

TECHNICAL MANUAL

METHODS AND PROCEDURES

AIR FORCE TECHNICAL ORDER LIFE CYCLE MANAGEMENT

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INTRODUCTION

1 PURPOSE.

Air Force Policy Directive (AFPD) 20-1/63-1 and Department of Air Force Instruction DAFI 63-101/20-101, establish policy for integrated life cycle management for Air Force Technical Orders (TO). This TO implements life cycle management methods and procedures for the acquisition, sustainment, and disposition of TOs. The AF TO System and hierarchy for AF TO policy can be found in TO 00-5-1.

2 USE OF THIS MANUAL.

The table of contents indicates chapter, paragraph, title, and page numbers to facilitate location of information. Illustrations, tables, and diagrams, when applicable, are located throughout the publication to supplement the text material. A list of illustrations and a list of tables indicate the number, title, and location.

3 DEFINITIONS.

For the purposes of this manual, the following definitions apply to compliance terminology:

- Shall, Must, Will - Indicates mandatory requirements.

NOTE

“Will” is also used to express a declaration of purpose for a future event.

- Should - Indicates a preferred method of accomplishment.
- May - Indicates an acceptable or suggested means of accomplishment.

4 ABBREVIATIONS.

All abbreviations used in this manual are IAW JCS Pub 1-02, ASME Y14.38M, and the GPO Style Manual for use on drawings, specifications, standards, and in technical documents, except as follows:

Abbreviations

A&S	Acquisition & Sustainment
ABDR	Aircraft Battle Damage Repair
ACC	Air Combat Command
AEODPS	Automated EOD Publication System
AETC	Air Education and Training Command
AF	Air Force
AFCEC	Air Force Civil Engineer Center
AFIOH AF	Institute of Operational Health
AFIT	Air Force Institute of Technology
AFLCMC	AF Life Cycle Management Center
AFMC	Air Force Materiel Command
AFMCI	AFMC Instruction
AFMCMAN	AFMC Manual
AFMETCAL	Air Force Metrology and Calibration (AFMC)
AFNWC	AF Nuclear Weapons Center
AFOSH	Air Force Occupational Safety and Health
AFPD	Air Force Policy Directive

Abbreviations - Continued

AFPSL	Air Force Primary Standards Laboratory
AFRIMS	Air Force Records Information Management System
AFRL	Air Force Research Laboratories (AFMC)
AFSAC	Air Force Security Assistance Center (AFMC)
AFSEO	Air Force SEEK EAGLE Office
AFSSI	Air Force Systems Security Instruction
AFTO	Air Force Technical Order
AFTOFST	Air Force Technical Order Field Support Team
ALC	Air Logistics Complex OC-Oklahoma City; OO-Ogden; WR-Robins
ANSI	American National Standards Institute
API	Airman Powered by Innovation Program (formally IDEA Program)
APO	Army/AF Post Office
APU	Auxiliary Power Unit
ASC	Air Superiority Cell
ASCC	Air Standardization Coordinating Committee
ASSIST	Acquisition Streamlining and Standardization Information System
BEE	Bio-Environmental Engineering
BR	Business Rules
BSD	Boeing Space Division
C-E	Communications-Electronics
CAC	Common Access Card
CAFTOP	Comprehensive Air Force TO Plan
CAGE	Commercial and Government Entity (Code)
CBA	Cost Benefit Analysis
CBSS	Combat Sustainment Squadron
CCC	Cyberspace Capabilities Center
CCL	Commerce Control List
CCP	Contract Change Proposal OR Command Control Point
CD	Compact Disk - Read-Only Memory
CDD	Capability Development Document
CDM	Contractor Data Manuals (ICBMs)
CDO	Controlling DoD Offices
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CFAE/CFE/CFEN	Contractor Furnished (Aeronautical) Equipment (Notice)
CLIN	Contract Line Item Number
CLS	Contractor Logistics Support
CMS	Calibration and Measurement Summary
CONOPS	Concept of Operations
COTS	Commercial Off-the-Shelf (Hardware, Software or Manuals)
CPAB	Corrosion Prevention Advisory Board
CPIN	Computer Program Identification Number
CPS	Command Publishing Suite (ETIMS)
CR	Certification Recommendation (SEEK EAGLE program)
CSG	Combat Sortie Generation
CSTO	Country Standard TO
CTOCU	Central Technical Order Control Unit
CTOM	Centralized Technical Order Management (Committee or Group)

Abbreviations - Continued

CTOR	Centralized TO Repository (Robins)
CUI	Controlled Unclassified Information
CWDS	Combat Weapon Delivery Software
DAU	Defense Acquisition University
DCMA	Defense Contract Management Agency
DD	Department of Defense (Forms)
DDR	Data Discrepancy Report
DECERT	De-Certification
DFARS	Defense Federal Acquisition Regulations Supplement
DFOSI	Display Formatting Output Specification Instances
DIAMONDS	Defense Integration and Management of Nuclear Data Services
DID	Data Item Description
DLA	Defense Logistics Agency
DoD	Department of Defense
DoDAAC	Department of Defense Activity Address Code
DoDD	Department of Defense Directive
DoE	Department of Energy
DPEM	Depot Programmed Equipment Maintenance
DSN	Defense Switched Network
DSO	Document Services Online
DSS	Digital Support Suite
DST	Digital Support Tools
DT&E	Development Test and Evaluation
DT/OT	Developmental Test/Operational Test
DTD	Document Type Definition
DTRA	Defense Threat Reduction Agency
DVD	Digital Versatile Disc
ECA	External Certificate Authorization
ECP	Engineering Change Proposal
EDD	Estimated Distribution Date
EED	Electro-Explosive Devices
EM	Environmental Management
EN	Evaluation Notice
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ES	Equipment Specialist
ESDS	Electrostatic Discharge Sensitive
ESOH	Environmental, Safety and Occupational Health
ETIMS	Enhanced Technical Information Management System
ETM	Electronic Technical Manual
eTO	Electronic TO
eTool	Electronic Tool (fixed and deployable multi-user devices)
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulations
FDO	Foreign Disclosure Office
FMM	Flight Manual Manager
FMP	Flight Manuals (Program or Publications) (AFI 11-215)
FMS	Foreign Military Sales

Abbreviations - Continued

FOIA	Freedom of Information Act
FOUO	For Official Use Only
FPO	Fleet Post Office
FQT	Functional Qualification Test
FSC	Federal Stock Class
FTE	Factory Test Equipment
FTORB	Flight Technical Order Review Board
FUG	Functional Users Guide
FYDP	Future Years Defense Plan
GACP	Global Ammunition Control Point (AFLCMC/EBHM and AFLCMC/EBWM)
GAL	Global Address List
GDS	Global Directory Services
GEIA	Government Electronics and Information Association
GFE/GFAE	Government Furnished (Aeronautical) Equipment
GOCO	Government-Owned, Contractor-Operated
GOTS	Government Off-the-Shelf Software Manuals
HAZMAT	Hazardous Materials
HCP/HCI	Hardness Critical Procedure/Item
HDBK	Handbook
HQ	Headquarters
HTML	Hypertext Markup Language
http(s)	Hypertext Transfer Protocol (Secure)
IAW	In Accordance With
ICBM	Inter-Continental Ballistic Missile
ICD	Initial Capabilities Document
ICS	Interim Contractor Support
ID	Initial Distribution or Identification
IETM	Interactive Electronic Technical Manual
IMP	Integrated Master Plan
IMS	Integrated Master Schedule
IOC	Initial Operational Capability
IOS	Interim Operational Supplement
IOT&E	Initial Operational Test and Evaluation
IP	Internet Protocol
IPB	Illustrated Parts Breakdown
IPR	In-Process Review
IPT	Integrated Product (Process) Team
ISO	International Standards Organization
ISS	Interim Safety Supplement
IT	Information Technology
ITCTO	Interim Time Compliance TO
ITIES	Interservice Technical Information Exchange System
ITO	Interim Technical Order
ITPS	Identifying Technical Publication Sheet (MIL-PRF-32216)
IUID	Item Unique Identification
JEDMICS	Joint Engineering Drawings Management Information and Control System
JNWPS	Joint Nuclear Weapons Publication System
JTCG-CMT	Joint Technical Coordinating Group - Calibration & Measurement Technology

Abbreviations - Continued

LEP	List of Effective Pages
LMI	Logistics Management Information
LOAP	List of Applicable Publications
LOC	List Of Changes
LSDP	Loading Standard Data Package
MAJCOM	Major Command
MCTL	Militarily Critical Technology List
MDS	Mission/Design/Series
MIL-DTL	Military Detail Specification
MIL-HDBK	Military Handbook
MIL-PRF	Military Performance Specification
MIL-STD	Military Standard
MIL-SPEC	Military Specification
MIQ	Maximum Issue Quantity
MMHE	Munitions Material Handling Equipment
MOA	Memorandum of Agreement
MPTO	Methods & Procedures TO
MS	Microsoft®
N/A	Not Applicable
NATO	North Atlantic Treaty Organization
NDI	Non-Destructive Inspection
NGS	Non-Government Specification
NIPRNET	Non-Classified (or Non-Secure) Internet Protocol Router Network
NIST	National Institute of Standards and Technology
NOFORN	Not For Foreign Release
NSA	National Security Agency
NSN	National Stock Number
NSP	Nuclear Surety Procedure
NSWC IHD	Naval Surface Warfare Center Indian Head Division Explosive Ordnance Disposal Technology Center
EODTECHCEN	
O&M	Operation(s) and Maintenance
ODS	Ozone Depleting Substance
OEM	Original Equipment Manufacturer
OPCERT	Operation Certification
OPR	Office of Primary Responsibility
ORC	Operational Research Consultants
OS	Operational Supplement
OSS&E	Operational Safety, Suitability and Effectiveness
OT&E	Operational Test and Evaluation
OTR	One Time Requisition
PCO	Procuring Contracting Officer
PCR	Publication Change Request
PDF	Portable Document Format™ (Adobe®)
PGM	Product Group Manager
PII	Personally Identifiable Information
PIM	Product Improvement Manager
PKI	Public Key Infrastructure
PM	Program Manager

Abbreviations - Continued

PMA	Production Management Activity
PMD	Program Management Directive
PME/PMEL	Precision Measurement Equipment (Laboratory)
POC	Point of Contact
POM	Program Objective Memorandum
PPR	Pre- or Post-Publication Review
PSM	Product Support Manager
PSN	Publication Stock Number
PSTK	Product Support Tool Kit (formally A&S Tool Kit)
PTO	Preliminary Technical Order
PWS	Performance-based Work Statement
QA	Quality Assurance
R&D	Research and Development
RAC	Rapid Action Change
RC	Recommended Change
RDS	Records Disposition Schedule
REMIS	Reliability and Maintainability Information System
RFP	Request For Proposal
RGL	Reading Grade Level
RSP	Render Safe Procedures
RTO	Responsible Test Organization
SA	System Administrator
SAF	Secretary of the Air Force
SAP	Security Assistance Program
SATODS	Security Assistance TO Data System
SATOP	Security Assistance TO Program
SCG	Security Classification Guide
SCI	Sensitive Compartmented Information
SCM	Supply Chain Manager
SDP	Source Data Package
SE	Support Equipment
SERD	Support Equipment Recommendation Data
SGML	Standard Generalized Markup Language
SID	Specification Interpretation Document
SIPRNet	Secure Internet Protocol Router Network
SIR	Specification/Standard Interface Record
SME	Subject Matter Expert
SMR	Source Maintenance and Recoverability (Code)
SMTP	Simple Mail Transfer Protocol
SOO	Statement of Objectives
SOW	Statement Of Work
SPERS	Sustainment Planning, Execution and Reporting System
SRD	System Requirements Document or Standard Reporting Designator
SS	Safety Supplement
SSEA	Systems Safety Engineering Analysis
SSL	Secure Socket Layer (Internet)
STE	Special Test Equipment
STINFO	Scientific and Technical Information

Abbreviations - Continued

T&E	Test and Evaluation
TCM	Technical Content Manager
TCTO	Time Compliance Technical Order
TDP	Technical Data Package
TDY	Temporary Duty
TLCSM	Total Life Cycle System Management
TM	Technical Manual
TMCR	Technical Manual Contract Requirements (document)
TMDE	Test, Measurement and Diagnostic Equipment
TMOP	Technical Manual Organization Plan
TMSS	Technical Manual Specifications and Standards
TO	Technical Order
TOAP	Technical Order Authoring and Publishing
TOCU	TO Control Unit
TODA	TO Distribution Account
TODO	TO Distribution Office
TOFB	TO Financial Brochure
TOIS	TO Information Sheet
TOLCMP	TO Life Cycle Management Plan
TOLCVP	TO Life Cycle Verification Plan
TOMA	TO Management Agent/TO Management Agency
TOP/RC	TO Planning/Requirements Conference
TOPS	TO Page Supplement
TORB	TO Review Board
TRD	Technical Requirements Document
URL	Uniform Resource Locator (Internet address)
U.S.	United States
U.S.C.	United States Code
USAF	United States Air Force
USPS	U.S. Postal Service
USML	United States Munitions List
USSF	United States Space Force
VIN	Vehicle Identification Number
VPN	Virtual Private Network
VSP	Verification Status Page
VTM	Verification Team Manager
WD	Wiring Diagram (MIL-DTL-83495 Manual)
WSSR	Weapon System Safety Rules
WUC	Work Unit Code
XML	eXtensible Markup Language
6DOF	Six Degree of Freedom

5 LIST OF RELATED PUBLICATIONS.

These publications contain information in support of this technical manual and are required to accomplish the prescribed maintenance.

