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manuals.

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Assembly	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	5.97.9.1.19.2					
Calibration	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	5.97.9.1.22		Procedural	340	C	Testing
Preparation for Storage or Shipment	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Other Maintenance Task	AR			Procedural	PD		
Follow-On Maintenance	AR	5.97.10		Procedural	PD		
General Maintenance		5.97.11		Procedural	PD		
Lubrication Instructions		5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items		5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits		5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams		5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Test and Inspection Maintenance Instructions			Chapter PM				
Test and Inspection				Procedural	300	B	Test and Inspection
Chapter X. Shipment/Movement and Storage Maintenance Instructions	P		Chapter PM				
Preparation for Storage or Shipment	P	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Chapter X.	R		Chapter PM				

Table A-XXI. Conventional and Chemical Ammunition Sustainment Maintenance Manuals.

Content	MM0 & M0B Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Ammunition Marking Maintenance Instructions							
Ammunition Marking Information	R	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Chapter X. Parts Information (Operator, Field, & Sustainment) (Operator, Field, & Sustainment with parts)	P R						
Introduction	R	5.103.4	Chapter PM	Descriptive	018	E	Parts Introduction
Repair Parts List	R	5.103.5		IPD	607	E	Repair Parts Information
Repair Parts for Special Tools		5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List		5.103.7		IPD	607	C	Kit Parts List
Bulk Item		5.103.8		IPD	603	B	Bulk Items
Special Tools List		5.103.9		IPD	604	B	Special Tools List
NSN Index	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	5.103.10.1.6					
Reference Designator Index	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	5.116.1	Chapter PM				
References	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard MAC	P	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	P	5.104.3		Schedule	916	A	MAC
Expendable and Durable Items	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Tool Identification List		5.113.1		Descriptive	062	B	Tool Identification List
Additional Supporting Information		5.116.1.1.4		Descriptive	PD		
Rear Matter	R	5.132.1	Rear Matter PM				

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Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Front Matter	R	R	5.131	Front Matter PM				
Chapter 1. General Information, Equipment Description and Theory of Operation	R	R		Chapter PM				
General Information	R	R	5.96.3		Descriptive	010	A	General Data
Scope	R	R	5.96.3.1.2					
Ozone Depleting Substances (ODS)			5.96.3.1.3					
Destruction of Army Materiel to Prevent Enemy Use	R	R	5.96.3.1.4					
Preparation for Storage or Shipment	R	R	5.96.3.1.5					
Nomenclature Cross-Reference List			5.96.3.1.6					
List of Abbreviations	R	R	5.96.3.1.7					
Safety, Care, and Handling			5.96.3.1.8					
Calibration			5.96.3.1.9					
Supporting Information for Repair Parts, Special Tools, TMDE, and Support Equipment			5.96.3.1.10					
Copyright Credit Line			5.96.3.1.11					

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Maintenance Forms, Records, and Reports	R	R	5.96.4		Descriptive	010	B	General Information
Reporting Equipment Improvement Recommendations (EIR)	R	R	5.96.4.1.3					
Hand Receipt (HR) Information			5.96.4.1.5					
Corrosion Prevention and Control (CPC)	R	R	5.96.4.1.6					
Warranty Information			5.96.4.1.7					
Quality of Material	AR	AR	5.96.4.1.8					
Nuclear Hardness			5.96.4.1.9					
Equipment Description and Data	R	R	5.96.4.2.2		Descriptive	000	B	Equipment Description and Data
Equipment Characteristics, Capabilities, and Features	R	R	5.96.5.1.2					
Location and Description of Major Components			5.96.5.1.3					
Differences Between Models			5.96.5.1.4					
Equipment Data	R	R	5.96.5.1.5					
Instructions for the Use, Transportation, Handling, Storage, or Disposal	R	R	5.96.5.1.6		Procedural	800	L	Instructions for the Use, Transportation, Handling, Storage, or Disposal
Chapter X. Maintenance Instructions *Note:* PMCS is required as a minimum in one maintenance chapter.	R	R	5.97.9	Chapter PM				

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Service Upon Receipt	R	R	5.97.4					
Siting	AR	AR	5.97.4.1.2		Procedural	122	A	Siting
Shelter	AR	AR	5.97.4.1.3		Procedural	123	A	Shelter
Service Upon Receipt of Materiel	R	R	5.97.4.1.4					
Unpacking	R	R	5.97.4.1.4		Procedural	840	B	Unpacking
Checking Unpacked Equipment	R	R	5.97.4.1.4		Checklist	870	B	Checking Unpacked Equipment
Processing Unpacked Equipment	R	R	5.97.4.1.4		Procedural	870	C	Processing Unpacked Equipment
Installation Instructions	AR	AR	5.97.4.1.5		Procedural	720	A	Install Procedure
Assembly of Equipment	AR	AR	5.97.4.1.6		Procedural	710	C	Assembly of Equipment
Special Application Installation Instructions	AR	AR	5.97.4.1.8		Procedural	720	B	Special Application Installation Instructions
Van and Shelter Procedure	AR	AR	5.97.4.1.9		Procedural	123	C	Van and Shelter Procedure
Preliminary Servicing of Equipment	AR	AR	5.97.4.1.10		Procedural	200	F	Preliminary Servicing
Preliminary Checks and Adjustment of Equipment	AR	AR	5.97.4.1.11		Procedural	271	B	Preliminary Checks and Adjustment of Equipment
Preliminary Calibration of Equipment	AR	AR	5.97.4.1.12		Procedural	273	D	Preliminary Calibration of Equipment
Circuit Alignment	AR	AR	5.97.4.1.13		Procedural	272	B	Circuit Alignment
Ammunition Marking	AR	AR	5.97.4.1.15		Procedural	067	C	Ammunition Marking
Classification of Defects	AR	AR	5.97.4.1.16		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.4.1.17		Procedural	912	E	Handling Ammunition
Procedures to Activate Ammunition	AR	AR	5.97.4.1.18		Procedural	276	G	Procedures To Activate Ammunition

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Additional Service Upon Receipt Task	AR	AR	5.97.4.1.19		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
Maintenance	R	R	5.97.9					
Servicing	AR	AR	5.97.9.1.5		Procedural	200	A	Servicing
Ground Handling	AR	AR	5.97.9.1.6		Procedural	912	F	Ground Handling
Inspection of Installed Items	AR	AR	5.97.9.1.7		Procedural	310	A	Inspection of Installed Items
Removal	AR	AR	5.97.9.1.8		Procedural	520	A	Removal Procedure
Disassembly	AR	AR	5.97.9.1.9		Procedural	530	A	Disassembly Procedure
Cleaning	AR	AR	5.97.9.1.10		Procedural	PD		
Inspection - Acceptance and Rejection Criteria	AR	AR	5.97.9.1.11		Procedural	310	D	Inspection - Acceptance and Rejection Criteria
Nondestructive Testing Inspection (NDTI)	AR	AR	5.97.9.1.12		Procedural	350	B	Non-Destructive Testing Inspection
Repair or Replacement	AR	AR	5.97.9.1.13		Procedural	685	B	Repair or Replacement
Alignment	AR	AR	5.97.9.1.14		Procedural	272	A	Align
Painting	AR	AR	5.97.9.1.15		Procedural	257	B	Painting
Lubrication	AR	AR	5.97.9.1.16		Procedural	240	A	Lubrication
Assembly	AR	AR	5.97.9.1.17		Procedural	710	A	Assemble Procedure
Test and Inspection	AR	AR	5.97.9.1.18		Procedural	300	B	Test and Inspection
Installation	AR	AR	5.97.9.1.19		Procedural	720	A	Install Procedure
Adjustment	AR	AR	5.97.9.1.19.2					
Calibration	AR	AR	5.97.9.1.19.3					
Radio Interference Suppression	AR	AR	5.97.9.1.20		Procedural	143	A	Radio Interference Suppression
Placing In Service	AR	AR	5.97.9.1.21		Procedural	870	P	Placing In Service
Testing	AR	AR	5.97.9.1.22		Procedural	340	C	Testing

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Preparation for Storage or Shipment	AR	AR	5.97.9.1.25		Procedural	810	C	Preparation for Storage or Shipment
Classification of Defects	AR	AR	5.97.9.1.26		Procedural	350	C	Classification of Defects
Handling Ammunition	AR	AR	5.97.9.1.27		Procedural	912	E	Handling Ammunition
Ammunition Marking	AR	AR	5.97.9.1.28		Procedural	067	C	Ammunition Marking
Procedures to Activate Ammunition	AR	AR	5.97.9.1.29		Procedural	120	G	Procedures To Activate Ammunition
Additional Maintenance Task	AR	AR	5.97.9.1.30		Procedural	PD		
Follow-On Maintenance	AR	AR	5.97.10		Procedural	PD		
General Maintenance			5.97.11		Procedural	PD		
Lubrication Instructions			5.97.12		Procedural	240	B	Lubrication Instructions
Illustrated List of Manufactured Items			5.97.17		Descriptive	670	E	Illustrated List of Manufactured Items
Torque Limits			5.97.18		Procedural	711	B	Torque Limits
Wiring Diagrams			5.102.1		Descriptive	051	A	Wiring Diagrams
Chapter X. Test and Inspection Maintenance Instructions				Chapter PM				
Test and Inspection			5.97.9.1.18		Procedural	300	B	Test and Inspection
Chapter X. Shipment/Movement and Storage Maintenance Instructions				Chapter PM				
Preparation for Storage or Shipment					Procedural	810	C	Preparation for Storage or Shipment

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Chapter X. Ammunition Marking Maintenance Instructions				Chapter PM				
Ammunition Marking Information			5.97.9.1.28		Procedural	067	C	Ammunition Marking
Chapter X. Parts Information (Operator, Field, & Sustainment) (Operator, Field, & Sustainment with parts)	P R			Chapter PM				
Introduction	R	R	5.103.4		Descriptive	018	E	Parts Introduction
Repair Parts List	R	R	5.103.5		IPD	607	E	Repair parts information
Repair Parts for Special Tools			5.103.6		IPD	607	B	Repair Parts for Special Tools
Kit Parts List			5.103.7		IPD	607	C	Kit Parts List
Bulk Item			5.103.8		IPD	603	B	Bulk Items
Special Tools List			5.103.9		IPD	604	B	Special Tools List
NSN Index	R	R	5.103.10.1.5		Descriptive	928	A	Cross Reference Index
P/N Index	R	R	5.103.10.1.6					
Reference Designator Index	AR	AR	5.103.10.1.7					
Chapter X. Supporting Information	R	R	5.116.1	Chapter PM				
References	R	R	5.116.1.1.2		Descriptive	017	B	References
Introduction for Standard MAC	R	R	5.104.1 5.104.2		Descriptive	018	D	MAC Introduction
Maintenance Allocation Chart	R	R	5.104.3		Schedule	916	A	MAC
Expendable and Durable Items	R	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List

Table A-XXII. Conventional and Chemical Ammunition Field & Sustainment Maintenance Manuals.

Conventional and Chemical Ammunition Unit and Direct Support Maintenance Manuals **Field Maintenance Manual** **Field & Sustainment Maintenance Manual**								
Content	**MM2 & M2B Req'ment**	**MM4, & M4B Req'ment**	**Ref.**	**PM Type**	**DM Type**	**Info Code**	**ICV**	**Info Name**
Tool Identification List			5.113.1		Descriptive	062	B	Tool Identification List
Additional Supporting Information			5.116.1.1.4		Descriptive	PD		
Rear Matter	R	R	5.132.1	Rear Matter PM				

Table A-XXIII. Hand Receipt Technical Manuals.

Content	HDR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Section I - Introduction	R	5.103.18.1.2	Section PM	Descriptive	018	A	Introduction
Section II - Hand Receipt			Section PM				
Hand receipt	R	5.103.18.1.3		Descriptive	023	D	Hand Receipt

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Table A-XXIV. Supplemental Information for Commercial Off-the-Shelf (COTS) Manuals.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131	Front Matter PM				
Destruction of Military Materiel to Prevent Enemy Use	R	5.111.3	Chapter PM	Descriptive	997	D	Destruction General Information
Lubrication Order/Instructions	R	5.107.3.1.4.3		Procedural	240	B	Lubrication instructions
Preventive Maintenance Checks and Services (PMCS)	R	5.97.5		Checklist	200	B	PMCS
Maintenance Allocation Chart (MAC)	R	5.104.3	Chapter PM	Maintenance Planning	916	A	MAC
Components of End Item (COEI) and Basic Issue Items (BII) List	R	5.103.11 5.103.12		Descriptive	105	D	Components of End Item (COEI) List
				Descriptive	105	C	Basic Issue Items (BII) List
Additional Authorization List (All)	R	5.103.13		Descriptive	104	C	Additional Authorization List (AAL)
Expendable Supplies and Materials List	R	5.103.14		Descriptive	070	D	Expendable and Durable Items List
Repair Parts List	R	5.107.3.1.4.10		IPD	607	E	Repair Parts Information
Warranty Information		5.107.3.1.4.12		Descriptive	023	E	Warranty Information
Copywright Release		5.107.3.1.4.13		Descriptive	021	A	Copyright
Rear Matter		5.132.1	Rear Matter PM				

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Table A-XXV. Preventive Maintenance Checklists.

Content	PMC Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Cover	R	5.131.1.1.3	Generated from PM metadata		N/A	N/A	Front Cover
Checklist	R	5.97.8		Checklist	200	J	PMCS Checklist

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Table A-XXVI. Modification Work Orders (MWOs).

Content	MWO Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131	Front Matter PM				
Text			Chapter PM				
Paragraph 1 – Purpose	R	5.111.1.1.3		Descriptive	018	A	Introduction
Paragraph 2 – Priority	R	5.111.1.1.3					
Paragraph 3 - End Item(s) or System(s) to Be Modified	R	5.111.1.1.4		Descriptive	616	A	Modified Items List
Paragraph 4 - Module(s) (Components, Assemblies, Subassemblies. Boards. and Cards) to Be Modified	R	5.111.1.1.4					
Paragraph 5 - Part(s) to Be Modified	R	5.111.1.1.4					
Paragraph 6 – Application	R	5.111.1.1.5		Descriptive	670	D	Modification Application
Paragraph 7 - Technical Publications Affected/Changed	R	5.111.1.1.6		Descriptive	017	N	Technical Publications Affected/Changed
Paragraph 8 - MWO Kit(s)/Part(s) and Their Disposition.	R	5.111.1.1.7		Descriptive	607	C	Kit Parts List
Paragraph 9 - Special Tools; Tool Kits: Jigs: TMDE: and Fixtures Required	R	5.111.1.1.8		Descriptive	304	B	Special Support Equipment and Tools
Paragraph 10 - Modification Procedures	R	5.111.1.1.9		Procedural	670	B	Modification Procedures
Paragraph 11 - Calibration Requirements	R	5.111.1.1.10		Descriptive	017	E	Calibration Requirements
Paragraph 12 - Weight and Balance Data	R	5.111.1.1.11		Descriptive	169	F	Weight and Balance Data
Paragraph 13 - Quality Assurance Requirements	R	5.111.1.1.12		Descriptive	315	A	Quality Assurance Requirements
Paragraph 14 - Recording and Reporting of the Modification	R	5.111.1.1.13		Descriptive	670	C	Recording and Reporting of the Modification
Paragraph 15 - Materiel Change (MC) Number	R	5.111.1.1.13					
Paragraph 16 - Modification Identification	R	5.111.1.1.13					

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Table A-XXVII. Battle Damage Assessment and Repair (BDAR).