List of Related Publications

Number	Title
AFGM2018-17-02	Air Force Enterprise Information Technology Management
AFI 11-215	Flight Manuals Program
AFI 17-100	Air Force Information Technology (IT) Service Management
AFI 17-130	Cybersecurity Program Management
AFI 24-302	Vehicle Management
AFI 32-1015	Environmental Impact Analysis Process
AFI 35-101	Air Force Security and Policy Review Program
AFI 40-201	Radioactive Materials Management
AFI 91-102	Nuclear Weapon System Safety Studies, Operational Safety Review and Safety Rules
AFMAN 32-3001	Explosive Ordnance Disposal (EOD) Program
AFMC Form 202	Nonconforming Technical Assistance Request and Reply
AFMCI 63-101	AFMC TO System Implementing Policies
AFMCI 63-1201	Implementing Operational Safety, Suitability, and Effectiveness (OSS&E) and Life Cycle Systems Engineering
AFMCMAN 23-101	Provisioning
AFMCMAN 63-1202	Engineering Technical Assistance Request (ETAR) Process
AFPD 10-9	Lead Command Designation and Responsibilities for Weapon Systems
AFPD 32-70	Environmental Quality
AFPD 63-1/AFPD 20-1	Integrated Life Cycle Management
AFTO Form 124	Computation of Technical Order Reading Grade Level
AFTO Form 158	Technical Order Review Comment Sheet
AFTO Form 22	Technical Manual (TM) Change Recommendation and Reply
AFTO Form 252	Technical Order Publication Change Request
AFTO Form 27	Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval
AFTO Form 30	Reproduction Assembly Sheet
AFTO Form 874	Time Compliance Technical Order (TCTO) Supply Data
ASD-S1000D	International Specification for Technical Publications Utilizing a Common Source Database
DAF Form 847	Recommendation for Change of Publication
DAFI 20-118 (Superseded AFJI 21-301)	Instructions for the Interservicing of Technical Manuals and Related Technology Program
DAFI 24-602V2	Preparation and Movement of Air Force Cargo
DAFI 38-402	Airman Powered by Innovation (API) Program
DAFI 61-201	Management of Scientific and Technical Information (STINFO)
DAFI 63-101/20-101	Integrated Life Cycle Management
DAFI 63-125	Nuclear Certification Program
DAFI 63-140	Aircraft Structural Integrity Program and Air and Space Equipment Structural Management
DAFI 65-601V1	Budget Guidance and Procedures
DAFI 91-101	Air Force Nuclear Weapons Surety Program
DAFMAN 16-201	Department of the Air Force Foreign Disclosure and Technology Transfer Program
DAFMAN 21-113	Air Force Metrology And Calibration (AFMETCAL) Management
DAFMAN 90-161	Publishing Processes and Procedures
DAFMAN 91-203	Air Force Occupational Safety, Fire, and Health Standards
DD Form 1423	Contract Data Requirements List
DD Form 2345	Militarily Critical Technical Data Agreement
DD Form 254	Department of Defense Contract Security Classification Specification
DD Form 2875	System Authorization Access Request

List of Related Publications - Continued

Number	Title
DD Form 448	Military Interdepartmental Purchase Request
DESR 6055.09_AFMAN 91-201	Explosives Safety Standards
DI-SAFT-80931	Explosive Ordnance Disposal Data
DI-TMSS-80067	Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices
DI-TMSS-81532	Aerospace Emergency Rescue and Mishap Response Information
DoD 5010.12-M	Procedures for the Acquisition and Management of Technical Data
DoD 5220.22-M	National Industrial Security Program Operating Manual (NISPOM)
DoDD 5160.62	Single Manager Responsibility for Military Explosive Ordnance Disposal Technology and Training
DoDD 5230.25	Withholding of Unclassified Technical Data From Public Disclosure
DoDI 5000.02	Operation of the Defense Acquisition System
DoDI 5200.48	Controlled Unclassified Information (CUI)
DoDI 5210.83	DoD Unclassified Controlled Nuclear Information (UCNI)
DoDI 5230.24	Distribution Statements on Technical Documents
DoDI 5330.03	Single Manager of DoD Document Services
DoDM 4120.24	Defense Standardization Program Procedures
DoDM 5200.01_AFMAN16-1404, Volumes 1-3	Information Security Program
DoDM 5400.07	DoD Freedom of Information Act Program
EZ-SB-15-002	NDI Procedure Development, Validation, and Verification
FAR/DFARS	Federal Acquisition Regulation/Defense Federal Acquisition Regulation Supplement
GEIA-HB-859	Implementation Guide for Data Management
MIL-DTL-7700	Flight Manuals, Performance Data Appendix, Mission Crew Manual, Supplemental Manual, and Abbreviated Flight Crew Checklist
MIL-DTL-83495	Technical Manuals-On-Equipment Maintenance Manual Set
MIL-DTL-87158	Technical Manuals: Aircraft Battle Damage Assessment & Repair
MIL-DTL-87929	Technical Manuals: Operation and Maintenance Instructions in Work Package Format (for USAF Equipment)
MIL-DTL-9977	Manuals, Technical - Nonnuclear Munitions and Nuclear Weapons Basic Information, Loading Procedures Manuals, and Standard Data Packages and Loading Procedures, NATO Stage B Procedures Checklists Cross-Servicing, Functional Check Procedures, and End of Runway
MIL-HDBK-245	Preparation of Statements of Work (SOW)
MIL-PRF-32216	Evaluation of Commercial Off-the-Shelf (COTS) Manuals and Preparation of Supplemental Data
MIL-STD-1686	Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
MIL-STD-3048	AF Business Rules for the Implementation of S1000D
MIL-STD-38784	Manuals, Technical: General Style and Format Requirements
MIL-STD-810	Environmental Engineering Considerations and Laboratory Tests
TM 86-01	Technical Manual Contract Requirements (TMCR) document
TO 00-105E-9	Aerospace Emergency Rescue and Mishap Response Information (Emergency Services)
TO 00-20-2	Maintenance Data Documentation
TO 00-25-113	Critical Alloys and Precious Metal Parts List - Gas Turbine Engines
TO 00-25-107	Maintenance Assistance
TO 00-25-234	General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment

List of Related Publications - Continued

Number	Title
TO 00-33A-1001	General Cyberspace Support Activities
TO 00-35D-54	USAF Deficiency Reporting and Investigating System
TO 00-5-1	AF Technical Order System
TO 00-5-15	AF Time Compliance Technical Order System
TO 00-5-16	Computer Program Identification Number (CPIN) Management
TO 00-5-18	USAF Technical Order Numbering System
TO 00-5-19	Security Assistance Technical Order Program
TO 00-80G-1	Make Safe Procedures for Public Static Display
TO 1-1-17	Storage of Aircraft and Missile Systems
TO 1-1-3	Inspection and Repair of Aircraft Integral Tanks and Fuel Cells
TO 1-1-686	Desert Storage, Preservation and Process Manual for Aircraft, Aircraft Engines, and Aircraft Auxiliary Power Unit Engines
TO 1-1-689-5	Cleaning and Corrosion Control, Volume V, Consumable Materials and Equipment for Avionics
TO 1-1-691	Aircraft Weapons System - Cleaning and Corrosion Prevention and Control Aerospace and Non-Aerospace Equipment
TO 1-1-8	Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment
TO 1-1A-14-2	Installation and Repair Practices - A/C Circular Electrical Connectors and Accessories
TO 1-1A-14-3	Installation and Repair Practices - A/C Circular Electrical Connectors and Accessories
TO 1-1M-33	Nonnuclear Munitions Information Manual - Standard Volume
TO 1-1M-34	Aircrew Weapons Delivery Manual - (Nonnuclear) Standard Volumes
TO 11A-1-10	Air Force Munitions Surveillance Program and Serviceability Procedures
TO 11A-1-61 Series	Storage and Outloading Instructions For Conventional Ammunition (IGLOO, Magazine, Military Van, Truckloading, and Carloading)
TO 11A-1-63	Munitions Assembly Procedures - Inspection & Assembly of Conventional Munitions
TO 11N-1-1	Joint Nuclear Weapons Publication System Operating Procedures, Specifications and Standards
TO 21M-1-101	Operational Instructions - Field/Depot Level Reliability Asset Monitoring System
TO 33B-1-1	Non-Destructive Inspection Methods, Basic Theory
TO 33B-1-2	Non-Destructive Inspection -- General Procedures and Process Controls
TO 35-1-256WC-1	Service Inspection Workcards - Powered Aerospace Ground Equipment

6 WEB-BASED REFERENCES.

All web-based references used in this manual will be listed below by Title and Uniform Resource Locator (URL). To aid in readability, if a web-based reference is used more than once in this manual, the URL will only be listed here and not in the body of the text. Single use web-based references will appear in both the body and in the table below.

TITLE	URL
AFTOFST Home SharePoint	https://usaf.dps.mil/teams/12982/default.aspx
AFTOFST TO Management SharePoint	https://usaf.dps.mil/teams/10531/default.aspx
AFTOMS SharePoint	https://usaf.dps.mil/teams/Hill/USAFTOMANAGEMENT/SitePages/AFTOMSC.aspx
ANS SharePoint	https://usaf.dps.mil/teams/13153/Pages/ANSHome.aspx
ASSISTQuickSearch	https://quicksearch.dla.mil/qsSearch.aspx
Air Force Digital Transformation Sharepoint	https://usaf.dps.mil/teams/afmcde
Air Force Enterprise Service Desk (ESD)	https://esd.us.af.mil/esdportal/DOD.aspx
Air Force E-publishing	https://www.e-publishing.af.mil/
Air Force Records Disposition Schedule	https://www.my.af.mil/gcss-af61a/afirms/afirms/

Automated TMCR Tool	https://usaf.dps.mil/teams/Hill/USAFTOMANAGEMENT/TM-CR_Live_Jul2023/index.aspx
CAFTOP SharePoint	https://usaf.dps.mil/sites/10792/GUIDANCE/Forms/AllItems.aspx
DoD SAFE Web Page	https://safe.apps.mil/
DSO Storefront	https://dso.dla.mil/DSF/SmartStore.aspx#!/Storefront
GACP Web Page	https://ammo.sso.cce.af.mil/wm/
GDS Web Page	https://dod411.gds.disa.mil/
MNCL	https://login.lcmp.af.mil/logincore/MNCL/request-account
PDM Gateway	https://tosune5.robins.af.mil/
PKI Web Page	https://public.cyber.mil/
PSTK SharePoint	https://usaf.dps.mil/sites/41289/Pages/SitePages/Product-Support-Toolkit.aspx
Security Assistance TO Data System (SATODS)	https://wwyk-ws-2004v/
TMSS SharePoint	https://usaf.dps.mil/teams/12316/default.aspx

7 IMPROVEMENT REPORTS.

All changes to this TO must be forwarded through users' Major Command. Submit suggested changes to this TO IAW TO 00-5-1.

CHAPTER 1

TECHNICAL ORDER LIFE CYCLE MANAGEMENT

1.1 GENERAL.

1.1.1 TO Policy. Air Force Publications AFPD 63-1/AFP 20-1 and DAFI 63-101/20-101 specify TO System policies and instructions. AFI 11-215 contains policy and instructions unique to flight manuals. DAFI 63-125 contains policy and instructions for nuclear certification systems/equipment. AFMCI 63-101 contains policy and specifies responsibilities for implementing the AF TO system.

1.1.1.1 Two services exist in the Department of the AF, the U.S. Air Force (USAF) and the U.S. Space Force (USSF). The MAJCOM, formerly designated as Air Force Space Command (AFSPC) was redesignated as the USSF. Separately, additional Field Commands (MAJCOMs) were created under the USSF, Space Operations Command (SpOC), Space Training and Readiness Command (STARCOM), and Space Systems Command (SSC). For the purpose of this TO, any reference to MAJCOMs will encompass all MAJCOMs including USSF, unless otherwise indicated. USSF may issue supplemental guidance applicable for its respective mission areas IAW the procedures outlined in TO 00-5-1.

1.1.2 TO Procedures. This TO covers TO life cycle management methods and procedures ([Paragraph 1.2](#)). TO 00-5-1 contains AF TO system methods and procedures. TO 00-5-15 provides additional management procedures supporting equipment modifications. TO 00-5-16 provides methods and procedures for management of Computer Program Identification Number (CPIN). TO 00-5-18 provides TO numbering procedures. TO 00-5-19 provides procedures for Foreign Military Sales (FMS) programs.

1.1.3 Supplements to this TO. MAJCOMs and Air Force Materiel Command (AFMC) Centers may supplement this TO IAW TO 00-5-1. Copies of all supplements will be sent to HQ AFMC/A4F, 4375 Chidlaw Rd, Suite 6, Wright-Patterson AFB, OH 45433-5006, email: afmc.a4.af.topp@us.af.mil.

1.1.4 Exemptions/Waivers. When unable to comply with TO system policies and procedures, to include Technical Manual Specifications and Standards (TMSS), an approved waiver is required. Organizations must request a waiver IAW TO 00-5-1.

1.2 TO LIFE CYCLE MANAGEMENT.

The purpose of TO Life Cycle Management is to effectively and efficiently acquire, sustain and distribute accurate and current technical data through the use of the Air Force (AF) Standard TO Management System. Beginning with development and/or procurement of technical data to safely operate and maintain weapon systems, commodities, and support equipment, acquisition also prepares for future program modifications that may occur through a program's life cycle. Following acquisition, formalized technical data is sustained through updates and supplements initiated by recommended changes to technical procedures or for safety-related purposes. The Air Force Standard TO Management System provides AF enterprise capabilities to facilitate acquisition and sustainment requirements: Programs use the Comprehensive Air Force Technical Order Plan (CAFTOP) to plan and schedule program requirements, TO Authoring and Publishing (TOAP) to update technical data, Defense Logistics Agency (DLA) Data Management Services for print and distribution, Enhanced Technical Information Management System (ETIMS) to configuration manage, distribute eTOs and archive technical data. The following paragraphs cover TO Acquisition, TO Sustainment, and the TO Life Cycle Management systems and production tools support in more detail.

1.2.1 TO Acquisition. (Reference [Chapter 3](#)) TO acquisition includes the development and/or procurement of technical data and TOs to operate and maintain centrally-acquired and managed military systems and commodities. TOs for individual systems and commodities are acquired by assigned Technical Order Management Agent/Agency (TOMA) ([Paragraph 2.1.4](#)). Flight Manual Managers (FMMs) manage the acquisition of Flight Manual Program (FMP) publications (AFI 11-215) under the guidance of the TOMA. It also includes acquisition of new TOs and TCTOs to support program modifications. Acquisition and sustainment of TOs must be effectively managed through the life cycle of the military system or commodity the TOs support.

1.2.2 TO Sustainment. (Reference [Chapter 4](#)) TO sustainment refers to all activities required to maintain the currency, accuracy, and availability of United States Air Force (USAF) TOs and Country Standard Technical Orders (CSTOs) in the post-acquisition phases of a program life cycle. It includes TO updating, verifying, indexing, configuration control, superseded-

TO 00-5-3

ing, rescinding, and reactivating. This includes the TOs necessary for, or associated with, reclamation, re-use, and cannibalization of a system and its associated commodities. Continuing support for FMS customers is also part of TO sustainment.

1.2.3 TO Distribution. (Reference [Chapter 5](#)) TO Distribution refers to all aspects of disseminating current technical data, to include storing and archiving of outdated and superseded TOs. The required method of distribution for AF TOs is electronic, using ETIMS. In some instances, when physical distribution is necessary, organizations will distribute physical media TOs through DLA Data Management Services. Foreign Military Sales (FMS) customers can view and download TOs in Report2Web (R2W) and can order and manage through AFSAC Online (AOL) (reference TO 00-5-19).

1.2.4 TO Management Systems and Production Tools. All TO system data inputs, management practices, and TO acquisition, sustainment and use procedures will be performed using designated standard AF enterprise tools and other AF-sanctioned program tools. Exceptions are listed in TO 00-5-1 and this TO.

1.2.4.1 Enhanced Technical Information Management System (ETIMS). ETIMS is the designated AF Defense Business System for all Technical Order (TO) and Computer Program Identification Number (CPIN) management. The overall ETIMS Enterprise Capability is provided by four (4) major components: Government Cloud Service Provider Platform (Cloud One), ETIMS software, eTO Content Management (ECM) software, and external interfaces. ETIMS provides capabilities to create and index catalog data, manage library accounts, manage paper printing and distribution, manage TO change process, manage, archive, and distribute eTO content to support viewing eTOs on eTools. ETIMS contains metadata records that define the existence of TOs and CPINs in the Air Force Enterprise, and exchanges metadata and metadata transaction information/status with the Security Assistance Technical Order Data System (SATODS), the Technical Order Authoring and Publishing (TOAP) System, Reliability & Maintainability Information System (REMIS), Advancing Analytics (Advana)/Basing and Logistics Analytics Data Environment (BLADE), and the Defense Logistics Agency's Document Services Online (DSO) for managing subscriptions and requisitions.

1.2.4.1.1 ETIMS is accessible via the AF Portal; once logged on to the AF Portal home page, ETIMS may be accessed from the Application A-Z Listing.

1.2.4.1.2 TODO personnel, TO Distribution Account (TODA) personnel, TO Library Custodians, eTool administrators, and TO users will only have access to the TOs associated with their TODO account.

1.2.4.1.3 Any ETIMS User requiring elevated roles/privileges, such as TOMAs, Technical Content Managers/Equipment Specialists (TCM/ES), ES Supervisor, Engineer, Chief Engineer, Product Improvement Manager (PIM), MAJCOM Command Control Point (CCP) personnel, CPIN Configuration Manager, and CPIN Manager must submit an ETIMS Tailored DD Form 2875, *System Authorization Access Request* (SAAR), for initial access and modification of roles/privileges.

1.2.4.1.3.1 Proponents must validate elevated roles/privileges annually to facilitate database management and safeguard Scientific and Technical Information (STINFO). The Air Force Technical Order Management Support (AFTOMS) site offices will initiate annual validation through proponent notification and distribution of privileged user reports.

1.2.4.1.3.2 When elevated roles/privileges are no longer required, the individual's access to controlled technical data must be deactivated. Elevated roles/privileges can only be deactivated by either a Field Support Center (FSC) ticket or ETIMS Tailored DD Form 2875.

1.2.4.1.4 The ETIMS tailored DD Form 2875 and specific routing is available through the AFTOFST Home SharePoint or the AFTOFST TO Management SharePoint (reference [Paragraph 6](#)).

1.2.4.2 Document Services Online (DSO). Per DoDI 5330.03, Defense Logistics Agency (DLA) Data Management Services is the single agency in the DoD, providing integrated management of document services on behalf of DoD components. DSO is the commercial-off-the-shelf online application used by DLA to provide printing/shipping services. The DSO application provides a single portal for print order fulfillment of Air Force Technical Orders. DSO provides the capability to submit orders, access order history information, and complete billing. For the AF, ETIMS interfaces with DSO to provide TO metadata for print requirements and to update print and distribution status. For FMS, DSO interfaces with SATODS to provide TO metadata and status notifications. See DSO Storefront web site (reference [Paragraph 6](#)).

1.2.4.3 Technical Order Authoring and Publishing (TOAP). TOAP is the mandatory use, organic TO authoring and publishing component of the AF Standard TO Management System. TOAP provides the AF enterprise capability to manage, author, and publish TO publication source content data, enforces authoring and publishing compliance, and provides a free to use IETM (S1000D) viewer outlined within the policies prescribed in [Paragraph 3.27.1](#).

NOTE

- TOAP is located and managed by AFLCMC/LZPP at Robins AFB.
- TOAP is a collection of Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) components which provide a complete TO content management, sustainment and publishing environment which employs workflow-controlled process solutions for TO management and editorial workgroups.
- A like capability supporting authoring and publishing of classified (up to and including SECRET) TO data is provided within the Secure TO Repository (STOR) system is also managed by AFLCMC/LZPP (email: aflcmc.pdss.toapsupport@us.af.mil).

1.2.4.4 Product Support Tool Kit (PSTK) (formerly A&S Tool Kit). The PSTK is designed to provide standard, repeatable processes to guide the acquisition and sustainment workforce and facilitate life cycle up front planning and programming. The Tool Kit consists of the Processes Matrix and Checklists. Specific TO management development and sustainment checklists are provided within the PSTK and should be used as a guide for Program Managers (PMs) and TOMAs throughout the TO life cycle. These files and checklists can be accessed at <https://usaf.dps.mil/sites/41289/Pages/SitePages/Product-Support-Toolkit.aspx>. AFLCMC/LG sponsors the PSTK and its content. PSTK training has been incorporated into several Air Force Institute of Technology (AFIT) and Defense Acquisition University (DAU) courses.

1.2.4.5 Commercial and Government-Furnished Software. Some TOMAs and TCMs/ESs will require additional software applications to manage digital TO files. Adobe® Acrobat Pro™ is required for publishing and managing PDF digital files. Some programs use commercial publishing tools to develop Standard Generalized Markup Language (SGML)-tagged TO files, and government personnel will need these tools to establish an organic TO sustainment capability. TOMAs and their support organizations will need Display Formatting Output Specification Instances (DFOSI) ArborText Editor, Command Publishing Suite (CPS) software, and AutoCAD or similar AF certified graphics software to publish SGML-tagged files as Hypertext Markup Language (HTML) eTOs for AF eTO viewers.

1.2.4.6 Security Assistance TO Data System (SATODS). SATODS controls the release of TOs/TCTOs/CPINs to foreign countries. This system provides documentation and records for FMS accounts, TO processing, shipping labels, and TO/CPIN tracking and processing. Refer to TO 00-5-19.

1.2.4.7 Automated Explosive Ordnance Disposal (EOD) Publication System (AEODPS). The AEODPS is a subset of the Joint EOD Mobile Field Kit (JEOD MFK) software.

1.2.4.8 Defense Integration and Management of Nuclear Data Services (DIAMONDS). A classified system used by the Defense Threat Reduction Agency (DTRA) and AFGSC/A4Z Nuclear Stockpile Division to manage and distribute Joint Nuclear Weapons Publications System (JNWPS) manuals. The capability to use DIAMONDS must be approved by DTRA and the AFGSC/A4Z, and a stand-alone DIAMONDS terminal must be installed.

1.2.4.9 Centralized TO Repository (CTOR) System. CTOR is a digital repository for legacy archived TOs not found in ETIMS. TOMAs may request archive TOs from CTOR by contacting AFLCMC.PDSS.TOArchive@us.af.mil.

1.2.4.10 Secure TO Repository (STOR). STOR is a digital repository for active and archived classified TOs, up to and including SECRET. For access, contact the LZP STOR mailbox at aflcmc.pdss.toapsupport@us.af.mil. AFGSC/A4Z is the digital repository for all classified JNWPS publications. For access to JNWPS publications, contact AFGSC/A4Z at A47.A4Z.TOMAWorkflow@us.af.mil.

1.2.4.11 Reliability Asset Monitoring (RAM) System. The RAM System is the AF Maintenance Information System used to track serialized TCTO compliance, weapon configuration, inspections and other key maintenance data and Operational Safety, Suitability and Effectiveness (OSS&E) support of missiles/munitions listed in TO 21M-1-101.

1.2.4.12 Reliability and Maintainability Information System (REMIS). REMIS is the AF Maintenance Enterprise system providing organization, intermediate, and depot-level operational authoritative information for all AF Weapon systems, Satellites, Missiles, Trainers, Mine Resistant Ambush Protected (MRAP) vehicles, C-E ICBM Automatic Test Equipment (ATE), and support Equipment. Refer to TO 00-20-2

1.2.4.13 Comprehensive Air Force Technical Order Plan (CAFTOP). The CAFTOP applies to all Air Force programs regardless of support concept and life cycle. The CAFTOP is a management plan for a specific list of TOs. The CAFTOP identifies PM and Lead Command mutual agreements about sustainment and digitization processes, future plans, etc.

CAFTOPs establish technical requirements for acquiring, sustaining, and distributing TOs, and can provide a basis of estimate for TO requirements. CAFTOP also identifies current status, overall health, and provides a future roadmap for each program's TOs to include plans, schedules, and progress in converting to appropriate digital formats. CAFTOP is an annual process that ends with these requirements being published in the Sustainment Planning, Execution and Reporting System (SPERS) and Logistics Requirements Determination Process (LRDP) for input into the Program Objective Memorandum (POM).

1.2.4.14 Technical Order Life Cycle Management Plan (TOLCMP). During acquisition and throughout sustainment, a TOLCMP is mandatory for all programs not excluded from the USAF TO System (IAW TO 00-5-1). The TOLCMP provides management policy, assigns responsibilities, defines terminology and specifies unique procedures for a weapon system TO Program. The plan provides basic instructions for development, contractor Quality Assurance (QA), verification and formalization of weapon system TOs during the program acquisition phase, and maintenance/sustainment of the TOs after formalization. The TOLCMP is intended to cover the entire weapons system life cycle from system conception to retirement. For programs with a Life Cycle Sustainment Plan (LCSP) requirement, the document will be attached to the program LCSP, and updated in parallel with that document, or as needed. The LCSP is the program's product support execution plan for ensuring the system's product support achieves and maintains the sustainment Key Performance Parameters/Key System Attributes (KPPs/KSAs) (See DAFI 63-101/20-101). The TOLCMP will be reviewed, updated (as required) and uploaded/submitted to the AFTOMS Document Drop-Box annually during the CAFTOP cycle. AFTOMS Drop-Box is located under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)). The AFTOMS - Program Support team will conduct a courtesy review of each TOLCMP and submit recommended changes back to the program office/TOMA via Comment Resolution Matrix (CRM). Program(s) must use the most current template version when submitting the TOLCMP for annual reviews. The most updated TOLCMP Template is located on the AFTOMS SharePoint site under Program Support - Templates.

1.2.4.15 Technical Order Life Cycle Verification Plan (TOLCVP). The TOLCVP is mandatory for all programs and should be developed as soon as possible during acquisition. New TOs developed during acquisition and TO updates developed during sustainment require formal verification by Air Force personnel to evaluate and approve the data, ensuring it is accurate, adequate, safe, and usable in the operational environment to support the program. The plan identifies established policy, defines terminology, assigns responsibility, and specifies schedules for a weapon system TO verification program. The plan applies to all verification activities associated with the life cycle management of TOs and Time Compliance Technical Orders (TCTO), except where noted, including those at using command bases, remote sites, depots, and contractor facilities. It is intended to cover verifications for the entire weapons system life cycle. For programs with a LCSP requirement, this document will be attached to the program TOLCMP and LCSP, and updated in parallel with those documents, whenever a change occurs, or as needed. The TOLCVP will be reviewed, updated (as required) and uploaded/submitted to the AFTOMS Document Drop-Box annually during the CAFTOP cycle. AFTOMS Drop-Box is located under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)). The AFTOMS - Program Support team will conduct a courtesy review of each TOLCVP and submit recommended changes back to the program office/TOMA via CRM. Program(s) must use the most current template version when submitting the TOLCVP for annual reviews. The most updated TOLCVP Template is located on the AFTOMS SharePoint site under Program Support - Templates.

1.2.4.16 Technical Manual Contract Requirements (TMCR) Document, TM 86-01. A TMCR is used in all contracts for acquisition, sustainment or modification of systems and equipment when TOs must be developed or updated. The TMCR consists of three parts: The first for the acquisition/modification of TMSS compliant SGML/XML technical manuals, the second part for the acquisition/modification/conversion of S1000D IETMs. S1000D is the preferred format for all new TO acquisitions of an IETM, and the third is acquisition/modification of Commercial Derivative Aircraft (CDA)/Commercial Off-The-Shelf (COTS) Manuals. Programs will develop a unique TMCR for each data type to support their acquisition to develop one of these parts for their acquisition/modification activity or conversion to S1000D IETM. Each of the three parts outlined above consists of the following three sections; TO Program Requirements, TM Type and Delivery Requirements, and Specification/Standards Interface Records (SIR). Section 1 defines specific program requirements the contractor will follow in development or sustainment of the TO data identified in Section 2. Section 2 includes tables listing TO types and related TMSS, source data requirements, specific TOs requiring update to support TO sustainment or modifications, and matrices providing delivery instructions with data formats for various phases of the program. Section 3 contains the SIRs for joint-service TMSS with Air Force tailoring specified and contains links to the TMSS Tailoring Tool and the S1000D Decision Point Tool. Additionally, a TOLCMP must be established or revised prior to developing the TMCR for programs on the Acquisition Master List (AML).

1.2.4.17 Automated TMCR Tool. Devised to reduce ambiguity, remove extraneous information, and simplify contract language during TMCR authoring, the tool ensures only necessary and cost-effective requirements are established for TO contract solicitation. The automated TMCR tool will be used on all contracts for TO acquisition, sustainment or modification of systems and equipment. The tool provides an automated writing guide for program offices to properly develop a TMCR while providing clear guidance for TMSS compliance and all types of TMCRs. The tool can be accessed using the AFTOMS Sharepoint URL in [Paragraph 6](#) of the introduction.

CHAPTER 2

ROLES AND RESPONSIBILITIES

2.1 PROGRAM OFFICE.

2.1.1 Program Manager (PM). The PM is responsible for and authorized to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. PMs provide TO management for the life cycle of assigned system/commodity TOs by establishing and assigning qualified personnel to staff the TO Management Agency (TOMA) functions. The PM is also responsible for assuring the Operational Safety, Suitability, and Effectiveness (OSS&E) of the system, subsystems, or end items. Delegation of specific OSS&E responsibilities are documented in writing and approved by the PM/Chief Engineer (CE) IAW AFMCI 63-1201. PMs ensure the accuracy and adequacy of TOs by assigning the appropriate, documented, OSS&E authority to Technical Content Managers/Equipment Specialists(TCMs/ESs).

2.1.1.1 The TOMA responsibilities shall be established by the applicable program office. The responsible PM or Supply Chain Manager (SCM, reference [Paragraph 2.1.2](#)) must establish authorizations and funding for personnel to staff the TOMA function at the appropriate location IAW 00-5-series TOs. The TOMA must be established as soon as possible, but not later than the Technology Maturation & Risk Reduction (TMRR) phase of a program or during initial staffing for any system or commodity buy, modification or sustainment effort. TO management personnel will be shown in the Enhanced Technical Information Management System (ETIMS) Catalog for each TO. The AF TO Management Support (AFTOMS) office will be notified in writing of the assignment or changes in TOMA personnel.

2.1.1.2 Programs involving aircraft must be coordinated through the Flight Manual Manager (FMM), per AFI 11-215.

2.1.1.3 The PM requests training and guidance from the AFTOMS site office, as required, for newly assigned personnel.

2.1.1.4 Programs involving nuclear systems must be coordinated with the AF Nuclear Weapons Center (AFNWC) per DAFI 63-125 and [Chapter 7](#) of this TO.

2.1.1.5 For acquisition and modification programs, the PM's functional Offices of Primary Responsibility (OPRs) will:

- Participate in requirements determination and preparation of inputs for the Request for Proposal (RFP) and TO Life Cycle Management Plan (TOLCMP).
- Help determine TO types and depth of coverage required.
- Review and approve or disapprove Contractor Furnished (Aeronautical) Equipment (CFAE/CFE) Notices (CFEN).
- Ensure requirements meet the MAJCOM's digitalization plan/requirements.
- Ensure sufficient technical data rights are obtained to provide life cycle support of the weapon system including priced options for additional rights if support concepts change.

2.1.1.6 The PM will manage the pre-notification, development, release approval and issue of Interim Technical Orders (ITOs) and Rapid Action Changes (RACs) for TOs supporting program equipment and commodities.

2.1.2 Supply Chain Manager (SCM). SCMs are designated individuals responsible for managing a line of National Stock Number (NSN)-coded items. SCM functions include requirements determination; cataloging, standardization and engineering data management; stock control and distribution; technical management functions; and pricing for their assigned items. SCMs are responsible for supplying, repairing, and managing materiel (including TOs) to support PMs. SCM functions are combined with PM functions in this TO.