Content	BDR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
General Information	R	5.112.1.4	Chapter PM	Descriptive	018	G	BDAR Introduction
Assessing Battlefield Damage			Chapter PM				
General Fault Assessment Tables	R	5.112.1.7		Fault	410	E	General Fault Assessment Tables
General Repair			Chapter PM				
Repair Procedure	R	5.112.1.8.2		Procedural	PD		
Major Functional Groups			Chapter PM				
Repair Procedure	R	5.112.1.8.2		Procedural	PD		
Auxiliary Equipment			Chapter PM				
Repair Procedure	R	5.112.1.8.2		Procedural	PD		
References	R	5.112.1.9	Chapter PM	Descriptive	017	B	References
Special or Fabricated Tools	R	5.112.1.10	Chapter PM	Descriptive	605	B	Support Equipment and Tools
Expendable and Durable Supplies and Materials	R	5.112.1.11	Chapter PM	Descriptive	070	D	Expendable and Durable Items List
Substitute Materials/Parts	R	5.112.1.12	Chapter PM	Descriptive	607	D	Substitute Materials/Parts
Rear Matter	R	5.132.1	Rear Matter PM	Descriptive			

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Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req' ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131	Front Matter PM				
Chapter 1. Introduction	R		Chapter PM				
Section I - Purpose and Scope	R	5.125.12.1.4		Descriptive	018	A	Introduction
Section II - General	R						
Description and Use of This Manual	R	5.125.12.1.5		Descriptive	018	B	How to Use This Manual
Classified Materials	R	5.125.12.1.5.3					
Warnings, Cautions, and Notes	R	5.125.12.1.5.4					
Deviations	R	5.125.12.1.5.5					
Section III- Aircraft Description	R	5.125.12.1.6		Descriptive	040	B	Description
Section IV - Shipping Characteristics	R	5.125.12.1.7		Descriptive	800	B	Shipping Characteristics
Section V - Ground Handling	R	5.125.12.1.8		Descriptive	912	F	Ground Handling
Section VI – Safety	R	5.125.12.1.9		Descriptive	012	J	Safety Summary
Section VII - Preservation/ Depreservation Check Sheets	R	5.125.12.1.10		Descriptive	810	E	Preservation/Depreservation Check Sheets
Chapter 2. Shipment By Cargo Aircraft			Chapter PM				
Section I - General	R						
Types of Shipment	R	5.125.12.1.11.1		Descriptive	812	B	Shipment of Aircraft - General
Functions of Cargo Aircraft Crew/Operator	R	5.125.12.1.11.1.2					
Functions of the Army Loading Team	R	5.125.12.1.11.1.3 5.125.12.1.12.1.5					
Facility Requirements	R	5.125.12.1.11.1.4 5.125.12.1.12.1.9 5.125.12.1.13.1.7 5.125.12.1.14.1.5 5.125.12.1.14.2.5					
Weight and Balance	R	5.125.12.1.11.1.5					

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Safety	R	5.125.12.1.11.1.7					
Security	R	5.125.12.1.11.1.6					
Section II – Shipment By C-5 Aircraft	R						
Characteristics	R	5.125.12.1.11.2.1		Descriptive	800	C	Shipping Characteristics – C-5
Preparing the Aircraft	R	5.125.12.1.11.2.2					
Loading	R	5.125.12.1.11.2.3		Procedural	831	B	Loading – C-5
Tiedown	R	5.125.12.1.11.2.4		Procedural	811	G	Tiedown – C-5
Unloading	R	5.125.12.1.11.2.5		Procedural	841	B	Unloading – C-5
Depreservation and Reassembly	R	5.125.12.1.11.2.6		Procedural	870	F	Depreservation and Reassembly – C-5
Section III - Shipment By C-17 Aircraft	R						
Characteristics	R	5.125.12.1.11.2.1		Descriptive	800	D	Shipping Characteristics – C-17
Preparing the Aircraft	R	5.125.12.1.11.2.2					
Loading	R	5.125.12.1.11.2.3		Procedural	831	C	Loading – C-17
Tiedown	R	5.125.12.1.11.2.4		Procedural	811	H	Tiedown – C-17
Unloading	R	5.125.12.1.11.2.5		Procedural	841	C	Unloading – C-17
Depreservation and Reassembly	R	5.125.12.1.11.2.6		Procedural	870	G	Depreservation and Reassembly – C-17
Section IV - Shipment By C-141 Aircraft	R						
Characteristics	R	5.125.12.1.11.2.1		Descriptive	800	E	Shipping Characteristics – C-141
Preparing the Aircraft	R	5.125.12.1.11.2.2					
Loading	R	5.125.12.1.11.2.3		Procedural	831	D	Loading – C-141
Tiedown	R	5.125.12.1.11.2.4		Procedural	811	J	Tiedown – C-141
Unloading	R	5.125.12.1.11.2.5		Procedural	841	D	Unloading – C-141
Depreservation and Reassembly	R	5.125.12.1.11.2.6		Procedural	870	H	Depreservation and Reassembly – C-141
Section V - Shipment By C-130 Aircraft	R						
Characteristics	R	5.125.12.1.11.2.1		Descriptive	800	F	Shipping Characteristics – C-130
Preparing the Aircraft	R	5.125.12.1.11.2.2					
Loading	R	5.125.12.1.11.2.3		Procedural	831	E	Loading – C-130
Tiedown	R	5.125.12.1.11.2.4		Procedural	811	K	Tiedown – C-130
Unloading	R	5.125.12.1.11.2.5		Procedural	841	E	Unloading – C-130

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Depreservation and Reassembly	R	5.125.12.1.11.2.6		Procedural	870	J	Depreservation and Reassembly – C-130
Chapter 3. Shipment By Vessel			Chapter PM				
Section I - General	R	5.125.12.1.12.1.1					
Types of Shipment	R	5.125.12.1.12.1.2		Descriptive	812	B	Shipment of Aircraft - General
Responsibilities of Military Traffic Management Command (MTMC)	R	5.125.12.1.12.1.3					
Functions of Marine Terminal Personnel	R	5.125.12.1.12.1.4					
Functions of the Army Loading Team	R	5.125.12.1.12.1.5					
Equipment Requirements	R	5.125.12.1.12.1.6					
Material Requirements	R	5.125.12.1.12.1.7					
Manpower Requirements	R	5.125.12.1.12.1.8					
Facility Requirements	R	5.125.12.1.12.1.9					
Aircraft Security	R	5.125.12.1.12.1.10					
Safety	R	5.125.12.1.12.1.11					
Characteristics	R	5.125.12.1.12.1.12					
Section II - Tactical Shipment	R	5.125.12.1.12.2					
Preparing the Aircraft	R	5.125.12.1.12.2.1		Descriptive	800	S	Preparing the Aircraft – Vessel, Tactical
Loading	R	5.125.12.1.12.2.2		Procedural	831	F	Loading – Vessel, Tactical
Tiedown	R	5.125.12.1.12.2.3		Procedural	811	L	Tiedown – Vessel, Tactical
Unloading	R	5.125.12.1.11.2.55. 125.12.1.12.2.4		Procedural	841	F	Unloading – Vessel, Tactical
Depreservation and Reassembly	R	5.125.12.1.12.2.5		Procedural	870	K	Depreservation and Reassembly – Vessel, Tactical
Section III - Logistical Shipment	R	5.125.12.1.12.3					
Preparing the Aircraft	R	5.125.12.1.12.3.1		Descriptive	800	T	Preparing the Aircraft – Vessel, Logistical
Loading	R	5.125.12.1.12.3.2		Procedural	831	G	Loading – Vessel, Logistical
Tiedown	R	5.125.12.1.12.3.3		Procedural	811	M	Tiedown – Vessel, Logistical
Unloading	R	5.125.12.1.12.3.4		Procedural	841	G	Unloading – Vessel, Logistica

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Depreservation and Reassembly	R	5.125.12.1.12.3.5		Procedural	870	L	Depreservation and Reassembly – Vessel, Logistical
Section IV - Shipment By US Navy Air Capable Ships	R	5.125.12.1.12.4					
Preparing the Aircraft	R	5.125.12.1.12.4.1		Descriptive	800	U	Preparing the Aircraft – Vessel, US Navy Capable
Loading	R	5.125.12.1.12.4.2		Procedural	831	H	Loading – Vessel, US Navy Capable
Tiedown	R	5.125.12.1.12.4.3		Procedural	811	N	Tiedown – Vessel, US Navy Capable
Unloading	R	5.125.12.1.12.4.4		Procedural	841	H	Unloading – Vessel, US Navy Capable
Depreservation and Reassembly	R	5.125.12.1.12.4.5		Procedural	870	M	Depreservation and Reassembly – Vessel, US Navy Capable
Chapter 4. Shipment By Truck	R						
Section I - General	R	5.125.12.1.13					
Types of Truck Shipments	R	5.125.12.1.13.1.2		Descriptive	812	B	Shipment of Aircraft - General
Responsibilities of the Shipper	R	5.125.12.1.13.1.3					
Equipment Requirements	R	5.125.12.1.13.1.4					
Material Requirements	R	5.125.12.1.13.1.5					
Manpower Requirements	R	5.125.12.1.13.1.6					
Facility Requirements	R	5.125.12.1.13.1.7					
Safety Requirements	R	5.125.12.1.13.1.8					
Section II - Aircraft Recovery and Tactical Transport	R	5.125.12.1.13.2	Chapter PM				
Drawings	R	5.125.12.1.13.2.1		Descriptive	800	G	Shipping Characteristics – Aircraft Recovery
Dimensions	R	5.125.12.1.13.2.1					
Capabilities	R	5.125.12.1.13.2.1					
Limitations	R	5.125.12.1.13.2.1					
Load Characteristics	R	5.125.12.1.13.2.1					
Highway Permits	R	5.125.12.1.13.2.1					
Preparing the Aircraft	R	5.125.12.1.13.2.2		Procedural	800	X	Preparing the Aircraft – Aircraft Recovery and Tactical Transport
Section III - Logistical (Long Haul) Transport By Truck	R	5.125.12.1.13.3		Descriptive	812	E	Shipment of Aircraft - Truck (Long Haul)

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter 5. Crated and Intermodal Container Shipment	R	5.125.12.1.14	Chapter PM				
Section I - Crated Shipment	R	5.125.12.1.14.1					
Characteristics	R	5.125.12.1.14.1.2		Descriptive	800	H	Shipping Characteristics - Crated
Handling Methods	R	5.125.12.1.14.1.3					
Security Requirements	R	5.125.12.1.14.1.4					
Facility Requirements	R	5.125.12.1.14.1.5					
Equipment	R	5.125.12.1.14.1.6					
Consumable Materials	R	5.125.12.1.14.1.7					
Manpower Requirements	R	5.125.12.1.14.1.8					
Aircraft Preparation	R	5.125.12.1.14.1.9		Procedural	800	C	Preparing the Aircraft - Crated
Crating		5.125.12.1.14.1.10		Procedural	830	B	Crating
Unpacking and Reassembly	R	5.125.12.1.14.1.11		Procedural	870	D	Unpacking and Reassembly
Section II - Intermodal Container Shipment	R	5.125.12.1.14.2					
Characteristics	R	5.125.12.1.14.2.2		Descriptive	800	J	Shipping Characteristics – Intermodal Container
Drawings	R	5.125.12.1.14.2.3					
Security Requirements	R	5.125.12.1.14.2.4					
Facility Requirements		5.125.12.1.14.2.5					
Safety Requirements	R	5.125.12.1.14.2.6					
Equipment Requirements	R	5.125.12.1.14.2.7					
Consumable Materials	R	5.125.12.1.14.2.8					
Manpower Requirements	R	5.125.12.1.14.2.9					
Aircraft Preparation	R	5.125.12.1.14.2.10		Procedural	800	W	Preparing the Aircraft – Intermodal Container
Loading	R	5.125.12.1.14.2.11		Procedural	831	J	Loading – Intermodal Container
Tiedown	R	5.125.12.1.14.2.12		Procedural	811	P	Tiedown – Intermodal Container
Unloading	R	5.125.12.1.14.2.13		Procedural	841	J	Unloading – Intermodal Container
Depreservation and Reassembly	R	5.125.12.1.14.2.14		Procedural	870	N	Depreservation and Reassembly – Intermodal Container
Chapter 6. Preservation and Packaging	R	5.125.12.1.15	Chapter PM				
Section I - General	R	5.125.12.1.15.1		Descriptive	810	H	Preservation, Packaging, and Marking

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Section II - Aircraft Cleaning	R	5.125.12.1.15.2					
General	R	5.125.12.1.15.2		Procedural	811	E	Aircraft Cleaning
Equipment Requirements	R	5.125.12.1.15.2					
Materials	R	5.125.12.1.15.2					
Manpower	R	5.125.12.1.15.2					
Procedures	R	5.125.12.1.15.2					
Section III - Preservation of Aircraft	R	5.125.12.1.15.3					
General	R	5.125.12.1.15.3		Procedural	811	B	Preservation of Aircraft
Equipment	R	5.125.12.1.15.3					
Materials	R	5.125.12.1.15.3					
Manpower	R	5.125.12.1.15.3					
Procedures	R	5.125.12.1.15.3					
Section IV - Preservation and Packaging of Components	R	5.125.12.1.15.4					
Procedures	R	5.125.12.1.15.4		Descriptive	811	C	Preservation and Packaging of Components
Manpower	R	5.125.12.1.15.4					
Materials	R	5.125.12.1.15.4					
Packaging	R	5.125.12.1.15.4					
Section V - Marking of Aircraft/Preparation of Shipping Documents	R	5.125.12.1.15.5					
Identification	R	5.125.12.1.15.5		Descriptive	811	D	Marking of Aircraft/Preparation of Shipping Documents
Color Coding	R	5.125.12.1.15.5					
Preservation Information	R	5.125.12.1.15.5					
Section VI - Depreservation and Assembly	R	5.125.12.1.15.6		Procedural	870	E	Depreservation and Reassembly - General
Chapter 7. Transportability Equipment Fabricated at Unit Level	R	5.125.12.1.16	Chapter PM		PD		