2.1.3 Chief Engineer (CE). As the chief technical authority, the CE leads the implementation of a program's systems engineering processes and ensures their integrity, including technical risk assessment focused on ensuring OSS&E IAW AFMCI 63-1201. The Chief Engineer is the authority for ETIMS Publication Change Request (PCR) Approving Official requirements. The Chief Engineer may delegate TO update approval and PCR verification authority to ETIMS users with the

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role of Equipment Specialist (ES) Supervisor and TCM/ES respectively (see [Paragraph 2.1.1](#)). This delegation will be documented IAW AFMCI 63-1201.

2.1.4 TO Management Agent/TO Management Agency (TOMA). The TOMA is responsible for managing some or all of the TOs for a specific military system or commodity program for the entire life cycle.

2.1.4.1 The TOMA (agent) is responsible for: acquisition, sustainment, format, publishing, storage, distribution and archiving of TOs and related technical data IAW AFPD 63-1/AFP 20-1, DAFI 63-101/20-101, AFMCI 63-101, and 00-5-series TOs. The FMM may also perform some of the TOMA functions for some Flight Manual publications. These duties encompass initial acquisition and verification, sustainment, and periodic reviews (See AFI 11-215). TO Management Agent is an individual role, designated by appointment letter. See [Paragraph 2.1.4.3](#) for TOMA responsibilities.

2.1.4.2 The TO Management Agency consist of a group of personnel responsible for managing some or all of the TOs for a specific military system or commodity program for the entire life cycle. PMs designate individual(s) with responsibility for and authority to accomplish program objectives for development, production and sustainment to meet the user's operational needs by establishing and assigning qualified personnel to staff the TO Management Agency (TOMA) functions. The FMM is assigned by the PM as part of the TO Management Agency and is responsible for managing the technical content and format of assigned flight manual publications. The TO Management Agency functions include, but is not limited to, TO Management Agent, Technical Content Manager (TCM)/Equipment Specialist (ES), Flight Manual Manager (FMM), PMs, Engineering, and any other Subject Matter Expert (SME).

2.1.4.3 At a minimum, all TOMAs must acquire access to ETIMS and the Security Assistance TO Data System (SATODS). Acquire access to other management systems based on program requirements.

2.1.4.3.1 ETIMS; TOMA privileged role for the assigned proponent(s), requested IAW [Paragraph 1.2.4.1.3](#),

2.1.4.3.2 SATODS; access the SATODS Home Page (see [Paragraph 6](#)) to establish an account and complete the required DD Form 2875.

2.1.4.3.3 Document Services Online (DSO); if distributing physical media, contact the DSO Functional System Administrator (see [Chapter 5](#)).

2.1.4.4 Include processes to review and formalize TOs, review and approve TO and Preliminary TO (PTO) change requests, and review and recommend corrective actions on deficiency reports affecting TOs. Establish controls to ensure verified TOs are distributed prior to, or concurrently with, deployment of operational assets. For FMP publications, the FMM performs these functions IAW AFI 11-215.

2.1.4.5 Establish satellite activities, such as TO Control Units (TOCUs) and Central TOCUs (CTOCUs) when required to assist with management of TO acquisition and sustainment functions. This may include exercising program insight over contractors, assisting with reviews, providing local printing specialist support, or performing government receiving inspection.

2.1.4.6 May establish a Memorandum of Agreement (MOA) with the local Defense Contract Management Agency (DCMA) to provide expertise and assistance with contractor TO Program management.

2.1.4.7 Prepare TO related inputs to all applicable contractual documents and other program documentation. Participate in contract fact finding and negotiations as required. Ensure RFPs include Contract Line Item Numbers (CLINs) for data rights adequate to support the weapon system for its entire life cycle. If the support concept includes contractor support, ensure priced options are included for additional data deliveries and increased data rights if support concepts change from contract to organic ([Chapter 3](#)). The TOMA is responsible for evaluating contractor proposals to ensure exit criteria for TO verification are adequately defined in the Integrated Master Plan (IMP), adequate resources and Government Furnished (Aeronautical) Equipment (GFE/GFAE) are planned for incremental verification, and costs are reasonable and supported by the proposal ([Chapter 3](#)).

2.1.4.8 Ensure the TM-86-01, Technical Manual Specifications and Standards (TMSS), Data Item Descriptions (DID), and other contract documents are tailored to the extent necessary to impose only the essential needs for a particular application. Air Force acquisition programs will use the latest version of TMSS specified in the Technical Manual Contract Requirements (TMCr) to develop MIL-SPEC TOs, unless existing commercial manuals can be used with no degradation of system or equipment OSS&E.

2.1.4.8.1 Ensure the manner and degree of TMCR tailoring accomplished during contract development is limited to selection of options allowed in the specification or standard itself, and does not alter Document Type Definition (DTD) schema requirements. Submit TMCR tailoring applicable to multiple programs and suggested changes/updates to the AFTOMS site office IAW AFMCI 63-101.

2.1.4.8.2 Ensure all requested TMSS waivers and deviations are controlled and documented. All program waiver requests will be submitted IAW TO 00-5-1. The TOMA will also ensure any contractor proposals to use commercial, Non-Government Specifications (NGS) follow the same procedures above. These NGS will be reviewed and dispositioned by HQ AFMC/A4F and AFLCMC/GBS.

2.1.4.8.3 Early in TO acquisition, use ETIMS **Request TO Number** to obtain new TO numbers from the Numbering Specialists. Approved TO numbers must be indexed in ETIMS so prospective users can begin establishing subscriptions. For each new TO category, the TOMA will establish a TCTO Series Header and electronic TCTO (eTCTO) Series Header for the program's TOs ([Chapter 4](#)).

2.1.4.9 Plan, conduct, and co-chair TO conferences, meetings, reviews, and other joint agency efforts related to the TO acquisition program ([Chapter 3](#)). Coordinate with the MAJCOM and support agencies to ensure participation in TO acquisition activities. Request contracting officer representation in meetings with the contractor as required.

2.1.4.10 Evaluate the contractor's certification process ([Chapter 3](#)) (IMP entrance and exit criteria, site visits, past performance) during proposal evaluation. Ensure TO development processes have adequate checks and balances, and procedures to cover standardization of writing. Ensure prime contractors levy certification requirements on vendors and subcontractors.

2.1.4.11 During acquisition, ensure preliminary data is delivered per TMCR for scheduled verification or In-Process Review (IPR). Advance delivery requirements will be defined in the TMCR and TOLCVP. For verification of TO updates during sustainment, deliver draft updates to the verifying unit as early as possible before the scheduled verification.

2.1.4.11.1 Provide the respective test organizations such as the Chief Developmental Tester (CDT), Lead Developmental Test Organization (LDTO) and/or Operational Test Organization (OTO) with PTOs to support respective verification and validation activities.

2.1.4.11.2 Support Air Education and Training Command (AETC) with PTOs and other materials for training programs. TO development effort will not be accelerated solely to furnish PTOs for training purposes.

2.1.4.12 Coordinate with other PM functions and MAJCOM(s) to ensure TOs are compatible with computer programs and equipment used in maintenance and operation of systems and commodities.

2.1.4.13 During acquisition, ensure TO technical content, presentation method, style, and level of writing are in line with established maintenance concept, and within the skills and training of personnel projected to operate and maintain equipment. Ensure TOs comply with the Technical and System Requirements Documents (TRD/SRD) and applicable TO MIL-SPECs. Ensure existing source data is used to maximum extent possible and is not duplicated for TO development. Review source data to detect errors, deficiencies, and nonessential material.

2.1.4.14 Establish and manage a verification program. Develop a TOLCVP (see [Paragraph 1.2.4.16](#)) no less than 120 days prior to the scheduled start of verification. Involve all appropriate government and contractor agencies. Coordinate with the MAJCOM to obtain personnel to perform the tasks to be verified.

2.1.4.15 Document the CFAE/CFE and Support Equipment Recommendation Data (SERD) review processes in the TOLCMP. Review and, in coordination with the MAJCOM and support agencies, recommend contractual approval or disapproval of CFAE/CFE Notices (DI-TMSS-80067) recommending program manuals. Review SERD for any TO impacts.

2.1.4.16 Develop budget requirements for TO acquisition and sustainment. Temporary Duty (TDY) expenses incurred as a result of attending TO acquisition or management functions will be funded IAW DAFI 65-601V1. Budget inputs will include modification-related TO update integration costs and the removal of before and after data.

2.1.4.17 Identify TO technical requirements to Lead Commands; prepare CAFTOP Narratives and TO Information Sheet (TOIS). Manage TO technical requirements as documented in the CAFTOP Handbook. This handbook is located on the CAFTOP SharePoint (reference [Paragraph 6](#)). Review, analyze, and dialogue as necessary with Lead and Supported Commands to collaborate and concur on the Narrative on improvements and enhancements for the particular portfolio of technical

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data, and financial requirements necessary to achieve those goals. Various options for accomplishing goals and objectives may need to be explored. Submit approved program Narratives and TOISs on the CAFTOP SharePoint site (reference [Paragraph 6](#)).

2.1.4.18 Authorize the use of verified PTOs (red-line, mark-up, or clean copies) on required programs, with the written agreement of the lead commands and MAJCOMs. For Flight Manuals, refer to AFI 11-215.

2.1.4.19 Ensure proper Distribution Statements are applied to the title pages of all assigned numbered TOs, technical manuals and related data. Ensure the ETIMS Catalog entries for these TOs reflect the same Distribution Statement as the title page. Ensure TOs authorized for public release have been assigned a case number by the local Public Affairs (PA) office. Ensure other required title page statements and warnings are applied IAW DAFMAN 16-201 and MIL-STD-38784. See [Chapter 8](#) for specific Scientific Technical Information (STINFO) marking requirements.

2.1.4.20 Develop and submit digital TO reproduction master files to Defense Logistics Agency ([Chapter 5](#)).

2.1.4.21 Issue all ITOs/RACs affecting the assigned weapon system/commodity. The FMM will perform this duty for changes affecting flight manuals.

2.1.4.22 When programmatic issues interfere with the timely delivery of TOs or updates, ensure TO customers are informed of possible delays using TODO organizational email address lists.

2.1.4.23 Ensure all TO updates during sustainment are verified unless waived by the PM IAW DAFI 63-101/20-101 and the verification activities are fully documented. Develop a Verification Status Page (VSP) IAW MIL-STD-38784 for procedures unable to verify.

2.1.4.24 Establish, document and maintain archive copies of all TOs and updates developed as part of the program throughout the program life cycle ([Paragraph 5.8](#)).

2.1.4.25 Resolve any ETIMS Data Discrepancy Reports (DDR) within 7 calendar days ([Chapter 4](#)).

2.1.4.26 Update the ETIMS Index information for assigned TOs any time TOMA or TCM/ES management responsibilities change.

2.1.4.27 Set email notification alerts on the following pages (reference [Paragraph 6](#)):

- AFTOFST TO Management SharePoint site
- AFTOFST Field User Guides (FUG) page
- AF TO Management Support (AFTOMS)

2.1.4.28 During acquisition, support programmatic events such as Preliminary Design Review (PDR), Critical Design Review (CDR), Program Management Review (PMR), Physical Configuration Audit (PCA), Factory Acceptance Test (FAT), Site Acceptance Test (SAT), etc.

2.1.5 **ES Supervisor.** The role of ES Supervisor in ETIMS is a required role for the processing of Recommended Changes (RC) and PCRs. In cases where the Chief Engineer has delegated authority to an ETIMS ES Supervisor, their name will populate Approving Official block of the PCR. An ETIMS ES Supervisor is not an administrative or supervisory role. Request the ES Supervisor role in ETIMS using [Paragraph 1.2.4.1.3](#).

2.1.6 Technical Content Manager (TCM)/Equipment Specialist (ES).

NOTE

When referring to TCMs and ESs within the AF TO System, TCM/ES refers to roles and privileges and not an occupational series. For the purpose these roles and privileges, TCM and ES are synonymous and will be referenced as TCM/ES.

At the written direction of the PM/CE, the TCM/ES is an individual or office responsible for the accuracy, adequacy, modification, classification, and review of TO procedures, engineering data and the related technical contents of a TO. For aircraft program flight manual publications, the FMM is assigned the TCM/ES role per AFI 11-215.

2.1.6.1 For new acquisitions or major modifications, the TCM/ES role is performed by the ES in the program office having the technical knowledge of the weapon system/sub-system and may be civil service, or a contractor. The TCM/ES will be part of an Integrated Product Team (IPT) where they will be the Subject Matter Expert (SME) for the weapon system/sub-system. The TCM/ES role for TOs supporting equipment in the sustainment phase, may be performed by the ES responsible for the equipment. TCMs/ESs should be knowledgeable of style and format and other non-technical aspects of TOs as defined in TMSS detail specifications. TCM/ES responsibilities include the following:

2.1.6.1.1 Assist in acquiring technical data/TOs and ensure TOs meet contract deliverable acceptance.

2.1.6.1.2 Participate in conferences and in-process reviews.

2.1.6.1.3 Assist in the preparation of the TMCR.

2.1.6.1.4 At a minimum, all TCMs/ESs must acquire access to ETIMS. Access to the Security Assistance TO Data System (SATODS) is required for FMS requisition reviews. Acquire access to other management systems based on program requirements. (For nuclear TO requirements, see [Paragraph 7.5.](#))

2.1.6.1.4.1 ETIMS; TCM/ES privileged role for the assigned proponent(s) and ETIMS ES code, requested IAW [Paragraph 1.2.4.1.3.](#)

2.1.6.1.4.2 SATODS; access the SATODS Home Page (see [Paragraph 6](#)) to establish an account and complete the required DD Form 2875.

2.1.6.1.5 Manage TO content by evaluating and coordinating recommended changes, deficiency reports, accident/incident reports, and other source data. In conjunction with program engineers, ensure approved changes will not negatively affect system or equipment OSS&E IAW AFMCI 63-1201.

2.1.6.1.6 Verify TO procedural changes and ensure updates do not alter the distribution or security restrictions of the parent manual.

2.1.6.1.7 Perform pre-publication review on PTOs prior to formalization and distribution, in conjunction with the TOMA.

2.1.6.1.8 In coordination with the TOMA and Lead MAJCOMs, verify all procedure, maintenance or operation task changes. This includes TOs in acquisition and the sustainment phase of the TO program life cycle.

2.1.6.1.9 Perform TO Update verification IAW [Paragraph 4.2.16.6.](#)

2.1.6.1.10 Manage the content of assigned TOs, and apply the most appropriate Distribution Statement (DAFI 61-201 & DoDI 5230.24) to control dissemination.

2.1.6.1.11 Ensure newly-developed TO procedures support pollution prevention by reducing the use of hazardous materials and the release of pollutants into the environment. TO contents should comply with AFD 32-70 and Federal Acquisition Regulations (FAR).

2.1.6.1.12 Approve release of assigned limited distribution TOs to personnel and organizations not on Initial Distribution (ID) subscription IAW the Distribution Statement.

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2.1.6.1.13 Develop and coordinate updates to assigned TOs, including ITOs and RACs when urgency requires electronic distribution of the updates.

2.1.6.1.14 Perform currency reviews on unclassified TOs which have not been changed for five years and on classified TOs annually, refer to [Table 4-4](#).

2.1.6.1.15 Determine if Service Bulletins, Operations Manual Bulletins, Federal Aviation Administration (FAA) Airworthiness Directives, temporary revisions and like data apply to TO-numbered flight and maintenance manuals, and whether they will be referred to by their commercial numbers or have the data extracted for inclusion in the TO(s).