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Chapter 8. Operator and Maintenance Instructions for Transportability Equipment Including Repair Parts List	R	5.125.12.1.17	Chapter PM				
Section I - Operator Instructions	R	5.125.12.1.17.1		Crew	131	A	Normal Operation Procedures
Section II - Repair/Overhaul Procedures	R	5.125.12.1.17.2		Procedural	664	B	Repair/Overhaul Procedures
Section III - Repair Parts List	R	5.125.12.1.17.3		IPD	607	E	Repair Parts Information
Chapter 9. External Transport By Helicopter (Aerial Recovery)	R	5.125.12.1.18	Chapter PM				
Section I - General	R	5.125.12.1.18.1					
Types of Transport	R	5.125.12.1.18.1.2		Descriptive	812	F	Aerial Recovery - General
Functions of Aircraft Recovery Team	R	5.125.12.1.18.1.3					
Safety	R	5.125.12.1.18.1.4					
Structurally Damaged Aircraft	R	5.125.12.1.18.1.5					
Drag	R	5.125.12.1.18.1.6					
Section II - Single Cargo Hook Rotor Head Lift	R	5.125.12.1.18.2					
Lift Factors	R	5.125.12.1.18.2.1		Descriptive	812	G	Aerial Recovery - Lift Factors
Preparing the Aircraft	R	5.125.12.1.18.2.2		Procedural	800	Y	Preparing the Aircraft – Aircraft Recovery, Single Cargo Hook Rotor Head Lift
Reassembly	R	5.125.12.1.18.2.3		Procedural	710	D	Reassembly
Section III - Single Cargo Hook Hard Point Lift	R	5.125.12.1.18.3		Procedural	812	H	Aerial Recovery - Single Cargo Hook Hard Point Lift
Section IV - Dual Cargo Hook Rotor Head Lift	R	5.125.12.1.18.4		Procedural	812	K	Aerial Recovery - Dual Cargo Hook Rotor Head Lift
Section V - Dual Cargo Hook Hard Point Lift	R	5.125.12.1.18.5		Procedural	812	J	Aerial Recovery - Dual Cargo Hook Hard Point Lift
Section VI - Single Cargo Hook Belly Band Lift	R	5.125.12.1.18.6		Procedural	812	M	Aerial Recovery - Single Cargo Hook Belly Band Lift

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Appendix A. References	R	5.125.12.1.19	Appendix PM	Descriptive	017	B	References
Appendix B. Preservation/Depreservation Check Sheets	R	5.125.12.1.20	Appendix PM	Descriptive	810	E	Preservation/Depreservation Check Sheets
Appendix C. Weight and Balance Information for Transportability	R	5.125.12.1.21	Appendix PM	Descriptive	169	A	Weight and Balance
Appendix D. Consumable Materials List	R	5.125.12.1.22	Appendix PM	IPD	070	B	Consumable Materials list
Appendix E. Special Tools and Equipment List	R	5.125.12.1.23	Appendix PM	IPD	061	B	Support Equipment and Tools
Appendix F. Quarantine Inspection/Customs Clearance	R	5.125.12.1.24	Appendix PM	Procedural	812	L	Quarantine Inspection/Customs Clearance
Appendix G. Aircraft Protective Covering	R	5.125.12.1.25	Appendix PM				
Safety	R	5.125.12.1.25.1		Procedural	812	Q	Preparation of Aircraft – Protective Covering
Aircraft Preparation	R	5.125.12.1.25.1					
Application of Film	R	5.125.12.1.25.1					
Fuel and Battery Vents	R	5.125.12.1.25.1					
Installation of Ventilators	R	5.125.12.1.25.1					
Hoisting	R	5.125.12.1.25.2		Procedural	812	R	Hoisting
Tiedown	R	5.125.12.1.25.3		Procedural	811	F	Tiedown - General
Enroute Maintenance	R	5.125.12.1.25.4		Procedural	664	B	Repair/Overhaul Procedures
Removal of Shrink Film	R	5.125.12.1.25.5		Procedural	812	V	Shipment of Aircraft - Protective Covering, Removal
Tools and Equipment	R	5.125.12.1.26		Descriptive	802	A	List of Materials Associated With Storage
Consumable Materials	R	5.125.12.1.26.2					
Manpower		5.125.12.1.26.3					
Safety Check Sheet	R	5.125.12.1.27		Descriptive	012	C	Safety Check Sheet

Table A-XXVIII. Preparation for Shipment of Army Aircraft Manuals.

Content	CLG Req' ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Rear Matter		5.132.1	Rear Matter PM				

Table A-XXIX. DMWRs for Maintenance/Demilitarization of Conventional and Chemical Ammunition.

Content	DWR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131	Front Matter PM				
Chapter 1. Introduction			Chapter PM				
Scope	R	5.97.22.1.3		Descriptive	018	A	Introduction
Forms, Records, and Reports	R	5.97.22.1.3.2					
Deviations, Waivers, and Exceptions	R	5.97.22.1.3.3					
Corrosion Prevention and Control (CPC)	R	5.97.22.1.3.4					
Work Planning	R	5.97.22.1.3.5					
Disposition	R	5.97.22.1.3.6					
Safety Requirements	R	5.97.22.1.3.7					
Protection Against Pentachlorophenol (Penta)-Treated Materials	R	5.97.22.1.3.8					
Protection Against Specific Hazards	R	5.97.22.1.3.9					
Environmental Regulation Compliance	R	5.97.22.1.3.10					
Resource Conservation and Recovery Regulations	R	5.97.22.1.3.11					
Tabulated Data	R	5.97.22.1.3.12					
Chapter 2			Chapter PM				
Operational Requirements	R	5.97.22.1.4		Procedural	130	E	Operational Requirements
Chapter 3			Chapter PM				
Quality Acceptance Requirements	R	5.97.22.1.5		Descriptive	315	A	Quality Assurance Requirements
Definitions	R	5.97.22.1.6		Descriptive	006	A	List of Terms
Appendix A			Appendix PM				
References	R	5.97.22.1.7.1		Descriptive	017	B	References
Appendix B			Appendix PM				
Consumable Materials	R	5.97.22.1.7.2		Descriptive	101	B	Consumable Materials

Table A-XXIX. DMWRs for Maintenance/Demilitarization of Conventional and Chemical Ammunition.

Content	DWR Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Appendix C			Appendix PM				
Equipment and Special Facilities	R	5.97.22.1.7.3		Descriptive	105	B	Equipment and Special Facilities
Appendix D			Appendix PM				
Tabulated Data, Military Specifications, and Drawings	R	5.97.22.1.7.4		Descriptive	00V	A	Tabulated Data, Military Specifications, and Drawings
Appendix E			Appendix PM				
Approved Intraplant Transfer Equipment	R	5.97.22.1.7.5		Descriptive	104	B	Approved Intraplant Transfer Equipment
Appendix F			Appendix PM				
Pentachlorophenol (Penta)-Treated Packing Materials		5.97.22.1.7.6		Descriptive	820	B	Pentachlorophenol (Penta)-Treated Packing Materials
Appendix G			Appendix PM				
Environmental Requirements	R	5.97.22.1.7.7		Descriptive	030	B	Environmental Requirements
Appendix H			Appendix PM				
Hazard Analysis	R	5.97.22.1.7.8		Descriptive	012	B	Hazard Analysis
Other Appendixes	R		Appendix PM	Descriptive	PD	A	
Rear Matter		5.132.1	Rear Matter PM				

Table A-XXX. Munition Equipment and Ammunition Data Sheet Manuals.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Data Sheets			Chapter PM				
Photograph or Line Drawing of the Munitions Equipment or Ammunition Item	R	5.115.1.1.4		Descriptive	030	D	Munition Equipment and Ammunition Data Sheets
Type Classification	R	5.115.1.1.6					
Use	R	5.115.1.1.7					
Description	R	5.115.1.1.8					
Functioning	R	5.115.1.1.9					
Differences Between Models	R	5.115.1.1.10					
Tabulated Data	R	5.115.1.1.11					
Performance	R	5.115.1.1.12					
Temperature Limits	R	5.115.1.1.13					
Drawings	R	5.115.1.1.14					
Unit of Issue	R	5.115.1.1.15					
Packing Data	R	5.115.1.1.16					
Shipping and Storage Data	R	5.115.1.1.17					
Limitations	R	5.115.1.1.18					
References	R	5.115.1.1.19					
Remarks	R	5.115.1.1.20					
Associated Equipment	R	5.115.1.1.21					
Kits	R	5.115.1.1.22					
Appendices	R	5.115.1.1.23	Appendix PM				
Appendix A. Deleted Items	R	5.115.1.1.23.1		Descriptive	003	D	Deleted Items
Appendix B. Operational Index	R	5.115.1.1.23.2		Descriptive	928	B	Operational Index
Appendix C. Preparation and Handling of Ammunition Peculiar Equipment for Shipment and Storage	R	5.115.1.1.23.3		Descriptive	810	D	Preparation and Handling of Ammunition Peculiar Equipment for Shipment and Storage
Rear Matter		5.132.1	Rear Matter PM				

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Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM					
Chapter 1. Introduction	R	5.125.1.8	Chapter PM					
General	R	5.125.1.8			Crew	018	A	Introduction
Explanation of Warnings, Cautions, and Notes	R	5.125.1.8.1			Crew	012	H	Explanation of Warnings, Cautions, and Notes
Description	R	5.125.1.8.2			Crew	042	F	Theory of Operation
Army Aviation Safety Program	R	5.125.1.8.3			Crew	017	B	References
Destruction of Army Materiel	R	5.125.1.8.3						
Forms and Records	R	5.125.1.8.3						
Explanation of Change Symbols	R	5.125.1.8.4			Crew	018	B	How to Use This Manual
Designator Symbols	R	5.125.1.8.4.1						
Explanation of the Use of Shall, Should, and May	R	5.125.1.8.4.2						
Additional Introductory Information	R	5.125.1.8.4.3						
Chapter 2. Aircraft and Systems Description and Operation	R	5.125.1.9	Chapter PM					
Section I – Aircraft	R	5.125.1.9.2		Section PM				
General	R	5.125.1.9.2.1			Crew	043	J	Description
Illustrations and Tables	R	5.125.1.9.2.2						
Landing Gear System	R	5.125.1.9.2.4						
Instruments, Panels and Consoles	R	5.125.1.9.2.5						
Canopies	R	5.125.1.9.2.6						
Doors	R	5.125.1.9.2.7						
Seats	R	5.125.1.9.2.8						
Section II - Emergency Equipment	R	5.125.1.9.3		Section PM	Crew	043	J	Description
Section III - Engines and	R	5.125.1.9.4		Section PM				

Table A-XXXI. Aircraft Operator Manual.

Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Related Systems								
Engines	R	5.125.1.9.4.1			Crew	043	J	Description
Section IV - Fuel System	R	5.125.1.9.5		Section PM				
Controls and Indicators	R	5.125.1.9.5.2			Crew	043	J	Description
Fuel System Management	R	5.125.1.9.5.3						
Section V - Flight Control System	R	5.125.1.9.6		Section PM				
Automatic Flight Control System	R	5.125.1.9.6.2			Crew	043	J	Description
Section VI - Hydraulic and Pneumatic Systems	R	5.125.1.9.7		Section PM	Crew	043	J	Description
Section VII - Powertrain System	R	5.125.1.9.8		Section PM	Crew	043	J	Description
Section VIII - Rotors or Propellers	R	5.125.1.9.9		Section PM	Crew	043	J	Description
Section IX - Utility Systems	R	5.125.1.9.10		Section PM	Crew	043	J	Description
Section X – Heating, Ventilation, Cooling, and Environmental Control Systems	R	5.125.1.9.11		Section PM	Crew	043	J	Description
Section XI - Electrical Power Supply and Distribution Systems	R	5.125.1.9.12		Section PM				
DC Power Supply System	R	5.125.1.9.12.1			Crew	043	J	Description
AC Power Supply System	R	5.125.1.9.12.2						
Breakers	R	5.125.1.9.12.3						
Section XII - Auxiliary Power Unit	R	5.125.1.9.13		Section PM	Crew	043	J	Description
Section XIII – Lighting	R	5.125.1.9.14		Section PM	Crew	043	J	Description
Section XIV - Flight Instruments	R	5.125.1.9.15		Section PM	Crew	043	J	Description
Section XV - Servicing, Parking, and Mooring	R	5.125.1.9.16		Section PM				
Servicing Diagram	R	5.125.1.9.16.2			Crew	043	J	Description
Servicing Information	R	5.125.1.9.16.3						
Approved Fuels	R	5.125.1.9.16.4						
Additional Servicing Instructions	R	5.125.1.9.16.5						
Ground Handling	R	5.125.1.9.16.6						

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Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Parking and Mooring	R	5.125.1.9.16.7						
Chapter 3. Avionics	R	5.125.1.10	Chapter PM					
Section I – General	R	5.125.1.10.1		Section PM	Crew	018	A	Introduction
Section II – Communications	R	5.125.1.10.2		Section PM				
Description	R	5.125.1.10.2.1			Crew	043	J	Description
Controls and Functions	R	5.125.1.10.2.2						
Operation	R	5.125.1.10.2.3						
Emergency Operation (If Applicable)	R	5.125.1.10.2.4						
Power Source (If Applicable)	R	5.125.1.10.2.5						
Section III – Navigation	R	5.125.1.10.2		Section PM				
Description	R	5.125.1.10.2.1			Crew	043	J	Description
Controls and Functions	R	5.125.1.10.2.2						
Operation	R	5.125.1.10.2.3						
Emergency Operation (If Applicable)	R	5.125.1.10.2.4						
Power Source (If Applicable)	R	5.125.1.10.2.5						
Section IV - Transponder and Radar	R	5.125.1.10.2		Section PM				
Description	R	5.125.1.10.2.1			Crew	043	J	Description
Controls and Functions	R	5.125.1.10.2.2						
Operation	R	5.125.1.10.2.3						
Emergency Operation (If Applicable	R	5.125.1.10.2.4						
Power Source (If Applicable)	R	5.125.1.10.2.5						
Chapter 4. Mission Equipment	R	5.125.1.11	Chapter PM					
Section I - Mission Avionics	R	5.125.1.11.2		Section PM	Crew	043	J	Description
Section II - Armament	R	5.125.1.11.3		Section PM				
Armament Control System	R	5.125.1.11.3.2			Crew	043	J	Description
Gunnery Equipment	R	5.125.1.11.3.3						
Rocket Equipment	R	5.125.1.11.3.4						
Missiles	R	5.125.1.11.3.5						
Section III - Cargo Handling	R	5.125.1.11.4		Section PM	Crew	160	F	Cargo Handling

Table A-XXXI. Aircraft Operator Manual.

Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Section IV - Passive Defense	R	5.125.1.11.5		Section PM	Crew	043	A	Description
Section V - Additional System Coverage	R	5.125.1.11.6		Section PM	Crew	043	J	Description
Chapter 5. Operating Limits and Restrictions	R	5.125.1.12						
Section I – General	R	5.125.1.12.2		Section PM	Crew	043	B	Operating Limits - General
Section II - System Limits	R	5.125.1.12.3		Section PM				
Instrument, Interactive Display, or Display Operating Ranges and Markings	R	5.125.1.12.3.1			Crew	043	H	Operating Limits - System
Propeller Limitations	R	5.125.1.12.3.2						
Rotor Limitations	R	5.125.1.12.3.3						
Additional Limitations	R	5.125.1.12.3.4						
Section III - Power Limits	R	5.125.1.12.4		Section PM	Crew	043	C	Operating Limits - Power
Section IV - Loading Limits	R	5.125.1.12.5		Section PM				
Center-of-Gravity Limitations	R	5.125.1.12.5.2			Crew	043	D	Operating Limits - Loading
Weight Limitations	R	5.125.1.12.5.3						
Turbulence	R	5.125.1.12.5.4						
Other Limitations	R	5.125.1.12.5.5						
Section V - Maximum and Minimum Airspeed Limits	R			Section PM				
Airspeed Operating Limits Chart	R	5.125.1.12.6			Crew	043	E	Operating Limits - Airspeed
Section VI - Maneuvering Limits	R			Section PM				
Flight Envelope Chart	R	5.125.1.12.7			Crew	043	F	Operating Limits - Maneuvering
Section VII - Environmental Restrictions	R			Section PM				
Flight Under Instrument Meteorological Conditions (IMC)	R	5.125.1.12.8			Crew	043	G	Operating Limits - Environment

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Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Additional Sections	R	5.125.1.12.8.3		Section PM	Crew	043	B	Operating Limits - General
Chapter 6. Weight/Balance and Loading	R	5.125.1.13						
Section I – General	R	5.125.1.12.5		Section PM				
Aircraft Compartment and Station Diagram	R	5.125.1.13.1.2			Crew	169	A	Weight and Balance
Section II - Weight and Balance	R	5.125.1.13.2		Section PM	Crew	169	F	Weight and Balance Data
Section III - Fuel/Oil	R			Section PM				
Oil Data	R	5.125.1.13.3			Crew	169	B	Weight and Balance - Fluids
Section IV – Personnel	R	5.125.1.13.4		Section PM				
Personnel Compartment and Entrances	R	5.125.1.13.4.2			Crew	169	C	Weight and Balance - Personnel
Personnel Loading and Unloading	R	5.125.1.13.4.3						
Personnel Weight	R	5.125.1.13.4.4	Chapter PM					
Personnel Moments	R	5.125.1.13.4.5						
Section V - Mission Equipment	R	5.125.1.13.5		Section PM	Crew	169	D	Weight and Balance - Equipment
Section VI - Cargo Loading	R	5.125.1.13.6		Section PM				
Description and Illustrations	R	5.125.1.13.6.2			Crew	160	D	Cargo Loading
Equipment Loading and Unloading	R	5.125.1.13.6.3						
Preparation of General Cargo	R	5.125.1.13.6.4						
Loading, Securing, and Unloading Cargo	R	5.125.1.13.6.5						
Cargo Center-of-Gravity	R	5.125.1.13.6.6						
Loading Procedure	R	5.125.1.13.6.7						
Securing Loads	R	5.125.1.13.6.8						
Unloading Procedures	R	5.125.1.13.6.9						
Section VII - Center-of-Gravity	R	5.125.1.13.7		Section PM	Crew	169	E	Center-of-Gravity
Chapter 7 . Performance Data	R	5.125.1.14	Chapter PM					

Table A-XXXI. Aircraft Operator Manual.

Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Section I – Introduction	R	5.125.1.14.13		Section PM	Crew	018	A	Introduction
Section II - Charts	R	5.125.1.14.14		Section PM	Crew	030	E	Performance Data
Chapter 8. Normal Procedures	R	5.125.1.15	Chapter PM					
Section I - Crew/Operator Duties	R	5.125.1.15.2		Section PM	Crew	130	E	Operational Requirements
Section II - Operating Procedures and Maneuvers	R	5.125.1.15.3		Section PM				
Procedures	R	5.125.1.15.3.2			Crew	131	A	Normal Operation Procedures
Amplified Checklist	R	5.125.1.15.3.3			Crew	130	B	Amplified Checklist
Preflight Check	R	5.125.1.15.3.4			Crew	131	M	Normal operation check - Preflight
Before Exterior Check		5.125.1.15.3.5			Crew	131	M	Normal operation check - Preflight
Exterior Check	R	5.125.1.15.3.6			Crew	131	M	Normal operation check - Preflight
Interior Check	R	5.125.1.15.3.7			Crew	131	M	Normal operation check - Preflight
Crew/Operator/Passenger Briefing Check	R	5.125.1.15.3.8			Crew	131	M	Normal Operation Check - Preflight
Before Starting Engine(s)	R	5.125.1.15.3.9			Crew	131	B	Normal Operation - Preflight
Starting Engine(s)	R	5.125.1.15.3.9						
Engine Ground Operations		5.125.1.15.3.9						
Before Taxiing	R	5.125.1.15.3.9						
Taxiing	R	5.125.1.15.3.9						
Engine Run up	R	5.125.1.15.3.9						
Before Takeoff	R	5.125.1.15.3.9						
Lineup Check	R	5.125.1.15.3.9.2			Crew	130	C	Lineup Check
Takeoff	R	5.125.1.15.3.10			Crew	131	C	Normal Operation - Flight
After Takeoff	R	5.125.1.15.3.10						
Climb	R	5.125.1.15.3.10						
Cruise	R	5.125.1.15.3.10						
Descent-Arrival	R	5.125.1.15.3.10						
Before Landing	R	5.125.1.15.3.10						

Table A-XXXI. Aircraft Operator Manual.

Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Landing	R	5.125.1.15.3.10						
Touch and Go Landings/Go-Around	R	5.125.1.15.3.10						
After Landing	R	5.125.1.15.3.11			Crew	131	D	Normal Operation - Post Flight
Engine Shutdown	R	5.125.1.15.3.11						
Before Leaving the Aircraft	R	5.125.1.15.3.11						
Section III - Instrument Flight	R	5.125.1.15.4		Section PM	Crew	131	G	Normal Operation - Instrument Flight
Section IV - Flight Characteristics	R	5.125.1.15.5		Section PM				
Stalls	R	5.125.1.15.5.1			Crew	131	E	Normal Operation - Flight Characteristics
Stall Chart (Fixed Wing Only)		5.125.1.15.5.2						
Spins (Fixed Wing Only)		5.125.1.15.5.3						
Diving	R	5.125.1.15.5.4						
Maneuvering Flight	R	5.125.1.15.5.5						
Flight Controls	R	5.125.1.15.5.6						
Level Flight	R	5.125.1.15.5.7						
External Loads	R	5.125.1.15.5.8						
Asymmetrical Loads	R	5.125.1.15.5.9						
Section V - Adverse Environmental Conditions	R	5.125.1.15.6		Section PM				
Cold Weather Operations	R	5.125.1.15.6.1			Crew	131	F	Normal Operation - Weather
Desert and Hot Weather Operations	R	5.125.1.15.6.2						
Turbulence and Thunderstorm Operations	R	5.125.1.15.6.3						
Rain	R	5.125.1.15.6.4						

Table A-XXXI. Aircraft Operator Manual.

Content	OPI Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Chapter 9 -Emergency Procedures	R	5.125.1.16	Chapter PM					
Section I - Aircraft Systems	R	5.125.1.16.2		Section PM				
Emergency Equipment and Exits	R	5.125.1.16.2.1			Crew	141	B	Aircraft Systems
Engine	R	5.125.1.16.2.2						
Propeller/ Rotor, Transmissions, and Drive Systems	R	5.125.1.16.2.3						
Fire	R	5.125.1.16.2.5						
Fuel System	R	5.125.1.16.2.6						
Electrical System	R	5.125.1.16.2.7						
Hydraulic System	R	5.125.1.16.2.8						
Landing and Ditching	R	5.125.1.16.2.9						
Flight Controls	R	5.125.1.16.2.10						
Bailout/Eject	R	5.125.1.16.2.11						
Section II - Mission Equipment	R	5.125.1.16.3		Section PM				
Emergency Jettisoning	R	5.125.1.16.3.1			Crew	141	C	Mission Equipment
Rear Matter	R	5.132.1	Rear Matter PM					

Table A-XXXII. Aircraft Operator Checklist.

Content	CCL Req' ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131						
Checklist			Chapter PM					
General Information and Scope	R	5.125.3.1.4.3			Crew	018	A	Introduction
Normal Procedures	R	5.125.3.1.4.4			Crew	130	D	Normal Procedures
Through-flight Checklist		5.125.3.1.4.5			Crew	131	T	Through-Flight Checklist
Emergency Procedures	R	5.125.3.1.4.6			Crew	141	A	Emergency Operations Procedures
Performance Data	R	5.125.3.1.4.7			Crew	131	N	Normal Operation Checklist - Performance Data
Rear Matter		5.132.1	Rear Matter PM					

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Table A-XXXIII. Maintenance Test Flight Manual.

Content	FMM Req' ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131						
Section I – Introduction	R		Chapter PM	Section PM				
General	R	5.125.4.1.4			Crew	018	A	Introduction
Purpose	R	5.125.4.1.4.2						
Definitions	R	5.125.4.1.4.3						
General Information	R	5.125.4.1.4.4						
Special Instructions	R	5.125.4.1.4.5						
Section 2 - MTF Checklist.	R			Section PM				
General	R	5.125.4.1.5			Crew	135	B	MTF Checklist
Section 3 - Troubleshooting Guides	R			Section PM				
General	R	5.125.4.1.6			Descriptive	018	C	Troubleshooting Introduction
Section 4 - Special/Detailed Procedures	R	5.125.4.1.7		Section PM	Crew	PD		
Section 5 - Charts and Forms	R			Section PM				
General	R	5.125.4.1.8			Crew	00Y	B	Charts and Forms
Rear Matter		5.132.1	Rear Matter PM					

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Table A-XXXIV. Demilitarization of Surplus Military Items Manuals.

Content	Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1. Introduction	R	5.111.2.1.6	Chapter PM				
Scope	R	5.111.2.1.6.1		Descriptive	018	A	Introduction
Authorization	R	5.111.2.1.6.2					
Certification	R	5.111.2.1.6.3					
Reporting Demilitarization	R	5.111.2.1.6.4					
Special Information	R	5.111.2.1.6.5					
Chapter 2. Methods of Demilitarization	R	5.111.2.1.7	Chapter PM	Descriptive	997	F	Methods of Demilitarization
Chapter 3. Detailed Instructions for Demilitarization	R	5.111.2.1.8	Chapter PM	Descriptive	997	G	Detailed Instructions for Demilitarization
Appendix A. References	R	5.111.2.1.9	Appendix PM	Descriptive	017	B	References
Rear Matter		5.132.1	Rear Matter PM				

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Table A-XXXV. Warranty Technical Bulletins (WTBs).

Content	WTB Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter		5.131	Front Matter PM				
Content			Chapter PM				
Paragraph 1, General	R	5.116.2.1.3.1		Descriptive	028	A	Warranty Information
Paragraph 2, Explanation of Terms	R	5.116.2.1.3.2					
Paragraph 3, Coverage – Specific	R	5.116.2.1.3.3					
Contractor Responsibilities	R	5.116.2.1.3.3.1					
Government Responsibilities/Identification	R	5.116.2.1.3.3.2					
Design/Performance Specifications	R	5.116.2.1.3.3.3					
Nullification	R	5.116.2.1.3.3.4					
Claim Procedures	R	5.116.2.1.3.3.6					
Storage/Shipment/Handling	R	5.116.2.1.3.3.7					
Appendixes		5.116.2.1.3.4	Appendix PM	Descriptive	023	F	Warranty Tables
Rear Matter		5.132.1	Rear Matter PM				

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Table A-XXXVI. Destruction of Equipment to Prevent Enemy Use Manuals.

Content	DTM Req'ment	Ref.	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM				
Chapter 1 . General Information	R		Chapter PM				
Scope	R	5.111.3.1.6.2		Descriptive	997	D	Destruction General Information
Authorization	R	5.111.3.1.6.3					
Reporting Destruction	R	5.111.3.1.6.4					
General Destruction Information	R	5.111.3.1.6.5					
Degree of Damage	R	5.111.3.1.6.6					
Essential Components and Spare Parts	R	5.111.3.1.6.7					
Chapter X. Destruction of Equipment to Prevent Enemy Use	R		Chapter PM				
Parts List	R	5.111.3.1.7		Descriptive	907	B	Parts List
Specific Destruction Procedures	R	5.111.3.1.8		Procedural	997	B	Destruction Procedures
Classified Equipment and Documents	R	5.111.3.1.9		Procedural	997	C	Destruction Procedures - Classified Equipment
Chapter X - Supporting Information		5.116.1	Chapter PM				
References	R	5.116.1.1.2		Descriptive	017	B	References
Rear Matter		5.132.1	Rear Matter PM				

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Table A-XXXVII. Test, Measurement and Diagnostic Equipment Manuals.

Content	DWR Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Front Matter	R	5.131	Front Matter PM					
Chapter 1. Introduction	R		Chapter PM					
Section I - Scope	R	5.107.5.1.5.1		Section PM	Descriptive	018	H	TMDE Introduction
Section II - Description and Data	R	5.107.5.1.5.2		Section PM	Descriptive	040	B	Description
Equipment & Accessories	R	5.107.5.1.5.2.4			Descriptive	304	B	Special Support Equipment and Tools
Publications Required	R	5.107.5.1.5.2.4			Descriptive	017	L	List of Publications Required
Consumable/expendable items	R				Descriptive	070	D	Expendable and Durable Items
Chapter 2. Functional Analysis	R	5.107.5.1.6	Chapter PM		Descriptive	042	B	Functional Analysis
Chapter 3. Operating Procedures	R		Chapter PM					
Section I - Setup Procedures	R	5.107.5.1.7.1		Section PM	Procedural	125	B	Setup Procedures
Section II - Controls and Indicators	R	5.107.5.1.7.2		Section PM	Descriptive	111	A	Controls and Indicators
Section III - Turn-On and Turn-Off Procedures	R	5.107.5.1.7.3		Section PM	Procedural	131	H	Turn-On and Turn-Off Procedures
Chapter 4. Maintenance Requirements	R	5.107.5.1.8	Chapter PM					
Section I – Facilities, Equipment, and Material Standards	R	5.107.5.1.8.1		Section PM				
Facilities	R	5.107.5.1.8.1.1			Descriptive	202	B	Facilities, Equipment, and Material Standards
Material Standards	R	5.107.5.1.8.1.2						
Special Tools and Equipment	R	5.107.5.1.8.1.2			IPD	304	B	Special Support Equipment and Tools
Section II - Preventive Maintenance	R	5.107.5.1.8.2		Section PM	Descriptive	200	E	Preventive Maintenance

Table A-XXXVII. Test, Measurement and Diagnostic Equipment Manuals.

Content	DWR Req'ment	Ref.	PM Type	PM Type	DM Type	Info Code	ICV	Info Name
Section III - Pre-Operational Specifications and Self-Test Procedure	R	5.107.5.1.8.3		Section PM	Descriptive	330	C	Pre-Operational Specifications and Self-Test Procedure
Section IV – Troubleshooting	R	5.107.5.1.8.4		Section PM	Fault	421	B	Troubleshooting procedure
Section V – Maintenance	R	5.107.5.1.8.5		Section PM				
Disassembly	R	5.107.5.1.8.5.1			Procedural	530	A	Disassembly Procedure
Repair, Replace, and Adjust.	R	5.107.5.1.8.5.2			Procedural	685	B	Repair or Replacement
Assembly	R	5.107.5.1.8.5.3			Procedural	710	A	Assemble Procedure
Chapter 5. Calibration	R	5.107.5.1.9	Chapter PM		Procedural	273	A	Calibrate
Appendix A. **References**	R	5.107.5.1.10	Appendix PM		Descriptive	017	B	References
Appendix B. **List of Parts**	R	5.107.5.1.11	Appendix PM		IPD	307	A	List of Parts
Appendix C. Unit Under Test (UUT) Procedures and Test Setup Diagrams	R	5.107.5.1.12	Appendix PM		Procedural	320	B	UUT Procedures
Other Appendixes		5.107.5.1.13	Appendix PM		Descriptive	PD		
Rear Matter	R	5.132.1	Rear Matter PM					

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 5.94. 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

Info Code		Original info name	Alternate info 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-oriented) 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
002	A	List of Pages or Data Modules	
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	
009	A	Table of Contents	
010	A	General Data	General Data
010	B	General Data	General Information
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
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

Info Code		Original info name	Alternate info name
012	J	General Warnings and Cautions and Related Safety Data	Safety Summary
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
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	J	List of Related Data	Manufacturer's Manuals
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	CD Content Screen
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
019	A	Supplier Lists	
019	B	Supplier Lists	List of Manufacturers
020	A	Configuration	
020	B	Configuration	Modes of Operation
021	A	Copyright	
022	A	Business Rules	BREX

Info Code		Original info name	Alternate info name
023	A	Administrative Forms and Data	
023	B	Administrative Forms and Data	Reporting Errors and Recommending Improvements
023	C	Administrative Forms and Data	Army: Authentication Page Navy: Certification Sheet
023	D	Administrative Forms and Data	Hand Receipt
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
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
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
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 of How It Is Made and Its Function	
040	B	Description of How It Is Made and Its Function	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
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

Info Code		Original info name	Alternate info name
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
050	A	Diagram and Lists	
050	B	Diagram and Lists	Referenced Drawings
051	A	Wiring Diagrams	
051	B	Wiring Diagrams	Cable Running Sheets
052	A	Routing Diagrams	
053	A	Connection Lists	
054	A	Schematic Diagrams	
054	B	Schematic Diagrams	Architecture Drawings
055	A	Location Diagrams	
056	A	Equipment Lists	
056	B	Equipment Lists	System Equipment
057	A	Wire List	
058	A	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
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
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	

Info Code		Original info name	Alternate info name
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)
075	F	Parts List	Flight Safety Critical Aircraft Parts (FSCAP)
076	A	Fluids	
077	A	Data Sheets For Consumables and Materials	
080	A	Mixtures and Solutions	
081	A	Chemical Solution	
082	A	Chemical Mixture	
090	A	Software Documentation	
090	B	Software Documentation	User Interface Guide
091	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	

Info Code		Original info name	Alternate info name
00P	A	Product Cross-Reference Table	
00Q	A	Conditions Cross-Reference Table	
00R	A	List of Effective Pages	
00S	A	List of Effective Data Modules	
00T	A	Change Record	
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
00Z	A	List of Tables	
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)	
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

Info Code		Original info name	Alternate info name
120	F	Pre-Operation	Reboot
120	G	Pre-Operation	Procedures To Activate Ammunition
121	A	Pre-Operation Procedures (Crew)	
121	B	Pre-Operation Procedures (Crew)	Initial Adjustments, Before Use and Self-Test
122	A	Siting	Siting
122	B	Siting	Siting Requirements
123	A	Shelter	Shelter
123	B	Shelter	Shelter Requirements
123	C	Shelter	Van and Shelter Procedure
125	A	Pre-Operation Procedures Checklist (Crew)	
125	B	Pre-Operation Procedures Checklist (Crew)	Setup Procedures
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
134	A	Emergency Procedures Checklist	
134	B	Emergency Procedures Checklist	Error Recovery
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

Info Code		Original info name	Alternate info name
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	
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
151	D	Post-Operation Procedures (Crew)	Post-Operation Shut Down Procedures
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	F	Loading/Unloading Procedures	Cargo Handling
161	A	Special 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 - Equipment
169	E	Mass & Balance	Center-Of-Gravity
169	F	Mass & Balance	Weight and Balance Data
200	A	Servicing	Servicing
200	B	Servicing	PMCS
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	PMCS Checklist
200	K	Servicing	Ammunition Maintenance
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	

Info Code		Original info name	Alternate info name
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	
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	
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	
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	
264	A	Remove Contamination	
270	A	Adjust, Align and Calibrate	
271	A	Adjust	

Info Code		Original info name	Alternate info name
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	
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	
281	A	Scheduled Inspections	
282	A	Unscheduled Inspections	
283	A	Special Regular Inspections	
284	A	Special Irregular Inspections	
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	
298	A	Change of Other Liquids	
299	A	Change of Other Gases	
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

Info Code		Original info name	Alternate info name
305	A	List of Support Equipment and Tools Associated With Examinations, Tests and Checks	
305	B	List of Support Equipment and Tools Associated With Examinations, Tests and Checks	Equipment Requirements
306	A	List of Software Associated With Examinations, Tests and Checks	
307	A	Parts List Associated With Examinations, Tests and Checks	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
311	A	Visual Examination Without Special Equipment	
312	A	Examination With A Borescope	
315	A	Quality Assurance Requirements	
320	A	Operation Tests	
320	B	Operation Tests	UUT Procedures
320	C	Operation Tests	Operational Checkout Test Procedure
321	A	Unit Break-In	
322	A	Test and Inspection	
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
341	A	Manual Test	
341	B	Manual Test	Component Checklist
341	C	Manual Test	Preshop Analysis
342	A	Automatic Test	
343	A	Bit Operation (Crew)	
344	A	Compatibility Test	

Info Code		Original info name	Alternate info name
345	A	Maintenance Turn-On	
350	A	Structure Test	
350	B	Structure Test	Non-Destructive Testing Inspection
350	C	Structure Test	Classification of Defects
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	
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	
368	A	Signal Strength Check	
369	A	Other Checks	
370	A	Monitor the Condition	
370	B	Monitor the Condition	Performance Monitoring
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	
390	A	Sample Test	
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	

Info Code		Original info name	Alternate info name
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
411	A	Isolated Fault	
412	A	Detected Fault	
413	A	Observed Fault	
414	A	Correlated 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)	
423	A	Fault Isolation Procedures (Unspecified)	
424	A	Fault Isolation Procedures (Unspecified)	
425	A	Fault Isolation Procedures (Unspecified)	
426	A	Fault Isolation Procedures (Unspecified)	
427	A	Fault Isolation Procedures (Unspecified)	
428	A	Fault Isolation Procedures (Unspecified)	
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	
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

Info Code		Original info name	Alternate info name
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	
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
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	
623	A	Braze	
624	A	Rivet	
625	A	Solder	
626	A	Splice	
627	A	Weld	

Info Code		Original info name	Alternate info name
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	
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	Other Processes To Change the Surface Finish of Materials	
650	A	Remove Materials	
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	
657	A	Thread/Tap	
658	A	Turn	
659	A	Other Processes T Remove Material	
660	A	Structure Repair Procedures and Data	
661	A	Permitted 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	Repair/Overhaul Procedures
665	A	Fly-In Repair Procedures	
666	A	Material Classification	
667	A	Structure Classification	
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

Info Code		Original info name	Alternate info name
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	
685	B	Repair Procedures	Repair or Replacement
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	
700	A	Assemble, Install & Connect Procedures	
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	
710	A	Assemble Procedures	Assemble 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	
720	A	Install Procedures	Install Procedure
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
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	

Info Code		Original info name	Alternate info name
725	A	Ammunition Loading	
726	A	Activate Launching Devices	
730	A	Connect Procedures	
740	A	Close After Access Procedures	
750	A	Load Software Procedures	
752	A	Data Loading	
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	E	Package, Handling, Storage And Transportation	Shipping Characteristics – C-141
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	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 – Airraft 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	
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	
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
811	A	Preparation For Vehicle Transportation	
811	B	Preparation For Vehicle Transportation	Preservation of Aircraft

Info Code		Original info name	Alternate info name
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	J	Preparation For Vehicle Transportation	Tiedown – C-141
811	K	Preparation For Vehicle Transportation	Tiedown – C-130
811	L	Preparation For Vehicle Transportation	Tiedown – Vessel, Tactical
811	M	Preparation For Vehicle Transportation	Tiedown – Vessel, Logistical
811	N	Preparation For Vehicle Transportation	Tiedown – Vessel, US Navy Capable
811	P	Preparation For Vehicle Transportation	Tiedown – Truck, Tactical
812	A	Shipping and Storage - General	
812	B	Shipping and Storage - General	Shipment of Aircraft - General
812	C	Shipping and Storage - 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	P	Shipping and Storage - General	
812	Q	Shipping and Storage - General	Preparation of Aircraft – Protective Covering
812	R	Shipping and Storage - General	Hoisting
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	D	Vehicle Loading	Loading – C-141
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
840	A	Procedures To Remove Items From Containers	

Info Code		Original info name	Alternate info name
840	B	Procedures To Remove Items From Containers	Unpacking
841	A	Vehicle Unloading	
841	B	Vehicle Unloading	Unloading – C-5
841	C	Vehicle Unloading	Unloading – C-17
841	D	Vehicle Unloading	Unloading – C-141
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	H	Procedures To Prepare Items For Use After Storage	Depreservation and Reassembly – C-141
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 – Intermodal 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	
890	A	Life Data of Items When In Storage	
900	A	Miscellaneous	
901	A	Miscellaneous List of Consumables	
902	A	Miscellaneous List of Materials	
903	A	Miscellaneous List of Expendables	

Info Code		Original info name	Alternate info name
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	
912	A	Handling Procedures	
912	B	Handling Procedures	Classified Component Handling
912	C	Handling Procedures	Hazardous Material Handling Procedures
912	D	Handling Procedures	Special Handling Procedures
912	E	Handling Procedures	Handling Ammunition
912	F	Handling Procedures	Ground Handling
913	A	General Maintenance Procedures	
913	B	General Maintenance Procedures	Equipment/User Fitting Instructions
914	A	Container Data Module	
915	A	Facilities	
916	A	MAC	MAC
916	B	MAC	Aviation MAC
920	A	Change = Remove and Install	
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	
928	A	Cross Reference Index	Cross Reference Index
928	B	Cross Reference Index	Operational Index
928	C	Cross Reference Index	National Stock Number Index
928	D	Cross Reference Index	Part Number Index
928	E	Cross Reference Index	Reference Designator Index
930	A	Service Bulletin	
931	A	Service Bulletin Data	
932	A	Planning Information	
933	A	Accomplishment Instructions	
934	A	Material Information	
940	A	Provisioning Data	
941	A	Illustrated Parts Data - IPD	
942	A	Numerical Indexes (Illustrated Parts Data)	
950	A	Generic Process	
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	

Info Code		Original info name	Alternate info name
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	E	Disposal of Product	Disposal of Ordnance
997	F	Disposal of Product	Methods of Demilitarization
997	G	Disposal of Product	Detailed Instructions for Demilitarization
998	A	Disposal of Substances	

APPENDIX C PROJECT DECISIONS TABLE

C.1 SCOPE

C.1.1 Scope.

Table C-I contains a complete list of all project decision points available for tailoring. See 4.3 for a description of business rules.

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 Table C-I. Depending on the contracting environment, projects may complete Table C-I with the coordination of their technical data vendor.

C.4.2 Use of Table C-I.

A completed version of Table C-I 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 Table *C-I* is available in Excel ™ at www.logsa.army.mil.

C.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 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.

e. Column 5 (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 business rule is lengthy, the details of the project business rule may be in a separate document.

C.4.4 BREX.

The project business rules identified in a completed Table C-I shall be reflected in the project BREX to the greatest extent possible.

C.5 DETAILED REQUIREMENTS

C.5.1 General.

Table C-I contains 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 Table C-I. Be aware that all projects are unique and there will likely be the need for additional project business rules to tailor for specific needs.

Table C-I. Project business rule decision points.