2.1.6.1.16 During acquisition, assist the TOMA in setting up a TO program; to include establishing Technical Order Control Units (TOCUs), if needed, reporting metrics, funding requirements, performing technical evaluations, and verifying processes are in line with AF systems/processes/applications.

2.1.7 S1000D Common Source Database (CSDB) Management. Technical data developed IAW ASD-S1000D is content configured in a modular format, consisting of multiple data modules. All data modules applicable to the product are managed in a database, referred to as the Common Source Database (CSDB). When a USAF program develops such technical data, the CSDB should be one of the deliverables listed in the TMCR with the TOLCMP addressing CSDB management ([Paragraph 3.2.2.1](#)). Typical CSDB management requirements and responsibilities are listed in [Appendix B](#).

2.2 HQ AIR FORCE MATERIEL COMMAND (AFMC).

2.2.1 Directorate of Logistics - Product Support Management Division (A4F). A4F is the functional manager of the AF TO System, including policy, standardization and eTool mobile device setup and management IAW TO 31S5-4-ETOOL-1-WA-1. A4F provides the final authority for waivers to policy, ensures compatibility between the Flight Manuals Program (FMP) and the TO system and approves all service tests and studies of new techniques for use in all facets of the TO system. A4F is also responsible for developing, coordinating and implementing AFMC TO system policies. In addition, A4F will:

2.2.1.1 Act as Air Force and AFMC TO system point of contact for receipt, interpretation, and dissemination of AF policy, business practices and procedures on the TO system. Reviews and approves or disapproves requests for waivers to Air Force TO policy, and assists users with problem resolution.

2.2.1.2 Ensure AFMC organizations comply with DAFI 20-118, for the acquisition and sustainment of joint service military systems and commodity TMs. Cooperates with other services to encourage cross-utilization of TOs.

2.2.1.3 Act as TCM/ES for 00-5-series TOs, 00-20-series TOs and Air Force/AFMC policy related to the TO System and Maintenance Data Documentation.

2.2.2 Directorate of Logistics - Systems Integration Division (A4N). A4N is the Logistics and Materiel Readiness Mission Area Lead/Portfolio for Log IT systems, to include AF TO Systems.

2.2.3 Directorate of Operations - Standardization/Evaluation Division (A3V). A3V is the OPR for the Air Force FMP and AFI 11-215.

2.2.4 Directorate of Communications and Information (A6). A6 responsibilities include the Cybersecurity Program and various communications programs.

2.2.5 Engineering Directorate (EN). EN is responsible for oversight of the Systems Engineering process for all weapon systems. EN also disseminates and implements AF and AFMC Scientific and Technical Information (STINFO) policy and procedures.

2.2.6 Air Force Test Center, 96 SK, Air Force Seek Eagle Office (AFSEO). AFSEO provides support for most nonnuclear munitions and aircraft stores acquisition and modification programs ([Chapter 3](#) and DAFI 63-101/20-101). AFSEO will:

2.2.6.1 Assist the munitions and aircraft TOMAs with development of contracts and plans for nonnuclear munitions and stores source data and TO acquisition.

2.2.6.2 Act as TCM/ES for nonnuclear munitions TO specifications and data item descriptions. Assist with specification interpretation.

2.2.6.3 Attend TO reviews and verifications to ensure use of standardized formats, terminology and procedures.

2.2.6.4 Develop aircraft or stores unique procedures for delivery, loading and handling of nonnuclear munitions and aircraft stores.

2.2.6.5 Provide technical expertise for development of updates to -33 series and -34 series data.

2.2.7 AF Sustainment Center (AFSC)/LG Responsibility. AFSC/LG (when depot-level TOs are involved) will:

2.2.7.1 AFSC/LG will designate a focal point for each TO acquisition program requiring depot level TOs and inform the TOMA of the designated name, office symbol, email and phone number. ALC participation is encouraged.

2.2.7.2 Provide qualified personnel to support TO acquisition activities, with signature authority representing their respective organizations. AFSC/LG will solicit the ALC to ensure depot systems, end items, support equipment, tools, facilities and consumables are made available to support verification IAW schedules developed in coordination with the TOMA. Program-unique hardware and support equipment will be consolidated and provided to AFSC/LG. Provide qualified personnel, including a Verification Team Manager (VTM) if required, to support the verification effort. The same people should be available for any future related or follow-on verification efforts to provide continuity.

2.2.7.3 Perform verification of TOs for assigned military systems and commodity end items IAW approved verification plans. If AFSC is unable to support verification they will coordinate with the TOMA, who may designate or delegate this responsibility to a separate organization.

2.2.7.4 If a post publication review is required of any TOs, the TOMA will coordinate with AFSC/LG for assistance.

2.2.8 Air Force Nuclear Weapons Center (AFNWC). AFNWC is responsible for nuclear certification as defined in DAFI 63-125 and overall nuclear surety and safety of AF nuclear weapons TOs.

2.2.8.1 AFNWC Engineering Directorate (AFNWC/EN). AFNWC/EN is the focal point and technical authority for Nuclear Weapons Technical Information Management. AFNWC/EN conducts independent reviews and provides direct engineering advice and expertise to support nuclear safety design certification or nuclear capable systems (e.g., hardware, software, technical procedures and facilities).

2.2.8.2 AFNWC Logistics Directorate (AFNWC/LG). AFNWC/LG is the focal point for all AFNWC TO policy issues and coordinates TO sustainment processes across the Nuclear Enterprise. AFNWC/LG manages the duties and responsibilities of the AFNWC TO Home Office as defined in AFMCI 63-101, validates requests for Nuclear Proponent role privileges in ETIMS, and validates establishment of N*XXXX (Nuclear Weapons and Nuclear Related EOD) TODO accounts.

2.2.8.3 AFNWC TO Site Offices. AFNWC has not designated any site offices; Refer to the AFNWC TO Home Office when AFTOMS site office are referenced in this or other publications.

2.2.9 Air Force Life Cycle Management Center (AFLCMC).

2.2.9.1 AFTOMS Office. Duties and responsibilities of AFLCMC/LZPT AFTOMS office are defined in AFMCI 63-101. The AFTOMS office is a conglomerate of the geographically separated site offices at Robins AFB, Tinker AFB, and Hill AFB, supporting all AFLCMC TO Programs, AFSC programs, and AFNWC programs, with lead responsibilities residing at Hill AFB (see [Appendix A](#)). AFTOMS provides:

2.2.9.1.1 ETIMS functional support for all AFMC programs:

- Assists with error and help desk ticket resolution
- Advises/Trains on implementing efficient and effective system usage
- Primary interface between Program Office (PO) and AF TO Field Support Team

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2.2.9.1.2 DSO Functional System Administrator (FSA):

- Assists PO with resolving printing and shipping issues
- Primary interface between PO and DLA
- Advises/Trains on DSO usage

2.2.9.1.3 Coordination of TO System policy/procedure changes and enhancements with AFMC/A4FI.

2.2.9.1.4 PO TO acquisition and conversion effort support:

- TMCR, TOLCMP, TOLCVP development/review
- Advises on S1000D Conversion planning, requirements development and contracting
- Advises on TO System waiver development, coordinate on all waivers and route to AFMC/A4F for disposition

2.2.9.2 Global Ammunition Control Point (GACP). AFLCMC/EBHM and AFLCMC/EBW are the control points for the Air Force GACP conventional munitions and explosives for all MAJCOM and Foreign Military Sales (FMS) customers. The control points are TCMS/ESs for AF munitions and explosives TO sustainment, and custodians of all munitions Loading Standard Data Packages (LSDP) ([Chapter 3](#)). These control points will:

2.2.9.2.1 Assist in development of nonnuclear munitions TO specifications.

2.2.9.2.2 Attend TO acquisition reviews and verification, provide explosive safety standards and criteria, and ensure standardization of terminology and procedures in nonnuclear munitions TOs.

2.2.9.2.3 Incorporate nonnuclear munitions source data into existing general conventional munitions, missile and explosives TOs (categories 11, 21, 31, 33 and 35).

2.2.9.2.4 Publish source data to other agencies responsible for munitions TO development and update.

2.2.9.2.5 (EBHMA LSDP Office) Maintain, update and distribute formal munitions family-group LSDPs. Prepare and distribute a -33 series LSDP index quarterly. Current LSDP index is located on the GACP web page at within the Munitions Information Section (reference [Paragraph 6](#)).

2.2.9.3 Air Force Metrology and Calibration (AFMETCAL). AFMETCAL will:

2.2.9.3.1 Provide an Air Force member to the Department of Defense (DoD) Joint Technical Coordination Group for Calibration and Measurement Technology (JTCCG-CMT), IAW DAFMAN 21-113. Provide support to sub-group activities according to the Joint Program Operational Plan.

2.2.9.3.2 Procure and manage calibration TOs numbered in Category 33K, and publish and maintain Calibration and Measurement Summary (CMS) TOs (DAFMAN 21-113). Review and approve calibration procedures in other category TOs.

2.2.9.3.3 Periodically issue routine Category 33K ITO updates with distribution limited to USAF Precision Measurement Equipment Laboratories (PMEL) who require the changed calibration data.

2.2.9.4 Enterprise Logistics Systems Division (AFLCMC/GB4).

2.2.9.4.1 The Technical Data Section of AFLCMC/GBS manages the sustainment and modification of legacy technical data management systems, including ETIMS and the Joint Engineering Drawings Management Information and Control System (JEDMICS).

2.2.9.4.2 AFLCMC/GBS is designated as Preparing Activity for the Air Force TMSS. AFLCMC/GBS develops and maintains currency of assigned TMSS in coordination with the Air Force and other Services' users and interested industry associations. AFLCMC/GBS reviews requests for deviation or waiver to Air Force TMSS and forwards to AFTOMS and AFMC/A4F for review and disposition.

2.3 AIR FORCE CIVIL ENGINEER CENTER, JOINT EOD TECHNOLOGY DIVISION (AFCEC/CXE).

AFCEC/CXE, 6013 Howard Rd, Rm 202, Indian Head MD 20640-4622, e-mail: NIPR - afcec.cxe@us.navy.mil; SIPR - afcec_cxe@navy.smil.mil, is the Air Force focal point and liaison to the Naval Surface Warfare Center Indian Head Division Explosive Ordnance Disposal Technology Center (NSWC IHD EODTECHCEN) for Category 60 EOD TOs. AFCEC/CXE will:

NOTE

NSWC IHD EODTECHCEN develops, manages and assigns Air Force Category 60 TO numbers to DoD EOD TOs. They distribute DoD EOD nonnuclear EOD TOs using the Joint EOD Mobile Field Kit (JEOD MFK) and Automated EOD Publication System (AEODPS) for all services.

2.3.1 Assist the NSWC IHD EODTECHCEN with joint service verification and determine usability of EOD TOs.

2.3.2 Manage and assign EOD TODO Account Codes.

2.3.3 Distribute nonnuclear EOD TOs via the JEOD MFK software.

2.4 ACC HQ CYBERSPACE CAPABILITIES CENTER (HQ CCC).

ACC HQ CCC will perform TOMA functions and responsibilities for the 00-33-Series Cyberspace/Communication and Information TOs they manage.

2.5 AIR EDUCATION AND TRAINING COMMAND (AETC).

AETC will assist the TOMA with TO acquisition by participating in TO Planning/Requirements Conferences, Guidance Conferences, In-Process Reviews (IPRs), verification, and pre-publication reviews as required to determine training needs and requirements.

2.6 LEAD AND USING COMMANDS.

Program Office/Using Commands/MAJCOM will work with AFSC/LG when Depot level TOs are developed and will:

- a. For acquisition of TOs to support new depot taskings, AFSC/LG will identify a focal point for each command program and inform the TOMA of the designated name, office symbol, and phone number.
- b. Provide qualified personnel to support TO acquisition activities, with signature authority representing their respective organizations.
 - The using command functional manager or AFSC/LG or their designated individual will ensure command/depot systems and end items, support equipment, tools, facilities and consumables are made available to support verification IAW schedules developed in coordination with the TOMA.
 - Program-unique hardware and support equipment will be provided by the PM.
 - Provide qualified personnel, including a Verification Team Manager (VTM) if required, to support the verification effort.
 - The same people should be available for any future related or follow-on verification efforts to provide continuity of effort.
- c. Perform verification of TOs for assigned military systems and commodity end items IAW approved verification plans. The TOMA, in coordination with the lead or using command, may designate or delegate this responsibility to a separate organization.
- d. Notify the TOMA of any TOs which require post-publication command reviews.

2.7 AIR FORCE GLOBAL STRIKE, JOINT NUCLEAR WEAPONS PUBLICATION SYSTEM (JNWPS).

AFGSC/A4Z Nuclear Stockpile Division is the Air Force Executive agent for JNWPS publications. As such, AFGSC/A4Z staffs, coordinates, approves, and represents the Air Force on all matters relating to JNWPS manuals which bear an Air Force designator. JNWPS procedures and specifications covering publication system management, general style, format, and technical content requirements are found in TO 11N-1-1. JNWPS includes maintenance, inspection, transportation, and general procedures manuals for gravity ordnance, warheads, reentry vehicles and bodies, and joint test assemblies. JNWPS manuals provide weapon summary data, assembly, test, maintenance, storage information, EOD and control procedures.

CHAPTER 3

TECHNICAL ORDER ACQUISITION

SECTION I. PLANNING

3.1 ACQUISITION OVERVIEW.

The procedures employed to acquire technical manuals reflect the size and complexity of the weapon system or end items being procured. In every case, there are mandatory events and requirements which must be met to successfully field the new equipment in a supportable manner. The following paragraphs outline a typical TO acquisition program for a new system. Programs of lesser scope (e.g., commodities or modification of existing equipment) may not require all steps or functions. Working in conjunction with the Program Manager (PM) and Product Support Manager (PSM), the TO Management Agency/Agent (TOMA) is responsible for executing and managing the TO program. TOMAs are members of the program office Integrated Product Team (IPT) and will determine how the TO acquisition program will be implemented depending upon the people involved and the complexity of the program. TOMAs must be familiar with all acquisition events/meetings regardless of their current workloads. For all acquisition efforts, the TOMA should be designated as early as possible to plan the TO development.

3.2 ACQUISITION STRATEGY.

3.2.1 Total Life Cycle Systems Management (TLCSM). Under TLCSM, the PM is responsible for Data Management for the system throughout its life cycle. Data management consists of the disciplined processes and systems that plan for, acquire and/or access, manage, and use data throughout the total system life cycle.

NOTE

DoD policies and procedures for data and data management in this section are directly applicable to procedures for technical order development and management in this TO.

3.2.1.1 Data Defined. Data may be defined as recorded information regardless of the form or method of recording. The term includes technical data (including TOs), computer software documentation, management information, representation of facts, numbers or datum points of any nature that can be communicated, stored, and processed to form information required by a contract or agreement to be delivered, or accessed by the government. The term includes similar information generated directly by government activities, as well. The data are used to gain insight and provide management and guidance to system development programs.

3.2.1.2 Scope of Technical Data. For the purpose of this TO, data refers to TOs and source data necessary for or associated with product development and sustainment. This includes data associated with system development, modeling and simulation used in development or test, test and evaluation, installation, parts, spares, repairs, reclamation, re-use, and cannibalization of a system and its associated commodities. Data specifically not included would be data relating to tactical operations information, sensor or communications information, financial transactions, personnel data, transactional data, and other data of a purely business nature.