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	
5.7.2.4	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.	
5.7.2.5	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	Deleted elements.	S1000D Chapter 3.5 – Information generation – Updating data modules	The project shall decide whether to indicate, in display, that an element has been deleted or not.	
5.8.2.2	Frequency of updates.	S1000D Chapter 3.5 – Information generation – Updating data modules	The project shall decide on the frequency of updates.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.8.2.3	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 QA.	S1000D Chapter 3.7 – Information generation – Quality assurance	The project shall decide the degree of the application of QA.	
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.10.2.3	Decide whether first verification rules should apply.	S1000D Chapter 3.7 – Information generation – Quality assurance	The project shall decide whether a set of verification rules should apply.	
5.10.2.4	Application of second verification.	S1000D Chapter 3.7 – Information generation – Quality assurance	The project shall decide on the rules for the application of second verification.	
5.10.2.5	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.	
5.10.2.6	In process review.	S1000D Chapter 3.7 – Information generation – Quality assurance	The project shall determine the use of an in process review.	
5.10.2.7	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.10.2.8	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. (JS)	
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.	
5.11.2.2	Measurements.	S1000D Chapter 3.9.1 – Authoring – General writing rules	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:	
5.11.2.2	Measurements.	S1000D Chapter 3.9.1 – Authoring – General writing rules	“Units of measurement	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.11.2.2	Measurements.	S1000D Chapter 3.9.1 – Authoring – General writing rules	Projects must determine the standard of measurement used (eg, International System (SI) units, Imperial units, or US customary units). The standard of measurement selected (the primary units) must be used consistently throughout 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.	
5.11.2.2	Measurements.	S1000D Chapter 3.9.1 – Authoring – General writing rules	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.11.2.2	Measurements.	S1000D Chapter 3.9.1 – Authoring – General writing rules	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.”	
5.12.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	
5.17.2.1	Use of attribute warningType.	S1000D Chapter 3.9.3 – Authoring – Warnings, cautions and notes	The project shall decide whether to use the attribute warningType or not.	
5.17.2.2	Use of attribute cautionType.	S1000D Chapter 3.9.3 – Authoring – Warnings, cautions and notes	The project shall decide whether to use the attribute cautionType or not.	
5.17.2.3	Use of attribute noteType.	S1000D Chapter 3.9.3 – Authoring – Warnings, cautions and notes	The project shall decide whether to use the attribute noteType or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.17.2.4	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 or not.	
5.18.3.1	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.	
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 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.19.2.4	Define a list of 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 CAGE codes 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	RPC CAGE values.	S1000D Chapter 3.9.5.1 – Data modules – Identification and status section.	If the attribute enterpriseCode is used, projects shall define a list of acceptable responsible partner company (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 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 attribute originatorName within the element <originator>. If used, then its use shall be consistent and made mandatory for the whole project.	
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.	
5.19.2.11	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>.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.19.2.12	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.	
5.19.2.13	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>. See 5.19.1.19.	
5.19.2.14	Second verification.	S1000D Chapter 3.9.5.1 – Data modules – Identification and status section.	The project shall decide on the requirements for second verification.	
5.19.2.15	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.	
5.19.2.16	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.19.2.17	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.	
5.19.2.18	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>.	
5.19.2.19	Skill level.	S1000D Chapter 3.9.5.1 – Data modules – Identification and status section.	The project shall decide whether the data modules will carry an indication of the skill level in the element <skillLevel>. If used, it should be applied consistently to all data modules.	
5.19.2.20	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.	
5.19.2.21	RFU 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.19.2.22	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.	
5.19.2.23	Use of product safety.	S1000D Chapter 3.9.5.1 – Data modules – Identification and status section.	The project shall decide whether to use the product safety element and under what circumstances.	
5.19.2.24	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 their definitions.	
5.19.2.25	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.	
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 to use the cross-reference method for linking changes to reasons for update or not. The method used shall be applied consistently in the project.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 urt51 to urt99) are to be used on the <reasonForUpdate> element, and apply meanings for them to make sure that 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).	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.20.2.5	Standard statements for reason for update.	S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking	The project 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 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.	
5.20.2.9	Use of the id attribute on the <changeInline> element.	S1000D Chapter 3.9.5.2.1.1 – Common constructs – Change marking	The project shall decide if the id attribute is allowed to be used on the <changeInline> element. The purpose of the attribute shall be defined and it is considered good practice to define a format of the identifier.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 list the precautions if it is used.	
5.21.2.2	Population of the element <refs>.	S1000D Chapter 3.9.5.2.1.2 – Common constructs – Referencing	The project shall decide if and how this element is to be populated. If the element is populated, the order of items in the list shall be specified in the project business rules.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.21.2.3	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. Create business rules for this and define the case and use of punctuation.	
5.21.2.4	<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>.	
5.21.2.5	<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>.	
5.21.2.6	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 <internalRef> element.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.22.2.1	Use of titles.	S1000D Chapter 3.9.5.2.1.3 – Common constructs – Lists	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 or not.	
5.22.2.2	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.	
5.22.2.3	Use of the definition list header.	S1000D Chapter 3.9.5.2.1.3 – Common constructs – Lists	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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. a. How to encode the attribute systemIdentCode if used b. Whether the attribute tableOfContentsType is required 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 should match equipment appearance/presentation as closely as possible.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.23.2.2	Use of applicability information.	S1000D Chapter 3.9.5.2.1.4 – Common constructs – Caption Groups	The project shall decide if the indication of applicability information is permitted on various <captionGroup> 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.	
5.25.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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: a. whether the text in the legend is in sentence case (D), upper case or mixed case b. whether the element <listItemTerm> is to contain a leading zero when using callout/item numbers or not. c. 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 this element is used for IETP.	
5.27.2.1	Use of hotspots.	S1000D Chapter 3.9.5.2.1.8 – Common constructs – Hotspots	The project shall decide whether to use hotspots or not.	
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 to use the element <productionMaintData> or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 to use element <thresholdInterval> or not.	
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 to use the element <zoneRef> element or not, 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 to use the element <accessPointRef> or not, 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 to use the attribute lsarData or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 to use the element <workArea> element or not, and how to use it. If used, projects shall decide which data module types will use it.	
5.28.2.7	Use of the element <taskDuration>.	S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion	The project shall decide whether to use the <taskDuration> element or not, and how to use it.	
5.28.2.8	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.	
5.28.2.9	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.28.2.10	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.	
5.28.2.11	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 to use the element <reqTechInfo> or not.	
5.28.2.12	How 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 how to use the element <reqTechInfo>.	
5.28.2.13	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.28.2.14	Use of 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 id on element <supportEquipDescr>, respectively, is used to establish the link between the two and will guarantee consistent use identification throughout the Procedure. The use of cross-references is encouraged.	
5.28.2.15	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.	
5.28.2.16	Use of 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 the element <supplyDescr>.	
5.28.2.17	Use of attribute responsiblePartnerCompanyCode.	S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion	The project shall decide on the use of the attribute responsiblePartnerCompanyCode for non-chapterized IPD.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 support equipment listed in preliminary requirements. The attribute internalRefTargetId of element <internalRef> and the attribute id on element <spareDescr> respectively, are used to establish the link between the two and will guarantee consistent use identification throughout the Procedure. The use of cross-references is encouraged.	
5.28.2.19	National stock number (NSN).	S1000D Chapter 3.9.5.2.1.9 – Common constructs – Preliminary requirements and requirements after job completion	The project shall decide on how NSN shall be populated.	
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	Project shall determine the use of the element <subScript>.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.29.2.3	Superscript.	S1000D Chapter 3.9.5.2.1.10 – Common constructs – Text elements	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 (see 5.59.1.40) and allocate suitable definitions to them in the project or organization business rules.	
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.	
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 this later case the element <circuitBreakerDescrGroup> in steps content can be used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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>.	
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 to use the attribute controlIndicatorNumber or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 to use the element <commonInfo> or not, when to use the element, and give guidance and rules that will make sure that 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 to use the attribute independentCheck or not and how to use it (see 5.59.1.31).	
5.33.2.3	Skill levels.	S1000D Chapter 3.9.5.2.3 – Content section – Procedural information	The project shall decide whether to use the attribute skillLevelCode or not 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	
5.33.2.6	Use of the optional attribute keepWithNext.	S1000D Chapter 3.9.5.2.3 – Content section – Procedural information	The project shall decide whether to use the attribute keepWithNext or not.	
5.33.2.7	Use of the optional attribute itemCharacteristic.	S1000D Chapter 3.9.5.2.3 – Content section – Procedural information	The project shall decide whether to use the attribute itemCharacteristic or not and how to use it.	
5.33.2.8	Applicability.	S1000D Chapter 3.9.5.2.3 – Content section – Procedural information	The project shall decide how to use the element <applic> in the content section of the procedure.	
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 the repetition of the detection and description information for the basic fault which has been correlated (element <faultDescr> and element <detectionInfo>) is used or not.	
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.34.2.5	Use of attribute skillLevelCode.	S1000D Chapter 3.9.5.2.4 – Content section – Fault information	The project shall decide whether to use the attribute skillLevelCode in the element <isolationProcedure>, the element <isolationStep> and the element <isolationProcedureEnd> or not. See 5.59.1.31.	
5.34.2.6	Use of attribute independentCheck.	S1000D Chapter 3.9.5.2.4 – Content section – Fault information	The project shall decide whether to use the attribute independentCheck in the element <isolationProcedure>, the element <isolationStep> and the element <isolationProcedureEnd> or not.	
5.35.2.1	Values for the attribute unitOfMeasure.	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. See 5.59.1.38.	
5.35.2.2	Use of the attribute inWork.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide whether to use this attribute and to decide on which in work values are appropriate.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.35.2.3	Use of the attribute skilllLevelCode.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide whether to use the attribute skillLevelCode or not. See 5.59.1.31.	
5.35.2.4	Use of the element <commonInfo>.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide whether to use this element or not.	
5.35.2.5	Sampling rates.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide on appropriate convention for sampling rates.	
5.35.2.6	Trigger definitions.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide on the use and definition of any triggers.	
5.35.2.7	Threshold.	S1000D Chapter 3.9.5.2.5 – Content section – Maintenance planning information	The project shall decide on appropriate thresholds, if used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.36.2.1	Skill level.	S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information	The project shall decide whether to use the attribute skillLevelCode or not. See 5.59.1.31.	
5.36.2.2	Special conditions.	S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information	The project shall decide whether to use the attribute crewStepCondition or not.	
5.36.2.3	Check.	S1000D Chapter 3.9.5.2.6 – Content section – Crew/Operator information	The project shall decide whether to use the attribute independentCheck or not.	
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. See 5.59.1.9.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.1	Variant segment.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <subjectVariantSegment>.	
5.37.2.2	Item Sequence number attributes.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional attributes for Item Sequence number <itemSeqNumberValue>.	
5.37.2.3	Initial provisioning project.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional Initial provisioning project number element <initialProvisioningProject> and its attributes.	
5.37.2.4	File identifier.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional file identifier <fileIdent>.	
5.37.2.5	Initial Provisioning Project Number.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide codification of the sixth to ninth characters of the IPPN.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.6	Reason for selection.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <reasonForSelection> and the allowable values for the attribute selectOrManufactureValue.	
5.37.2.7	Unit of issue.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <unitOfIssue>.	
5.37.2.8	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>.	
5.37.2.9	Special storage.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <specialStorage>.	
5.37.2.10	Fitment code.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <fitmentCode>.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.11	Calibration marker.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <calibrationMarker>.	
5.37.2.12	National stock number.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <natoStockNumber>.	
5.37.2.13	NSN Optional attributes.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the following optional attributes of NSN: a. natoSupplyClass. This optional attribute is used to contain the NATO Supply Class (NSC). b. natoCodificationBureau. This optional attribute is used to contain the first two digits of the NATO Item Identification Number (NIIN) in the format of the National Codification Bureau (NCB). c. natoItemIdentNumberCore. This optional attribute is used to contain the third to ninth digit of the NIIN. d. natoStockNumberValue. This optional attribute can be used to contain the complete NSN.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.14	Applicability.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of applicability. Allowable values for unit/engine numbers shall be decided on by the project.	
5.37.2.15	Part Location Data Segment.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of the optional element <partLocationSegment>.	
5.37.2.16	CSN Codification.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide use of CSN Codification. The codes used to make up the CSN are based on the SNS. The structure and rules for the SNS and CSN shall be agreed at the start of the project.	
5.37.2.17	Reason for selection.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide the list of allowable values for the attribute selectOrManufactureValue.	
5.37.2.18	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.19	Physical security.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide the list of allowable values for the element <physicalSecurityPilferageCode>.	
5.37.2.20	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>.	
5.37.2.21	Usable on code equipment.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide the list of allowable values for the element <usableOnCodeEquip>.	
5.37.2.22	Usable on code assembly.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide the list of allowable values for the element <usableOnCodeAssy>.	
5.37.2.23	Interchangeability.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide the list of allowable values for the element <interchangeability>.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.24	Service.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide on a list of allowed values for the third character of the initial provisioning project.	
5.37.2.25	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.	
5.37.2.26	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>.	
5.37.2.27	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.	
5.37.2.28	Use of BREX for attribute genericPartDataName.	S1000D Chapter 3.9.5.2.7 – Content section – Parts information	The project shall decide whether to use the BREX to manage data for attribute genericPartDataName.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.37.2.29	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 skill level 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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.	
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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
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 if the technical repository is to be used.	
5.40.2.2	Technical information repository data module types to be used.	S1000D Chapter 3.9.5.2.11 Content section – Technical information repository	The project shall decide which technical information repository data module types are to be used.	
5.41.2.1	Use of the technical repository.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall decide if the functional item technical repository is to be used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.41.2.2	Use of several part technical information repository data modules.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall decide whether there is one single functional item technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.	
5.41.2.3	Definition of the functional item types.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall decide on the definition of the functional item types and their codification.	
5.41.2.4	Definition of the functional item name.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall decide on the format of the functional item name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.41.2.5	Definition of the functional item relationship types.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall define the types of relationships to be implemented between functional items (e.g. sub-functional items, software functional items related to a hardware functional item) and how to populate the attribute functionalItemRefType.	
5.41.2.6	Use of an alternate number.	S1000D Chapter 3.9.5.2.11.1 – Technical information repository – Functional item information	The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.	
5.42.2.1	Use of the technical repository.	S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information	The project shall decide if the circuit breaker technical repository is to be used.	
5.42.2.2	Use of several circuit breaker technical information repository data modules.	S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information	The project shall decide whether there is one single circuit breaker technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.42.2.3	Definition of the circuit breaker name.	S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information	The project shall decide on the format of the circuit breaker name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.	
5.42.2.4	Use of an alternate number.	S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information	The project shall decide on the use of an alternate number or not. If used, the project or the organization shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.	
5.42.2.5	Definition of the functional item relationship types.	S1000D Chapter 3.9.5.2.11.2 – Technical information repository – Circuit breaker information	The project shall define the types of relationships to be implemented between a circuit breaker and functional items and how to populate the attribute functionalItemRefType.	
5.43.2.1	Use of the technical repository.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide if the parts information technical repository is to be used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.43.2.2	Use of several part technical information repository data modules.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide whether there is one single part technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.	
5.43.2.3	Definition of the part name, element <name>.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide on the format of the part name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.	
5.43.2.4	Use of the part keyword, element <partKeyword>.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide whether they use the over length part number or not.	
5.43.2.5	Use of the usage category.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide on the use of the part usage category or not. If used, the project shall determine how to populate the attribute usageCategoryCode.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.43.2.6	Definition of the part replacement relationship codes.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall define the types of relationships between parts (e.g. one-way, two-ways, with condition…) and determine how to populate the attribute replacementCode.	
5.43.2.7	Reference mechanism.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide whether to use the implicit or explicit reference mechanism to the part technical repository.	
5.43.2.8	Use of the over length part number, element <overLengthPartNumber >.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide whether they use or not the over length part number.	
5.43.2.9	Use of extended twin operations, attribute etopsFlag.	S1000D Chapter 3.9.5.2.11.3 – Technical information repository – Parts information	The project shall decide whether they use the air specific extended twin operations attribute or not.	
5.44.2.1	Use of the zone technical information repository data modules.	S1000D Chapter 3.9.5.2.11.4 – Technical information repository – Zone information	The project shall decide if the zone technical information repository is used or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.44.2.2	Use of several zone technical information repository data module.	S1000D Chapter 3.9.5.2.11.4 – Technical information repository – Zone information	The project shall decide whether there is one single zone technical information repository data module or several depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.	
5.44.2.3	Definition of the zone relationship types.	S1000D Chapter 3.9.5.2.11.4 – Technical information repository – Zone information	The project shall define the types of relationships to be implemented between zones (e.g. sub-zones) and how to populate the attribute zoneRefType.	
5.44.2.4	Use of an alternate number.	S1000D Chapter 3.9.5.2.11.4 – Technical information repository – Zone information	The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.	
5.45.2.1	Use of the access point technical information repository data modules.	S1000D Chapter 3.9.5.2.11.5 – Technical information repository – Access point information	The project shall decide if the access point technical information repository shall be used or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.45.2.2	Use of several access point technical information repository data module.	S1000D Chapter 3.9.5.2.11.5 – Technical information repository – Access point information	The project shall decide whether there is one single access point technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.	
5.45.2.3	Definition of the access point relationship types.	S1000D Chapter 3.9.5.2.11.5 – Technical information repository – Access point information	The project shall define the types of relationships to be implemented between access points (e.g. sub-access points) and how to populate the attribute accessPointRefType.	
5.45.2.4	Use of an alternate number.	S1000D Chapter 3.9.5.2.11.5 – Technical information repository – Access point information	The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.	
5.46.2.1	Use of the enterprise technical information repository data module.	S1000D Chapter 3.9.5.2.11.6 – Technical information repository – Enterprise information	The project shall decide if the enterprise technical information repository is to be used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.46.2.2	Use of several enterprise technical repository data modules.	S1000D Chapter 3.9.5.2.11.6 – Technical information repository – Enterprise information	The project shall decide whether to have one single enterprise technical information repository data module or several, depending of the SNS. In this case, granularity of these data modules is determined by the application of the SNS.	
5.47.2.1	Use of the supplies requirements technical information repository data modules.	S1000D Chapter 3.9.5.2.11.7 – Technical information repository – Supplies, properties	The project shall decide if the supplies requirements technical information repository is used or not.	
5.47.2.2	Use of several supplies requirements technical information repository data modules.	S1000D Chapter 3.9.5.2.11.7 – Technical information repository – Supplies, properties	The project shall decide whether there is one single or several supply requirements technical repository data module depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.47.2.3	Definition of the supply name.	S1000D Chapter 3.9.5.2.11.7 – Technical information repository – Supplies, properties	The project shall decide on the format of the supply name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.	
5.48.2.1	Use of the supplies requirements technical information repository data modules.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall decide if the supplies requirements technical information repository shall be used or not.	
5.48.2.2	Use of several supplies requirements technical information repository data modules.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall decide whether there is one single or several supplies requirements technical repository data module depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.	
5.48.2.3	Definition of the material categories.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall define the different material categories and how to populate the attribute materialCategory.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.48.2.4	Definition of the supply requirement numbers.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall define the codification of the supply requirement identifiers and how to populate the attributes supplyReqNumber.	
5.48.2.5	Reference mechanism.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall decide whether to use the implicit or explicit reference mechanism to the supply technical repository.	
5.48.2.6	Definition of the supply requirement alternative name.	S1000D Chapter 3.9.5.2.11.8 – Technical information repository – Supplies, requirements	The project shall decide on the format of the supply requirement alternative name and apply these rules consistently in the project. This includes the case of the names and the source from which they are derived.	
5.49.2.1	Use of the support equipment technical information repository data modules.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall decide if the support equipment technical information repository shall be used or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.49.2.2	Use of several support equipment technical information repository data modules.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall decide whether there is one single support equipment technical information repository data module or several depending of the Standard Numbering System (SNS). In this case, granularity of these data modules is determined by the application of the SNS.	
5.49.2.3	Use of the over length support equipment number element <overLengthPartNumber >.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall decide whether they use or not the over length part number.	
5.49.2.4	Definition of the tool relationship types.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall define the types of relationships to be implemented between tools (e.g. symmetry, replacement relationships) and how to populate the attribute toolRefType.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.49.2.5	Use of an alternate number.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall decide on the use of an alternate number or not. If used, the project shall determine how to populate the attribute altNumber and shall ensure it is consistently applied.	
5.49.2.6	Use of the tool task category.	S1000D Chapter 3.9.5.2.11.9 – Technical information repository – Support equipment (tools) information	The project shall decide on the use of a tool task category (e.g. servicing, maintenance, overhaul, repair etc) or not. If used, the project shall determine how to populate the attribute taskCategoryCode.	
5.51.2.1	Use of the controls and indicators technical information repository.	S1000D Chapter 3.9.5.2.11.11 – Technical information repository – Controls and indicators	The project shall decide whether to use the controls and indicators technical information repository or not.	
5.51.2.2	Use of several controls and indicators technical information repository data modules.	S1000D Chapter 3.9.5.2.11.11 – Technical information repository – Controls and indicators	The project shall decide whether there is one single control and indicator technical information repository data module or several depending of the SNS or not. In this case, granularity of these data modules is determined by the application of the SNS.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.51.2.3	Implicit reference mechanism.	S1000D Chapter 3.9.5.2.11.11 – Technical information repository – Controls and indicators	The project shall decide whether to use implicit references or not.	
5.51.2.4	Explicit reference mechanism.	S1000D Chapter 3.9.5.2.11.11 – Technical information repository – Controls and indicators	The project shall decide whether to use explicit references or not.	