3.2.1.3 Data Management Defined. Data management is defined as the process of applying policies, systems and procedures for identification and control of data requirements; for the timely and economical acquisition of such data; for assuring the adequacy of data; for the access, distribution or communication of the data to the point of use; and for analysis of data use. This section concentrates on technical, product, and logistics data in support of the development, production, operation, sustainment, improvement, demilitarization and disposal of a system. This includes both government and contractor created data.

3.2.1.4 Data Management Strategy. Because a weapon system may remain in the defense inventory for decades, the decisions made at the time of acquisition can have far-reaching implications for weapon system support over the system's life cycle. Failure to acquire adequate technical data rights may impede the government's ability to sustain the weapons system, therefore the Program Office will assess the long-term needs for technical data rights that integrate data requirements across all functional disciplines to include logistics.

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3.2.1.4.1 It is during the development of the solicitation and the subsequent negotiation of a proposed contract that the government is in the best position to secure required technical data rights. Acquisition strategy will provide for future delivery of sufficient technical data to support sustainment strategy.

3.2.1.4.2 A performance-based approach should be used to identify the minimum data required to cost-effectively operate, maintain and improve the fielded system and to foster source-of-support competition throughout the system life cycle.

3.2.1.4.3 Data, when delivered to the government, will be formatted IAW MIL-specifications to ensure usability. A quality assurance program will be implemented to guarantee the accuracy and completeness of the data.

3.2.1.4.4 In all cases, the requirement for government use, reproduction, manipulation, and altering or transfer of possession will be part of the data acquisition and management strategy. A list of data standard examples can be found in the Air Force Technical Manual Contract Requirements (TMCR) under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)).

3.2.1.4.5 In some cases, leaving government acquired data in the physical possession of the contractor with government access to the contractor's data system is the ideal solution, provided the above requirements are met.

3.2.1.5 **Protecting Data.** Whether the data is stored and managed by the government or by industry, the PM is responsible for protecting system data. Policy applicable to data protection, marking, and release can be found in the following: DoDI 5230.24, DoDD 5230.25, DoDD 5400.07, and Defense Federal Acquisition Regulations Supplement (DFARS) Part 252.227-7013 & 7014. The Air Force implementing instruction is DAFI 61-201.

3.2.1.6 **Additional Guidance.** Industry standards from organizations such as the Government Electronics and Information Association (GEIA), International Standards Organization (ISO) and American National Standards Institute (ANSI), provide high level principles to guide integrated data management planning, and implementation. The GEIA-HB-859, *Implementation Guide for Data Management*, is a guide that may be helpful for PMs and data managers. This handbook outlines principles and processes for the management of data including data interoperability and longevity, best practices, and long term electronic storage, use, and recovery.

3.2.1.6.1 For programs implementing or transforming to digital engineering or Product Life Cycle Management (PLCM), additional information can be found on the Air Force Digital Transformation SharePoint (see [Paragraph 6](#)).

3.2.2 **Program Planning.** The first step in any program or project is to determine scope and requirements. The TOMA initiates this process for TOs by reviewing program documentation and developing a preliminary plan of action. During this process, it is recommended to review Table 3-1 & Table 3-2 to determine scope and requirements. The TOMA will review the Initial Capabilities Document (ICD), Capability Development Document (CDD), Operational Concept, Maintenance Concept, and other documents to determine the correct acquisition strategy for each new program. This strategy should be reflected in the TO Life Cycle Management Plan (TOLCMP), wording for the Statement of Objective (SOO), Evaluation Criteria, and Instructions to Offeror.

3.2.2.1 **Technical Order Life Cycle Management Plan (TOLCMP).** Air Force TO proponents for joint DoD and international weapon system acquisition programs will develop and maintain the AF TOLCMP for the life of the program (see [Paragraph 1.2.4.14](#)). The TOLCMP is developed by the TOMA, then coordinated and approved at the TO Planning/Requirements Conference (TOP/RC) by the TO IPT members. It must address timely acquisition of PTOs or source data with a format and depth of coverage adequate to support test activities. When multiple programs are managed within the same program office, one TOLCMP may be developed and updated, as required, to define specific program requirements for each effort. The TOLCMP will be attached to the program's Life Cycle Sustainment Plan (LCSP).

NOTE

During Acquisition contracts, especially those with Production Representative Article (PRA) Contract Data Requirements Lists (CDRLs), some Contractor data may be proprietary and can not be included in the TOLCMP. The Procuring Contract Officer (PCO), PM, TOMA, and TCM/ES need to be aware of this restriction when developing the TOLCMP.

3.2.2.2 **Technical Order Life Cycle Verification Plan (TOLCVP).** The purpose of this plan is to acknowledge Air Force objectives, and communicate program requirements, responsibilities, schedules and procedures for any weapon system TO verification. Planning for verification of TOs will be initiated at the TO Planning/Requirements Conference (or by the TOMA if no conference is held), based upon the needs of the MAJCOM and other affected agencies. The TOLCVP ([Paragraph](#)

[1.2.4.15](#)) will include identification of procedures to be verified, the verification site, the Verification Team Manager (VTM), support equipment and consumables required, schedules, use of substitute equipment, and documentation for verification procedures and processes. The TOLCVP will also be updated to cover the processes and procedures to be used to verify TO updates after the TO is formalized and enters the sustainment phase of the TO life cycle. For programs with multiple modifications, the TOLCVP should be updated to cover any unique procedures, processes and schedule required. Preparation of a complete new TOLCVP for each modification program is not required provided the base system TOLCVP adequately addresses the verification process to be used. When a TOLCMP is developed, the TOLCVP will be an attachment to the TOLCMP. If contractor support is required during verification, the requirements for support will be defined in the TMCR. The TOLCVP should have concurrence and signatures of, at a minimum, MAJCOM, PMs (AF and contractor), TCM/ES, and Verification Site Commander.

3.2.2.2.1 The program verification schedule must be developed in conjunction with the Air Force test plan, production schedules and deployment schedules to ensure the availability of hardware, software, and equipment to support the verification effort. If available, the tentative schedule should be provided to offerors in the Request for Proposal (RFP) to allow development of supportive schedules.

3.2.2.2.2 TO verification will make maximum use of other scheduled events, such as test and evaluation, prototyping, and maintainability demonstrations. Activities should not be duplicated. Use unscheduled events such as equipment failure to verify applicable procedures, when possible.

3.2.2.3 Technical Manual Content and Product Plan (TMCPP). For S1000D IETM development, the contract should include the development of a TMCPP as a deliverable within the TMCR. The TMCPP should be delivered in contractor format and specify the end-to-end development and integration of the IETM. The current version of the TMCR provides detailed requirements that should be included within the contractor's plan.

NOTE

Ensure contractors deliver a TO Authoring and Publishing (TOAP)-compatible viewer.

3.2.3 Contractor Logistics Supportability/Total System Integration Responsibility (TSIR) Contracts. If the program will be sustained by the contractor for life, the TOMA must support technical order requirements to define the role of the contractor sustainment responsibility. Since these arrangements require contractors to sustain technical manuals for the life of the program, considerations must be addressed: estimated annual changes, a surge capability for urgent or emergency situations, and the flow of recommended changes. Budgets must be addressed to ensure the PMs include all TO related cost in their Program Objective Memorandum (POM) submittals. Programs identify TO sustainment funding through the annual Comprehensive Air Force Technical Order Plan (CAFTOP) process ([Paragraph 3.4.2](#)).

3.3 REQUIREMENTS PLANNING.

3.3.1 TO Planning/Requirements Conference (TOP/RC). The TOMA will conduct a joint TOP/RC with the TO IPT. The TOP/RC is held before the program data call and brings together the members of the TO IPT to plan the TO program. The planning and requirements derived from this conference must follow the established Air Force operation, maintenance and logistics support concepts and plans. Once the program TO requirements are developed, inputs to the RFP are drafted and the TOLCMP is finalized.

3.3.1.1 Purpose. The TOP/RC will identify TO program requirements, prepare TO program schedules, determine what source data is required to support TO development, and plan for TO verification. If the TOP/RC will not review the required TO specifications and standards on the program, then the TOMA must review the contractor-proposed tailoring before the contract is issued to ensure Air Force requirements are met.

3.3.1.1.1 When more than one MAJCOM or DoD component is involved, the Lead Command or component, as identified in the Program Management Directive (PMD), should be the primary source of requirements information. Requirements from other MAJCOMs should also be considered in TO planning efforts.

3.3.1.1.2 The IPT will evaluate all TO program requirements. Any changes in scope or increase in requirements will be evaluated and documented in the TOLCMP. Consideration should be given to cost versus effectiveness, tradeoffs, alternatives, and MAJCOM digitization plans. When disagreements cannot be resolved, the TOMA will elevate the matter for resolution.

3.3.1.1.3 The IPT should plan for the use of existing TOs and commercial manuals, when possible, identify required new TO types and specifications, and establish program milestones based on the PMD.

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3.3.1.2 TOP/RC Membership. The TOMA will chair the TOP/RC for new program starts and request support as required. Membership includes, but not limited to, the Lead Commands, MAJCOMs, FMMs, ESs and Joint Services Managers, representatives from other AFMC activities, and other support agencies. If necessary, the safety and nuclear surety offices, Air Education and Training Command (AETC), and the Responsible Test Organization (RTO) should be included on the team. Contractor representatives will be included once the contracting officer concurs and contract is issued. If possible, membership continuity in subsequent conferences and reviews must be maintained.

3.3.1.2.1 Conferences may be accomplished through face-to-face meetings, correspondence, Teams, or other electronic communication. At the completion of the TOP/RC, the TOMA will document all actions and finalize the TOLCMP for inclusion in the RFP.

3.3.2 Existing Data Usability. Maximum use will be made of existing data. Available Technical Manuals (TM) from other government departments or agencies will be reviewed to determine adequacy and application to particular programs.

3.3.3 TO Development Planning. Any TOs developed for the government (at government expense) must be developed to current AF TMSS or a government-approved Non-Government Specifications (NGS) IAW this TO. See Section IX for digital TO and TMSS requirements.

3.3.3.1 Joint Acquisition Programs. For joint-service acquisition programs, TMs should be developed in a single format usable by all services involved, rather than developing individual manuals for each service.

3.3.3.2 Delivery Requirements. Delivery of PTOs shall be prior to or concurrent with delivery of the hardware for development testing and/or operational need dates. Formal organizational level (on-equipment) TOs and preliminary intermediate level (off-equipment) TOs will be delivered prior to or concurrently with the delivery of the first production configured system or commodity to the first operational unit. Intermediate-level manuals must be formalized by the Initial Operational Capability (IOC) date.

3.3.3.2.1 For the two-level maintenance concept, field level TOs meeting the definitions of on-equipment and off-equipment must meet the delivery requirements of Organizational and Intermediate-level manuals. Preliminary depot level TOs will be delivered prior to depot prototype overhaul and must be verified and formalized prior to depot activation.

3.3.3.2.2 If TOs cannot be delivered according to this policy, the TOMA must revise verification schedules, update the TOLCMP, and recommend interim support for the MAJCOM, use of verified or partly verified PTOs, Interim Contractor Support (ICS, AFI 63-111, Contract Support for Systems, Equipment and End-Items, etc.) until the manuals are delivered. Any such actions must be coordinated with and approved by the appropriate PM and the MAJCOM/DoD Component.

3.4 DEVELOPING ESTIMATED TO BUDGET.

3.4.1 TO Initial Acquisition Budgeting and Cost Estimating. The TOMA is responsible for estimating the cost of TOs needed to support the military system or commodity. The cost of acquiring TOs includes writing, editing, supporting conferences and reviews, verification, printing and distribution, routine maintenance, and TO-related travel (DAFI 65-601V1). TO costs are chargeable to the same budget program activity code used to finance hardware costs during initial acquisition. The TOMA must begin the cost estimating process shortly after assignment to ensure adequate program funds are available. All information sources should be explored, including, but not limited to, historical data from other programs, contractor estimates, and prior experience. The PM must ensure the annual program budget submission includes TO requirements.

3.4.2 Sustainment Funding and Program Brochure Transfer. TOMAs must plan for the transfer of TO programs from acquisition to sustainment after test and evaluation. TOMAs will use CAFTOP to plan and schedule compliance with these funding requirements (see [Chapter 5](#) for sustainment CAFTOP processes). Exemptions and deviations must be authorized by waivers (see [Paragraph 1.1.4](#)). PMs/TOMAs will use the CAFTOP Working Group SharePoint site (reference [Paragraph 6](#)) to access the CAFTOP Handbook, Technical Order Requirements Development section. Use CAFTOP Handbook procedures to develop a weapon system/commodity-specific CAFTOP Annex for submission to the appropriate Lead Command (AFPD 10-9), in time to support a budget submission for the current Future Years Defense Plan (FYDP). DAFI 65-601V1, describes the complete funding requirements for Air Force technical manuals. Funding for physical-distribution digital media is managed the same as funding for individual TOs, through the CAFTOP process.

3.4.3 Modifications Funding. The PM will address all Time Compliance TOs (TCTOs), new Operations and Maintenance (O&M) TOs, and O&M TO updates required to support planned modifications in the Technical Order Financial Brochure (TOFB) and CAFTOP Annex submitted to the Lead Command for funding. However, TCTO and related new TOs or TO updates are funded by the specific modification project.

NOTE

Some acquisition program contracts provide for system upgrades as part of the contracted effort. Sustainment programs must use modification funding for all TCTOs and TCTO-related TO updates, publication and distribution.

3.4.3.1 The TOMA ensures funding requirements for TCTO acquisition, verification, related TO updates, printing and distribution have been considered in modification funding packages. Requirements include costs to remove before and add after data (before and after modification) in TOs. (For S1000D/IETM based TOs, refer to [Chapter 3, Section IX](#)).

3.4.3.2 For Inspection Program (-6 TO) changes causing depot maintenance, Depot Programmed Equipment Maintenance (DPEM) fund obligations, the responsible Production Management Activity (PMA) (for TCTO modification kits) will contact the DPEM funds point of contact to ensure adequate funds are available. The PMA will procure and manage the available funds per DAFI 65-601V1 and associated AFMC supplements.

3.4.3.3 **Spares Replacement.** Acquisition funds and the stock fund are used to acquire new TOs or TO updates driven by the need to replace existing spare parts and components with new items. The Product Group Manager (PGM) provides the TOMA with a printout of the replacement item cost computation. The TOMA annotates the total dollar requirement for the maintenance of commodity TOs resulting from the acquisition of replacement spare items. The TCM/ES will assist the TOMA with computing the impact of spares replenishment on weapon systems TOs based on history and known future acquisitions. The TOMA provides budget requirements by weapon system.