5.52.2.1	Use of container data modules.	S1000D Chapter 3.9.5.2.12 – Content section – Container data module	The project shall decide whether to develop and deliver container data modules.	
5.52.2.2	Use of applicability within container data module content.	S1000D Chapter 3.9.5.2.12 – Content section – Container data module	The project shall decide if applicability annotations are duplicated from the referenced data modules to the container data module or not.	
5.53.2.1	Use of learning data modules.	S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules	The project shall decide whether to use learning data modules or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.53.2.2	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.	
5.53.2.3	Use of the available branches.	S1000D Chapter 3.9.5.2.13 – Content section – Learning data modules	The project shall decide which of the five available branches is most appropriate for the intended content.	
5.54.2.1	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.	
5.54.2.2	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.	
5.54.2.3	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.54.2.4	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.	
5.54.2.5	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.	
5.54.2.6	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.	
5.54.2.7	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.	
5.54.2.8	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.54.2.9	Use of the optional elements <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.	
5.54.2.10	Item number.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide if item number will be used or not.	
5.54.2.11	Threshold.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide on the appropriate thresholds, if used.	
5.54.2.12	Equipment.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide if equipment will be used or not.	
5.54.2.13	Nomenclature.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide if nomenclature will be used or not.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.54.2.14	Zone references.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide if zone references will be used or not.	
5.54.2.15	Remarks.	S1000D Chapter 3.9.5.2.14 – Maintenance Checklists and Inspections	The project shall decide if remarks will be used or not.	
5.55.2.1	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.	
5.55.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.55.2.3	Use of 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.	
5.55.2.4	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.	
5.55.2.5	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.55.2.6	Use of inline applicability annotations.	S1000D Chapter 3.9.5.3 – Data modules – Applicability	The project shall decide if inline applicability annotations are to be included in the text by adding the element <applic> to the context concerned, or if such annotations will be collected in element <inlineapplics> contained in the status section with a reference to them by use of attribute refapplic from the concerned substructure of the data module.	
5.55.2.7	Use of 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.	
5.56.2.1	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, both or to allow open text by not using pattern and enumeration.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.56.2.2	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.	
5.56.2.3	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>).	
5.57.2.1	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).	
5.57.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.57.2.3	Use of 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>.	
5.57.2.4	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.	
5.57.2.5	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>).	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.58.2.1	Use of the product cross reference table.	S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table	The project shall decide whether to develop and deliver product cross reference table data modules. If used, the project shall decide which product sets are referenced in the product cross reference table.	
5.58.2.2	Product attributes and conditions to include.	S1000D Chapter 3.9.5.3.3 – Applicability – Product cross reference table	A project using the product cross reference table shall decide which product attributes and conditions to include in the product cross reference table. Conditions that represent operational or environmental properties will usually not be included in the product cross reference table as they are not associated with a product instance.	
5.59.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.60.2.1	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.	
5.61.2.1	Scope information.	S1000D Chapter 3.9.7 – Authoring – Human performance technology and training	The project shall decide on the scope of training information provided.	
5.61.2.2	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.	
5.61.2.3	Scope of preplanning.	S1000D Chapter 3.9.7 – Authoring – Human performance technology and training	The project shall determine the scope of the preplanning guidance.	
5.65.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.66.2.1	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.	
5.66.2.2	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.	
5.66.2.3	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.	
5.66.2.4	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.).	
5.66.2.5	Model identifier length.	S1000D Chapter 4.3.1 – Data module code – Model identification code	The project shall decide on the length of the data module code for each given model identification on the project and that length shall remain fixed throughout the project. (JS)	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.67.2.1	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 LMI or a comparable process, define the relationship to LMI.	
5.67.2.2	UOC as system difference code.	S1000D Chapter 4.3.2 – Data module code – System difference code	The project shall decide whether to use UOC as the system difference code or not.	
5.68.2.1	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).	
5.68.2.2	Sub-subsystem SNS allocations.	S1000D Chapter 4.3.3 – Data module code – Standard numbering system	The project shall determine the sub-subsystem SNS allocations.	
5.68.2.3	Unit or assembly portion of the data module code.	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.68.2.4	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.	
5.68.2.5	IPPN for non-chapterized IPD.	S1000D Chapter 4.3.3 – Data module code – Standard numbering system	The project shall specify allocation of the last 4 digits of the Initial Provisioning Project Number (IPPN) for non-chapterized Illustrated Parts Data (IPD).	
5.68.2.6	Responsible Partner Company (RPC).	S1000D Chapter 4.3.3 – Data module code – Standard numbering system	The project shall establish the RPC codes (single characters) to be used in the IPD data modules are used.	
5.68.2.7	Disassembly code linking.	S1000D Chapter 4.3.3 – Data module code – Standard numbering system	The project shall determine if the disassembly code should be linked to figures in IPD.	
5.69.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.72.2.1	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.	
5.73.2.1	RPC.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall determine how to populate RPC in the ICN for non-chapterized IPD.	
5.73.2.2	CAGE codes for originator.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall define a list of valid CAGE codes for originator in ICN.	
5.73.2.3	Illustration sequential number.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall determine how to populate illustration sequential number.	
5.73.2.4	Illustration variant code.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall define the use of the illustration variant code.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.73.2.5	Issue number.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall define the use of the issue number.	
5.73.2.6	Security classification.	S1000D Chapter 4.4 – Information management – Illustration Control Number	The project shall decide whether to use the project security classifications or whether the originator's classifications are allowed to be used.	
5.74.2.1	CAGE codes for 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.	
5.74.2.2	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.	
5.74.2.3	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 data module requirements list status section.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.74.2.4	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 data module requirements list status section.	
5.74.2.5	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 data module requirements list.	
5.74.2.6	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 data module requirements list.	
5.74.2.7	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 data module requirements list.	
5.74.2.8	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 data module requirements list.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.74.2.9	Deleted 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 with an attribute of "deleted" or if the entries should be deleted from the DMRL entirely.	
5.75.2.1	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.	
5.75.2.2	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.).	
5.76.2.1	Use of comment.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether Comments should be used.	
5.76.2.2	Workflow.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify workflow for commenting.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.76.2.3	Model information code.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify how to populate model identification code in Comments.	
5.76.2.4	CAGE codes for issuing authority.	S1000D Chapter 4.6 – Information management – Comment	The project shall define the valid CAGE codes for Issuing authority of comments.	
5.76.2.5	Use of titles.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether comment titles are required or not.	
5.76.2.6	Rules for titles.	S1000D Chapter 4.6 – Information management – Comment	Provide rules for establishing comment titles.	
5.76.2.7	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.76.2.8	Data restrictions.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether <datarestriction> is required or not.	
5.76.2.9	Priority codes.	S1000D Chapter 4.6 – Information management – Comment	The project shall define the rules for priority codes.	
5.76.2.10	Use of response codes.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether response codes should be used.	
5.76.2.11	Rules for response codes.	S1000D Chapter 4.6 – Information management – Comment	The project shall define the rules for response codes.	
5.76.2.12	Remarks.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether remarks should be used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.76.2.13	References to attachments.	S1000D Chapter 4.6 – Information management – Comment	The project shall specify whether reference to attachment should be used.	
5.76.2.14	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.	
5.77.2.1	Data module revisions.	S1000D Chapter 4.7 – Information management – Version control of data modules	The project shall decide when data modules will be revised.	
5.77.2.2	Delivery of inwork DMs.	S1000D Chapter 4.7 – Information management – Version control of data modules	The project shall specify whether inwork data modules should be delivered.	
5.78.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.78.2.2	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.).	
5.78.2.3	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.	
5.78.2.4	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.	
5.78.2.5	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.78.2.6	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.	
5.78.2.7	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.	
5.78.2.8	Raster graphic resolution.	S1000D Chapter 4.8 – Information management – Interchange of data modules	The project shall decide the resolution to use for raster graphics.	
5.79.2.1	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.	
5.79.2.2	Publication media code.	S1000D Chapter 4.9.1 – Publication management – Publication module	The project shall determine the use of the attribute pubMediaCode.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.79.2.3	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>.	
5.80.2.1	Applicability.	S1000D Chapter 4.9.2 – Publication management – Coding of publications	The project shall specify whether applicability should be used in publication module status.	
5.80.2.2	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.	
5.82.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.83.2.1	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.	
5.84.2.1	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.	
5.84.2.2	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.	
5.86.2.1	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. If used, the project shall decide whether to use the associated technical information repository data modules.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.86.2.2	Use of name in conjunction with the technical information repository.	S1000D Chapter 4.13.1 – Optimizing and reuse – Paragraph significant data and quantity data	The project shall decide whether to repeat the name of objects referenced to the technical information repository.	
5.86.2.3	Reference mechanisms.	S1000D Chapter 4.13.1 – Optimizing and reuse – Paragraph significant data and quantity data	The project shall decide whether to use implicit or explicit references between paragraph significant information and technical information repository data modules.	
5.87.2.1	Use of technical information repository.	S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module	The project shall decide whether to use technical information repository data modules or not.	
5.87.2.2	Use of technical information repository internally or as a customer delivery.	S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module	The project shall decide if technical information repository data modules are only used internally to the manufacturer or integrator, as part of the production / integration environment or if technical information repository data modules are delivered to the Army.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.87.2.3	Technical information repository data module types to be used.	S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module	The project shall decide which technical information repository data module types are used.	
5.87.2.4	Use of one or several data modules for a technical information repository type.	S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module	The project shall decide whether there is one single or several data modules for a dedicated type of technical information.	
5.87.2.5	Reference mechanisms.	S1000D Chapter 4.13.2 – Optimizing and reuse – Technical information repository data module	The project shall decide whether to use implicit or explicit references.	
5.88.2.1	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.	
5.88.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.88.2.3	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.	
5.89.2.1	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.	
5.89.2.2	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.	
5.89.2.3	Product attribute, conditions naming and identification scheme.	S1000D Chapter 4.14 – Information management – Applicability	If using the ACT and CCT data modules, the project shall define a consistent naming and identification scheme for product attributes and conditions.	
5.89.2.4	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.89.2.5	Number of ACT, CCT and 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.	
5.90.2.1	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).	
5.90.2.2	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.	
5.91.2.1	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).	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.91.2.2	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.	
5.91.2.3	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.	
5.91.2.4	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.	
5.92.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.92.2.2	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.	
5.92.2.3	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.	
5.95.3.1	Types.	S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information	The project shall determine which optional operator instruction information sets apply.	
5.95.4.2.1	Use of the technical 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 repository DMs.	
5.95.4.2.2	Use of the tabular format.	S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information	If the descriptive data module or 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).	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.95.4.2.3	Multiple data modules.	S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information	If the technical 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.	
5.95.4.2.4	Use of the control indicator number attribute.	S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information	If the technical repository data module method is selected, the project shall decide whether or not to use the attribute controlIndicatorNumber when referring to the technical repository (element <controlIndicatorRef>).	
5.95.5.2.1	Optional siting features.	S1000D Chapter 5.2.1.1 – Common information sets – Crew/Operator information	The project shall determine optional siting features.	
5.95.5.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.95.8.2.1	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).	
5.96.4.2.1	References to 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.	
5.96.4.2.2	Separat Hand Receipts	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.	
5.96.6.2.1	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.	
5.96.6.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.97.4.2.1	Other service upon receipt task.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine if additional service upon receipt task data modules shall be developed.	
5.97.7.2	Man-hours required.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine if man-hours required to complete all prescribed lubrication services shall be included.	
5.97.9.2.1	Additional information.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine if and what additional mandatory or unique technical information or additional explanations shall be required.	
5.97.9.2.2	Information codes.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine the information codes used for cleaning procedure data modules.	
5.97.10.2	Follow-on maintenance.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall decide what follow-on maintenance instructions will be prepared.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.97.11.2	General maintenance instructions.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall decide what general maintenance instructions will be prepared.	
5.97.14.2	OIP data modules.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine if and when OIP data modules shall be prepared.	
5.97.15.2	Depot mobilization requirements.	S1000D Chapter 5.2.1.3.1 – Maintenance information – 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.97.22.2.1	Stand alone.	S1000D Chapter 5.2.1.3.1 – Maintenance information – 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 information set. 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.	
5.97.22.2.2	PENTA-treated packaging.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine the use of the PENTA-treated packing materials appendix.	
5.97.22.2.3	Additional appendices.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall determine the requirements for other appendices, if they exist.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.97.22.2.4	Appendix E.	S1000D Chapter 5.2.1.3.1 – Maintenance information – Maintenance procedures	The project shall decide on the need for Appendix E (Intraplant transfer equipment).	
5.97.23.2.1	Stand alone.	S1000D Chapter 5.2.1.3.1 – Maintenance information – 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 information set. 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.	
5.98.4.2.1	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.	
5.98.5.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.98.6.2.1	Introduction.	S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation	The project shall determine when a component checklist introduction is required.	
5.98.7.2.1	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.	
5.98.7.2.2	Method.	S1000D Chapter 5.2.1.3.2 – Common information sets – Fault isolation	The project shall determine the method of operational checkout procedures.	
5.98.8.2.1	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.	
5.98.8.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.98.8.2.3	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.	
5.102.1.2.1	Data module size.	S1000D Chapter 5.2.1.4 – Common information sets – Wiring data (Field level or above only)	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.	
5.102.1.2.2	Single or multiple data modules.	S1000D Chapter 5.2.1.4 – Common information sets – Wiring data (Field level or above only)	The required wiring information for introduction, wire ID, abbreviation, and wiring diagrams may be contained in a single or multiple data modules.	
5.102.1.2.3	Use of the wiring data module.	S1000D Chapter 5.2.1.4 – Common information sets – Wiring data (Field level or above only)	The project may elect to use the Wiring Data Module. If so, projects are required to coordinate efforts, including related business rules, with LOGSA.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.103.3	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.	
5.103.4.2	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	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.103.5.2.1	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: 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.	
5.103.10.2.1	Cross reference index.	S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data	Data Module Type: Descriptive Information Code: 928A The project may decide to prepare a single IPDP-cross reference table with the Illustrated Parts Data Publication (IPDP) in lieu of separate NSN, part number, and reference designator indices.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.103.11.2	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.	
5.103.12.2	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.	
5.103.15.2	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.	
5.103.16.2	Equipment type.	S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data	Project shall choose either CSI or FSCAP list depending on equipment type.	
5.103.17.2	Equipment type.	S1000D Chapter 5.2.1.5 – Common information sets – Illustrated parts data	Project shall choose either CSI or FSCAP list depending on equipment type.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.103.18.2.1	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.	
5.104.3.2	Project decisions.	S1000D Chapter 5.2.1.6 – Common information sets – Maintenance planning information	The project shall decide and document the official nomenclature for MAC functional groups.	
5.107.1.2	Project decisions.	S1000D Chapter 5.2.1.9 – Common information sets – Equipment information	Equipment/user fitting instructions for personal use equipment shall be prepared with information code(s) appropriate to the task performed.	
5.107.2.2.1	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.	
5.107.3.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.107.3.2.2	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.	
5.107.3.2.3	Cover contents.	S1000D Chapter 5.2.1.9 – Common information sets – Equipment information	The project shall determine if the federal item name, national stock number (NSN), part number (PN), model number, and applicable contractor number shall be overprinted on the cover or the title page of the manual.	
5.107.3.2.4	List of effective data modules.	S1000D Chapter 5.2.1.9 – Common information sets – Equipment information	The project shall determine if a list of effective data modules (LOEDM) that will include the basic manual and the supplemental data shall be prepared.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.107.5.2.1	Stand alone.	S1000D Chapter 5.2.1.9 – Common information sets – Equipment information	Army Test, Measurement and Diagnostic Equipment information sets may be produced as either a stand alone TM/IETP or as part of a more comprehensive information set. 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.	
5.111.1.2	Project decisions.	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.111.2.2.1	Stand alone.	S1000D Chapter 5.2.1.13 – Common information sets – Role change information	Demilitarization of Surplus Military Items information sets may be produced as either a stand alone TM/IETP or as part of a more comprehensive information set. 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.	
5.111.2.2.2	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.	
5.111.3.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.112.2.1	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).	
5.115.1.2.1.1	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 information set. 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.	
5.115.1.2.1.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.117.1.1.1	Planning scope and depth.	S1000D Chapter 5.2.1.19 – Common information sets – Training	The project shall determine the planning scope and depth.	
5.117.1.1.2	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.	
5.118.1.1.1	One or several publication list data modules.	S1000D Chapter 5.2.1.20 – Common requirements – References (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.	
5.118.1.1.2	Include unpublished publications and documents.	S1000D Chapter 5.2.1.20 – Common requirements – References (List of applicable publications)	The project shall decide whether or not to include publications and documents that are not published.	
5.118.1.1.3	Include the manufacturer's part No. or reference No.	S1000D Chapter 5.2.1.20 – Common requirements – References (List of applicable publications)	The project shall decide whether or not to include and present the manufacturer's part No. or reference No.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.118.1.1.4	Markup of publication entry as a link.	S1000D Chapter 5.2.1.20 – Common requirements – References (List of applicable publications)	The project shall decide whether or not to markup publication entries as a links.	
5.118.1.1.5	Use of language.	S1000D Chapter 5.2.1.20 – Common requirements – References (List of applicable publications)	The project shall decide whether or not to include and present language.	
5.125.2.1	Emergency systems.	S1000D Chapter 5.2.2.7 – Air specific information sets – Aircrew information	Emergency systems may be located in Chapter 9 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.”	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.125.4.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.125.12.2.1	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 information set. 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.	
5.131.1.2.1	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.	
5.131.1.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.131.1.2.3	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.	
5.131.1.2.4	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.	
5.131.1.2.5	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.	
5.131.2.2.1	"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.	
5.132.1.2.1	Alphabetical index use.	S1000D Chapter 5.3.1.1 – Common requirements – Front matter	Project shall determine the use of an alphabetical index.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.132.1.2.2	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.	
5.141.1.2.1	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.	
5.141.1.2.2	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.	
5.141.1.2.3	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 to use double column text or not, and under what circumstances.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.141.2.2.1	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.	
5.141.3.2.1	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.	
5.141.5.2	Project decisions.	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.	
5.142.7.2.1	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.	
5.142.8.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.142.10.2.1	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 (element <pmTitle>/element <externalPubTitle>) or the short title (element <shortPmTitle>/element <shortExternalPubTitle>), or both, in the reference table.	
5.142.10.2.2	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 (element <externalPubCode>), the title (element <externalPubTitle>) or the short title (element <shortExternalPubTitle>) as the inline reference.	
5.142.10.2.3	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 (element <name>) or the abbreviated alternate name (element <shortName>), as the cross-reference in the text.	
5.144.3.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.3.2.1	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.	
5.144.4.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.5.2	Project decisions.	S1000D Chapter 6.3.1 – IETP – Output specification	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.6.2.1	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/tmsspecs.cfm) are mandatory.	
5.144.6.2.2	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.	
5.144.9.2	Project decisions.	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.10.2.1	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.	
5.144.10.2.2	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).	
5.144.10.2.3	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).	
5.144.13.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.13.2.2	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.	
5.144.15.2.1	Acknowledgement of Alerts.	S1000D Chapter 6.3.1 – IETP – Output specification	The project shall determine if acknowledgement of alerts will be required.	
5.144.18.2.1	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).	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.144.18.2.2	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).	
5.144.18.2.3	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.	
5.146.8.2.1	Audit trail.	S1000D Chapter 6.4.1 – Functionality – Background and explanation	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.147.2.1	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.	
5.151.2.1	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.	
5.151.2.2	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	
5.151.2.3	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.	
5.151.2.4	Multimedia types.	S1000D Chapter 7.3.3 – CSDB Objects – Multimedia.	The project shall determine the multimedia types used.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.153.2.1	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.	
5.153.2.2	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.	
5.153.2.3	Method to include legacy information in an 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.	
5.153.2.4	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.	
5.154.2.1	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.154.2.2	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.	
5.154.2.3	Use of multimedia.	S1000D Chapter 7.5.1 – Software interchange – File based transfer.	The project shall decide on the use of multimedia.	
5.154.2.4	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.	
5.154.2.5	Training SMC 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.155.2.1	Inclusion of 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.	
5.157.2.1	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.	
5.157.2.2	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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.159.2.1	Use of SNS.	S1000D Chapter 8.1 – SNS and information codes – General	The project shall decide whether to use the maintained SNS, the example SNS or to write their own.	
5.160.2.1	Use of the Generic SNS.	S1000D Chapter 8.2.1 – Maintained SNS – Generic.	Within the constraints of 5.159.1.1, the project shall decided if and how to use the generic SNS provided in S1000D Chapter 8.2.1.	
5.160.2.2	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".	
5.161.2.1	Use of the support and training equipment 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.	
5.161.2.2	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".	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.162.2.1	Use of the ordnance 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.	
5.162.2.2	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".	
5.163.2.1	Use of the general communications 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.	
5.163.2.2	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".	
5.164.2.1	Use of the air vehicle 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.	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.164.2.2	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".	
5.165.2.1	Use of the tactical missiles 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.	
5.165.2.2	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".	
5.166.2.1	Use of the surface vehicles 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.	
5.166.2.2	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".	

Army BR paragraph number	Army BR paragraph title	S1000D Chapter Context	Text of Project Decision Point	Project Decision
5.167.2.1	Use of the sea vehicle 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.	
5.167.2.2	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".	
5.168.2.1	Use of the example SNS.	S1000D Chapter 8.3 – SNS and Information Codes (SNS and IC) – Example SNS – General	The project shall decided if and how to use the example SNS provided at http://www.s1000d.org.	

APPENDIX D IETP FUNCTIONALITY MATRIX

D.1 SCOPE

D.1.1 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.

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 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 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 final eight columns are blank and can be tailored by individual projects to match additional required information sets. The Functionality Matrix is available in Excel ™ at www.logsa.army.mil.

D.4.3 Collaboration.

The matrix should be completed in a collaborative effort with input form representatives of all project stakeholder organizations. The matrix is available in Microsoft Excel format to facilitate collaboration (https://www.logsa.army.mil/mil40051/tmsspecs.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:

e. 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.

f. 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.

g. 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).

h. Other. Projects may be creative and provide other guidance for completing the matrix that suits their needs.

D.5 DETAILED REQUIREMENTS

Table D-I S1000D Functionality Matrix.

Functionality	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 Chemical Ammunition	Munition and Ammunition Data Sheet	Demilitarization of Surplus Items	WTB	Depot Test Equipment	Lubrication Orders
Login	2		A																																		
Suspend and restart	1		A																																		
Exit	1	R	A																																		
Action complete indicator (checkbox)	1																																				
Global data annotation	2		A																																		
Local data annotation	2		A																																		
Personal annotation	1		A																																		
Redlining text	3		A																																		
Redlining graphics	3		A																																		
Printed publication	5		A																																		
Physical media	1		A																																		
Network distribution	2		A																																		
Diagnostics - User determined entry to data	1																																				
Diagnostics - Software driven entry to data	2																																				
Dynamic diagnostics	5																																				
Wire/Fluid system tracing	4																																				
System simulation	4																																				
Prognostics	5																																				
Transmittal	3																																				
Retrieval	2																																				
Parts ordering	3	R																																			
Deficiency/ Improvement report transmittal	3	R	A																																		
Maintenance data collection	3																																				
Operator debriefing	3																																				
Resource scheduling	3																																				
Knowledge management	5																																				
Pan, zoom, expand, magnify	1		A																																		
Assembly/ Disassembly	2																																				
Locator graphics	1																																				
3D modeling	4																																				
External reference	2		A																																		
Internal references	1		A																																		
Hot reference	2		A																																		
Link to separate parts data	2		A																																		

Functionality	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 Chemical Ammunition	Munition and Ammunition Data Sheet	Demilitarization of Surplus Items	WTB	Depot Test Equipment	Lubrication Orders
TOC, lists of figures, tables and photos	1	R	A																																		
Hot spotting	3		A																																		
Next and previous	1	R	A																																		
Return (Chronological)	1		A																																		
History of traversed links	1	R	A																																		
User creation of bookmarks	1		A																																		
System/Subsystem navigation	1		A																																		
Restore initial navigation view	1	R	A																																		
Audit trail	2		A																																		
Graphical navigation	2																																				
Dialog-driven interaction	3																																				
Voice-Activated commands	3		A																																		
Search - Full text	1	R	A																																		
Search - User defined Boolean	1		A																																		
Search - Across multiple databases/files	3		A																																		
Search - Context	2		A																																		
Search - Key word	2		A																																		
Filter content per applicability	1		A																																		
Simultaneous display of multiple content objects	2		A																																		
Tear off window	2		A																																		
Print screen	1	R	A																																		
Data module specific printing	2	R	A																																		
Print linked data	2		A																																		
Fully formatted/book version	5		A																																		
Front matter	1		A																																		
Supporting technical data	2		A																																		
Alerts	1		A																																		
Emergency procedures	2		A																																		
Photos	1																																				
Audio	2																																				
Motion video	3																																				
Animation	4																																				
Content sensitive help (Tech data help)	1	R	A																																		
Context sensitive help (Viewer)	2	R	A																																		
User training	3		A																																		

Functionality	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 Chemical Ammunition	Munition and Ammunition Data Sheet	Demilitarization of Surplus Items	WTB	Depot Test Equipment	Lubrication Orders
Passive change indications and markings	1		A																																		
Active change indications and markings	2	R	A																																		
Full change	1		A																																		
Block cycle and urgent changes	2		A																																		
Near real time updates	2		A																																		
Web browser viewable	3		A																																		
Stand alone mode	1		A																																		
Network connectivity	2		A																																		

CONCLUDING MATERIAL

Custodians:

Army - TM

Marine Corps - MC

Review Activities:

Army - AC, AR, AT, AV,

CR,EA, MI, PT

Preparing Activity:

Army - TM

Project Number:

TMSS 2007-012

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 http://assist.daps.dla.mil/online/start.