3.5 CONTRACTING FOR TECHNICAL ORDERS.

TOs will be acquired IAW DoD 5010.12-M, on a separately priced Contract Line Item Number (CLIN) using a contract exhibit consisting of a DD Form 1423, with a program-specific (tailored) TM 86-01 document. The automated TMCR tool is managed by the AF TO Management Support (AFTOMS) office in coordination with HQ AFMC A4FI/PK/JA. The TMCR tool, located under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)), must be used for all new TO contracts. Programs may submit a waiver through the AFTOMS site office if their current TMCR is adequately supporting the program. TOMA/PM must coordinate on the development of CDRLs and TMCR of new contracting actions for the purchase or sustainment of TOs. The AFTOMS site office will provide guidance to TOMAs, FMMs and TCMs/ESs with TO acquisition, development, review, and verification of assigned systems. This includes providing support to TOMAs and TCMs/ESs on the development of new contracting actions and providing local, specialized training IAW AFMCI 63-101.

3.5.1 **Technical Manual Contract Requirements (TMCR) Document, TM 86-01.** A TMCR is used in all contracts for acquisition, sustainment or modification of systems and equipment when TOs must be developed or updated. The TMCR is included in the RFP either as an exhibit, as part of the system performance specification, or in the Technical Library, and is referenced in Section J. The exhibit will have a separately-priced CLIN in the formal contract (DoD 5010.12-M).

NOTE

TMCR requirements apply equally to contracted TO development efforts and to in-house TO development and updating.

3.5.2 **TMCR Description.** The TMCR consists of three parts: The first for the acquisition/modification of TMSS compliant SGML/XML technical manuals, the second part for the acquisition/modification/conversion of S1000D IETMs. S1000D is the preferred format for all new TO acquisitions of an IETM, and the third is acquisition/modification of Commercial Derivative Aircraft (CDA)/Commercial Off-The-Shelf (COTS) Manuals. Programs will only need to develop one of these parts for their acquisition/modification activity or conversion to S1000D IETM. Update with new information. The TOMA is responsible for tailoring the entire TMCR utilizing the TMCR automation tool and HUG found on the AFTOMS SharePoint site (reference [Paragraph 6](#)) prior to placing the TMCR in an exhibit to the contract. The Contractor/Offeror may propose and submit, in writing, additional tailoring to the TOMA and Procuring Contracting Officer (PCO) for consideration. If approved, this additional tailoring shall be added to the TMCR as part of the contract deliverable.

3.5.3 **Tailoring.** Tailoring serves two purposes: to delete TMCR requirements excess to program needs, and select options presented within specifications and standards. Only those TM Type Selection Tables, TM Delivery Requirements Matrices, and SIRs applicable to a particular contract are left in the TMCR. A TMCR Automation Tool Help User/Guide (HU/G) is available under Training Site on the AFTOMS SharePoint (reference [Paragraph 6](#)) to assist programs in developing and tailoring their contractual requirements.

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3.5.3.1 Updates to existing TOs and new TOs for existing programs may be acquired in the same style and format if all affected agencies approve and if cost effective over the program life cycle. In these cases, list the TOs affected in TMCR Table 2.

3.5.3.2 Any existing TOs, revisions or new TOs not TMSS compliant require an approved waiver for continued use.

3.5.4 DD Form 1423, Contract Data Requirements List (CDRL). The DD Form 1423 is used to establish a separately priced CLIN. It will be attached with the TMCR in the contract and listed in the Part I, Section B, Supplies or Services and pricing/cost schedule as well as Part III - List of Documents, Exhibits, and Other Attachments, Section J, List of Attachments. A separate CDRL, identified as an exhibit to the contract, will be used in conjunction with the CLIN for TOs. CDRL Block 4, Authority, will list the Air Force TMCR, TM 86-01, in place of a Data Item Description (DID) or TMSS. The TMCR must be tailored to list only the military specifications or standards applicable to the contract. Multiple TO CDRLs may be used to price TOs by work segment, e.g., Organizational level TOs, Depot level TOs, and Operational TOs. The respective TMCRs will be attached to the CDRLs. For convenience, multiple TO CDRLs may be grouped together in one contract exhibit or separate contract exhibits may be established for each CDRL. In either case a separate price for each CDRL should be in the exhibit or on the CDRL.

3.5.4.1 Options. There are two options for the use of CDRLs:

3.5.4.1.1 The TOMA may include draft CDRLs for known data requirements in the RFP. The CDRL for TO delivery (if included), with the TMCR attached, will be referenced in RFP Section J. The Instruction to Offerors will require the offerors to develop Statement of Work (SOW) paragraphs, complete CDRL tailoring and submit any other suggested data requirement CDRLs with the proposals.

3.5.4.1.2 If CDRLs are not included in the RFP, the Instruction to Offerors will require offerors to propose all data requirements, including TOs. In this case, a partly-tailored TMCR may be placed in either the system specification or the Proposal Technical Library.

3.5.5 Data Item Descriptions (DIDs). All DIDs can be found on the ASSIST-QuickSearch web page (reference [Paragraph 6](#)). The following is a listing of commonly used TO program-related Data Items which may be required if the contractor will develop/deliver the data

- DI-TMSS-80067, Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices.
- DI-SAFT-80931, Explosive Ordnance Disposal Data.
- DI-TMSS-81532, Aerospace Emergency Rescue and Mishap Response Information (Emergency Services) Source Data.
- DI-TMSS-81810, Technical Manual Organization Plan.
- DI-TMSS-81817, Technical Manual Quality Assurance (TMQA) Program Plan
- DI-SESS-80858, Suppliers Configuration Management Plan
- DI-TMSS-81812, Technical Manual Schedule and Status Report

3.6 SOO, SOW, PWS, ICD, AND RFP.

3.6.1 Statement of Objectives (SOO). The SOO should specify TO objectives in performance-based terminology. Evaluation criteria must support the SOO and be traceable to the Instruction to Offerors sections. The SOO is a government-prepared attachment to either Section J or L of the RFP. The SOO provides the basic, top-level objectives of the acquisition program. Additionally, program objectives focus on the higher risk areas individually, so each area can be addressed directly in the evaluation criteria. These higher risk areas are usually valid discriminators in the source selection process. Areas of relatively low risk are generally covered by higher level objectives. The SOO allows the offeror maximum flexibility to develop cost-effective solutions and to propose innovative alternatives to meet the stated objectives. The SOO also allows the government to assess offeror understanding of the effort to be performed, by eliminating the how-to instructions typically provided in a Statement Of Work (SOW) (MIL-HDBK-245).

3.6.1.1 TO Objectives. Depending on the level of risk, TO objectives will be addressed in a variety of ways. For most acquisition programs, the TO objective would be covered with a statement such as: Provide quality technical manuals, source data and options for the government to obtain data acquisition rights to support the objective of Air Force organic system operation and field and depot-level maintenance for the system life cycle. Actual wording will depend on program operations and maintenance concepts. Where TOs are considered a low-risk area, TO objectives may be covered by the more general logistics support objective.

3.6.2 Statement of Work (SOW). A SOW defines, either directly or by reference to other documents, all tasks to be performed for the program covered by the contract. The SOW is limited to what is required; qualitative, quantitative and other requirements (how, when and where) will be contained in specifications, the Integrated Master Plan (IMP) and CDRLs (MIL-HDBK-245 and DoD 5010.12-M). Use of a SOW in the RFP is usually limited to follow-on or small program contracts, as directed by the PM.

3.6.2.1 Government-Prepared SOWs. For government-prepared SOWs, TO requirements should be limited to performance-based statements, e.g., The contractor will develop the technical order types specified in the TMCR (Exhibit) to support (program name) (CDRL (#)). Additional statements, covering the applicable task areas may either be added to the SOW or to the first section of the TMCR as required to fully describe TO program requirements.

3.6.2.2 Offeror-Prepared SOWs. Offeror-prepared SOWs may vary in detail, dependent upon the detail in the IMP. The proposal SOW and IMP together should specify the tasks, events and processes the offeror will use to satisfy RFP requirements. The Instruction to Offerors must be explicit enough to allow the contractor to tailor a TMCR for submittal with the proposal.

3.6.3 Performance-Based Work Statements (PWS). A PWS defines the requirements in terms of results rather than the method of performing the work. It cites referenced directives by specific process/procedure (e.g., paragraph or chapter) rather than the entire publication. At a minimum, a PWS includes a description of Services/General Information (definitions, etc.); a Services Summary; a list of Government-Furnished Property and Services, if applicable; and Appendices such as workload estimates, labor hour rates, square footage, etc.

3.6.4 Request for Proposal (RFP). The TOMA will make inputs to the PM data call to ensure TO-related data is placed on contract. The TOMA must ensure the proper FAR/DFARS data rights clauses are included in the RFP. These requirements will not be altered by the PM or Data Manager without the concurrence of the TOMA, MAJCOM and support agencies. The Instruction to Offerors will inform contractors responding to the RFP about information to be included in the proposal. Evaluation Criteria (section M of the RFP) must be traceable to both the SOO and Instruction to Offerors. DAFI 63-101/20-101 describes the procedures for securing data rights, ensuring technical data is addressed in the RFP and for ensuring costs associated with technical data are visible and contain supporting documentation.

3.6.4.1 CDRL, TMCR and CLIN. The government will develop a draft TMCR for the RFP. This TMCR will be updated based on approved contractor data recommendations for inclusion in the final contract. The TMCR is attached to the CDRL for delivery of TOs. The TMCR will require a separate CLIN for delivery of Technical Manuals, and will become a separately-priced exhibit to the contract (DFARS 227.7103-2 and DoD 5010.12-M). The RFP must include a separate CLIN asking for a priced option to obtain unlimited rights to technical data if the offeror has proposed only limited rights ([Paragraph 8.7](#)).

3.6.4.2 The TO IPT ([Paragraph 3.4.1](#)) develops draft TO program objectives and criteria as inputs for the work statement or SOO, Evaluation Criteria and Instruction to Offerors. The drafts are provided to the program contracting office and data manager, along with a draft TMCR for inclusion in the RFP system performance specification.

3.6.4.3 If the RFP includes TOs releasable under provisions of DAFI 61-201, they may be released directly to prospective bidders. If the RFP includes TOs not releasable under provisions of DAFI 61-201, they should be made available for review in a bidder's library at the buying location. Release of export-controlled technical orders outside of DoD requires completion of a DD Form 2345.

3.6.4.4 The Instructions to Offeror, Section L of the RFP, identifies how the offerors must submit proposals and what proposals must cover for the government to evaluate the proposal according to the evaluation criteria in Section M. For example, the Instructions to Offeror may require a tailored TMCR, associated SOW tasks, and IMP program event entrance and exit criteria. The Instructions to Offeror essentially addresses topics contained in TMCR Section 1. Offerors may provide recommendations to applicable TMSS, listed in the TMCR, for the types of TOs required by the program.

3.6.4.4.1 Proposals. Offerors respond to an RFP with proposals for satisfying Air Force objectives. Proposals are evaluated IAW the Program Source Selection Plan.

3.6.4.4.2 Proposal Contents. Offeror proposals submitted in response to an RFP will include any documents the RFP requires. That may include some combination of a work statement, completed (separately priced) TMCR for TOs, recommendations for any other data required, an IMP, and/or an Integrated Master Schedule (IMS) covering the management and control of the acquisition program. Offeror responses indicate how the contractor intends to satisfy RFP requirements.

3.6.4.4.3 Quality Assurance Provisions. The Instructions to Offeror may require the offeror to include details of the contractor QA process in their proposal, if the process has not been previously documented and supported by applicable past performance data or if there is exceptional risk in the program. The process will be evaluated for conformance to accepted commercial standards, such as the ISO 9000 series. The TOMA will obtain insight into process operation through participation in the IPT. Digital data deliveries are inspected and accepted as source and published data, data exchange formats, and data content and format. Contractors must demonstrate the online access service as the basis for government acceptance. TOs delivered pursuant to the contract must meet the requirements of this chapter and the final tailored TMCR. The quality of proposed commercial manuals will be evaluated according to MIL-PRF-32216.

3.7 TOMA ROLE DURING SOURCE SELECTION.

NOTE

During competitive contract bidding, the TOMA must not contact any bidder directly. There must be no bias or any appearance of conflict of interest.

The following provides guidance for TOMA evaluation of TO acquisition or sustainment contract cost and delivery proposals, and participation in subsequent negotiations with the offeror under the direction of the PCO. The TOMA should be knowledgeable in all relevant areas of TO acquisition or sustainment, and must thoroughly understand program requirements, the RFP, and the evaluation criteria. Assistance and comments should be solicited from appropriate PM or staff agency personnel if some parts of the proposal are beyond TOMA expertise and experience.

3.7.1 TOMA Role. The TOMA's role is to evaluate the technical merit of the TO portion of the proposal, evaluate proposal compliance with and understanding of RFP provisions, and the adequacy and accuracy of individual elements relating to technical data development. In addition, the TOMA, in conjunction with the IPT, will develop TO program evaluation criteria.

3.7.1.1 For IETM/S1000D based TOs, evaluation elements will depend on the offeror units of measurement. Some elements included could be number and complexity of tasks, lines of software code, number, format and complexity of illustrations, etc. ([Chapter 3, Section IX](#)). Because proposals associated with IETM technical data development include a Common Source Database (CSDB) management component, a CSDB expert should be assigned to the source selection team. Digital files consist of eXtensible Markup Language (XML) data modules, Standard Generalized Markup Language (SGML) files, FrameMaker® files, etc. DB Manager requirements and responsibilities are contained in [Appendix B](#). All pre-S1000D IETMs capitalizing off data reuse fall under this requirement if they are organically sustained by the AF.

3.7.2 Specific Technical Order Proposal Evaluation Guidelines.

3.7.2.1 Areas Subject to Double Charging. Not all TOs or source data packages require all support functions, and the offeror proposal should clearly differentiate these items. For example, some commercial manuals do not require supplementing, and the only allowable costs should be for development of an Identifying Technical Publication Sheet (ITPS), purchase of multiple copies, and administrative processing of the CFE Notices and manual certification. If task development is performed as part of a Supportability Analysis (when on contract), TOs should not also be charged for task development.

3.7.2.2 TO Sizes. The TOMA should estimate page counts (and/or file lengths, database sizes, etc. for digital TOs) by comparing the program to existing programs for similar military systems or commodities when possible. For example, is the offeror proposed number of pages in line with this estimation? If TOs are priced individually or by types, compare the number of pages proposed with the number of pages in published TOs of the same type for similar equipment.

3.7.2.3 Historical Data. If historical data from like systems is not available, the TOMA should solicit inputs from the PM.

3.7.2.4 Technical Order Data Rights. The TOMA should assess any areas of the proposal where the offeror has proposed less than full rights to the technical data. The key concern is whether the government will have adequate rights to support the

weapon system for its life cycle, including data for alternate repair source selection and competitive spare parts procurement. The TMCR may require a separately priced option that provides for the government's rights to a future delivery of the technical data.

3.7.2.5 Evaluation Assistance. TOMA evaluations should be based on experience and judgment to the maximum extent possible, using the resources of other TOMAs and the TO IPT. When necessary, ask the offerors specific questions regarding their proposals, through the PCO.

3.7.3 Additional Technical Manual Requirements (Engineering Change Proposal (ECP) Evaluation). Evaluate ECPs, associated TCTOs, and Contract Change Proposals (CCPs) against the baseline contract to ensure costs correspond to the original proposal and were not included in the baseline costs. Some TO updates as a result of ECPs should be included in the routine periodic update program, and some proposed additions to the number of TOs developed or acquired may be included in contract baselines. Evaluate the ECPs/CCPs against similar items previously submitted by the contractor.

SECTION II. DEVELOPMENT

3.8 POST AWARD AND TO DEVELOPMENT PROCESS.

3.8.1 General Guidelines. The TO development process is managed by the TOMA within the framework of a TO program. Conferences, reviews and verification activities conducted by the TOMA are an essential and formal process helping to ensure the data developed meets the needs of the users within the program scope. Attendance at these TO development activities must be limited to the minimum number of personnel required to accomplish the purpose of the conference or review. Personal preference must not affect requirements. After the program contract is signed, any modifications to requirements noted during these conferences and reviews must be documented for PCO action.

3.8.1.1 Involvement. The TOMA will be involved in all aspects of the acquisition program, as there are very few areas that will not affect TO and source data development. The TOMA should participate in such non-TO program meetings as logistics and program management reviews, supportability and provisioning conferences, Preliminary and Critical Design Reviews (PDR and CDR), and Support Equipment Recommendation Data (SERD) reviews.

3.8.1.2 Preparation. The TOMA will be prepared to discuss TO issues at logistics and program management reviews. In addition, the TOMA will assess and coordinate changes to schedules and availability of equipment to support future TO events.

3.8.1.3 Participation. Participation should include local Defense Contract Management Agency (DCMA) personnel. Air Force attendees should be officers and/or E6-E9 enlisted personnel or civilian equivalents. AF attendees should be familiar with Air Force and MAJCOM TO acquisition and system support policies. All participants should understand applicable TMSS, publications, functions, and contract requirements. Conference members must have the authority to make rapid, objective and logical decisions based on contract requirements and Air Force and MAJCOM policies.

3.8.2 TO Guidance Conference. The IPT, with the contractor included, will hold an Initial TO Guidance Conference where program plans are reviewed and approved, and schedules are established. The timing is usually within 60 days after contract award to avoid delaying contractor tasks. The contractor can initiate TO preparation after the TO guidance conference. This conference is the most critical because it establishes a firm understanding between the AF and the contractor of what the TO effort will involve and how the program will be executed. The AF contracting officer is an essential player in this conference in order to ensure any changes to the requirements are captured, and the contract is modified before work can begin on the program. Most new technical order programs can avoid long term problems by successfully completing an Initial TO Guidance Conference and ensuring both the AF and the contractor fully understand the TO requirements and the expectations of each party. The results of the conference will be fully documented by contractor minutes, and coordinated with IPT members. The TOMA will approve and publish the minutes and summarize conference findings and action items.

3.8.2.1 Guidance Conference objectives are to clarify TO tasks and planning data resulting from contract and program requirements. Participants will review the military system or commodity support plan, Air Force operation and maintenance concepts, Air Force TO policy and intended user capabilities, needs or environment. When required, the TOMA will provide specification interpretation and comments on contractor plans and schedules presented as part of the proposal. Specific agenda items should be coordinated well before the conference to ensure maximum utility and productivity.

3.8.2.2 The TO Guidance Conference is co-chaired by the TOMA and contractor to ensure understanding of the contract requirements. The TOMA briefs on the purpose, objectives, scope, and functions of the conference and clarifies requirements,

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plans, and schedules. At this time, the TOMA may provide the TOLCMP to the contractor. Specific agenda items should include a review of the contract to ensure mutual understanding of the requirements; a review of applicable specifications and established Air Force TO policy; a review of basic planning data to ensure mutual understanding of the program and intended users requirements; and establishment of contacts to provide subsequent guidance and information.

3.8.2.3 Requirements that were not fully defined or could not be defined until hardware selection and applicable operation and maintenance concepts had been analyzed will be finalized during the TO Guidance Conference. Any changes affecting contract performance or costs must be approved by the PCO.

3.8.3 **Preliminary Technical Orders (PTO).** PTOs may be prepared in limited quantities during TO acquisition to support In-Process Reviews (IPR), contractor certification, and government verification activities. A TO is considered preliminary from the time the publication has a number assigned until the TO is formalized. PTOs are formalized after they are successfully verified and all corrections are made and accepted, during a pre-pub review. PTOs must complete the contractor quality process before delivery to the government for verification.

3.8.3.1 The TOMA requests a TO number for PTOs using the procedures in [Paragraph 3.8.4](#). The TOMA receives a notification on their Home screen indicating the TO number has been reviewed/approved. The TOMA will use the Manage TO screens to index the PTO, marking Avail for Index to Yes so users are able to establish ID.

3.8.3.2 The Enhanced Technical Information Management System (ETIMS) enables numbering and initial indexing of PTOs, and may be used to distribute PTOs for viewing (see [Paragraph 5.6.1](#)). TOMAs may establish alternate procedures to manage and control distribution prior to formalization and publication IAW [Paragraph 5.3](#).

3.8.4 **TO/TCTO Numbering.** An accurate title is an essential element in determining the correct TO number. TOMAs will develop TO titles IAW TO 00-5-18. TOMAs are responsible for requesting and assigning TO numbers early in TO acquisition, using the ETIMS Request TO Number screen and the guidance in TO 00-5-18. For each new TO series, the TOMA will establish a TCTO Series Header for the program's TOs. All FMS numbering for CSTO/CSTCTO will be completed using the criteria described in this paragraph and subsequent paragraphs below, unless otherwise stated.

NOTE

TO Numbering FUG is accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

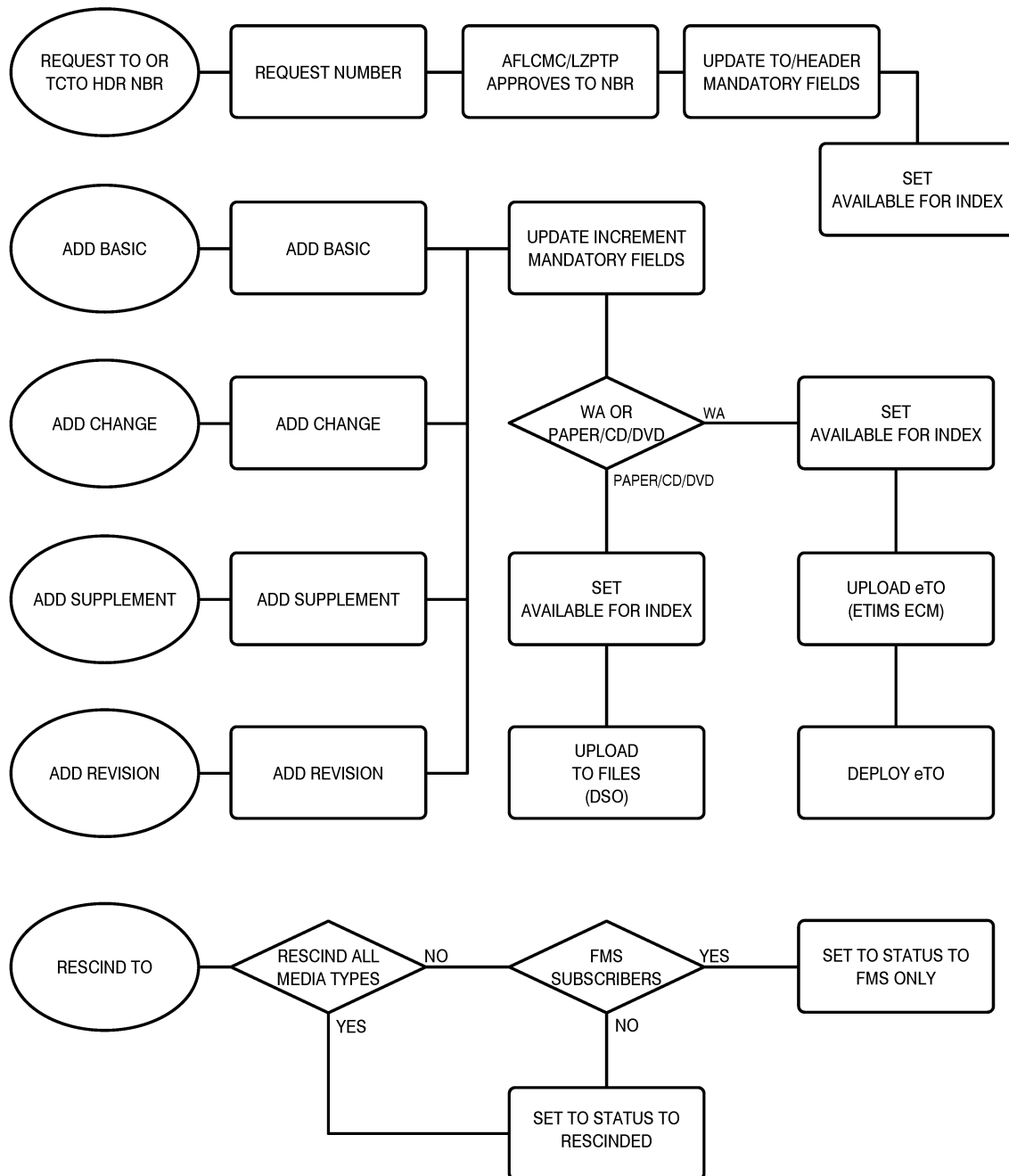
3.8.4.1 Once the USAF TO Numbering Specialist reviews and approves the requested TO number, the TOMA will enter additional information about the TO.

3.8.4.2 The Naval Surface Warfare Center Indian Head Division Explosive Ordnance Disposal Technology Center (NSWC IHD EODTECHCEN) is responsible for providing numbers for joint service nonnuclear EOD TOs.

3.8.4.3 **TCTO Header/TCTO Numbering.** ([Figure 3-1](#)). TCTO series header numbers are assigned IAW TOs 00-5-15 and 00-5-18. TOMAs will request a TCTO Series Header using the ETIMS Request TO number screen for an aircraft, missile or engine category when a new TO series is established. All others should create TCTO Series headers as necessary (refer to TO 00-5-15 and TO 00-5-18). ETIMS starts all TCTO numbers at 501; the first of a series will always start with that number and continue. If a TOMA has an established paper series header and establishes a new, matching electronic series header, when the next TCTO/eTCTO is added, the numbers will not match. The eTCTO will be added as 501, then be renumbered to match the corresponding paper TCTO number by submitting a Field Support Center ticket.

3.8.5 **TO/TCTO Indexing.** Complete and accurate index data is critical to viewing TO index data in the TO Catalog, and subscribing to or requisitioning the TO using ETIMS. When a new TO number is approved or a TO update is generated, the TOMA will complete the following ETIMS Index information:

3.8.5.1 Ensure the TO Record is referenced to the weapon system Mission Design Series (MDS) (if applicable) and equipment part numbers. See ETIMS Indexing FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). Additional policy-mandated entries include the document classification, assigned Distribution Statement codes and primary Reason codes.



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Figure 3-1. TO Numbering and Indexing Flow Chart

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3.8.5.1.1 All CSTO/CSTCTO ETIMS metadata MUST be marked as Distribution Statement D. Distribution Statement will only be reflected in ETIMS metadata, it will not be added to the title page of the CSTO/CSTCTO (see [Table 4-3](#)).

NOTE

If the TO is not associated with a specific MDS, select Not Applicable (N/A) for the Weapon System Code.

3.8.5.1.2 If the weapon system is not listed, use the Open Weapon System Chooser in the Manage Tech Order Detail screen to add weapon system. If the weapon system does not already exist, a Field Support Center ticket must be submitted to add a new weapon system. AFTOFST will provide the new weapon system name to AFLCMC/WFNB after adding. If the equipment and/or part number is not listed, refer to the Maintain Equipment List, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

3.8.5.1.3 Anytime a TO is updated to cover additional equipment, Interservice Technical Information Exchange System (ITIES) must be updated with the complete new part number, see Indexing Digital Media FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). The data is used to set up and change the TO number to equipment number cross-reference data in the ETIMS Catalog.

3.8.5.1.4 Do NOT enter JUST the weapons system MDS (e.g., F100 or B2) for TOs covering component assemblies or Support Equipment (SE) for the end item. Use the component/SE part numbers from the TO title.

3.8.5.1.5 For General and Methods & Procedures Technical Orders (MPTO) which do not cover specific weapon systems or equipment, use N/A in both the Weapon System Chooser and Maintain Equipment List processes.

3.8.5.1.6 Issue unclassified updates to classified TOs whenever possible. When indexing unclassified updates to a classified TO, TOMA must first index the updates in ETIMS, which will assign the parent TO classification to the update. Then the TOMA must change the classification of the unclassified update only to unclassified.

3.8.6 Technical Order In-Process Reviews. During acquisition planning, the frequency and percentage for conducting IPRs is identified and negotiated in the TMCR based on program requirements to evaluate progress and compliance with contractual agreements. IPRs ensure compatibility with engineering source materials, accuracy of descriptive data, and TO content, style and format are in compliance with applicable specifications. IPRs are integral to evaluating the contractor's process and encompasses safety and health reviews. In addition, IPRs are an opportunity for the IPT to identify issues concerning depth of coverage, missing data, data needing amplification, etc., and for coordination and approval procedures for updates. See [Table 3-1](#).

3.8.6.1 Scheduling IPRs. IPRs are scheduled by the contractor in coordination with the TOMA and the IPT based on the frequency and percentage established in the TMCR. If there is no contractor support, the TOMA works with the IPT team to schedule IPRs.

3.8.6.2 As a general rule, IPRs should be accomplished when the TOs are 30-40 percent and 70-80 percent complete or as defined by the program office and in some cases, a 100 percent IPR may be required ([Table 3-2](#)). If initial IPRs indicate the contractor understands the requirements and is producing a quality product, the contract may be modified to reduce the numbers of additional IPRs. Comments and corrections will be captured and recorded and communicated with the contractor. The specific IPR methods and procedures will be documented in the TOLCVP.

3.8.6.3 For IETM/S1000D based TOs the data will be reviewed in connected and disconnected modes on the electronic viewing devices (eTools) designated for operational use.

3.8.6.4 Focus and Support. For earlier IPRs, the primary focus should be on style, format, and planned depth of coverage. Air Force attendees should be officers and/or E6-E9 enlisted personnel or civilian equivalent, with knowledge of TO style and format requirements, parent organization policies, and organization signature authority. For later IPRs, the focus shifts to the technical content and comprehensibility of the manual, and personnel should also include technicians of the lowest skill level (5-level minimum) expected to operate or maintain the commodity in the field.

3.8.6.5 If, during the IPR, the TO being reviewed does not meet the criteria for completion, the TO may be rejected. If the TO is rejected, the reasons for rejection must be documented in the meeting minutes along with the corrective actions required. Once the corrective actions have been completed, the contractor will notify the TOMA the corrections have been completed or adjudicated. If the IPT determines the corrections are adequate, they will move the TO on to the next milestone.

If the IPT determines another full IPR is required, the TOMA will provide the recommendation to the PM to determine if approval will require contract modification.

3.8.6.6 Reference [Table 3-1](#) for evaluation criteria for when conducting IPRs for standard TOs, S1000D/IETMs, and CDA/COTS manuals and [Table 3-2](#) for percentage guidelines.

Table 3-1. Technical Order Review Evaluation Guide

	NOTE	Yes/No/NA/ Comment
	Refer to MIL-STD-38784, MIL-STD-3048, and MIL-PRF-32216 for style and format, unless otherwise noted.	
1	Official part number and nomenclature used on title page to identify the equipment covered in the TOs. (See TO 00-5-18)	
2	Distribution Statement, Disclosure, and Export Control Warning properly applied. (DAFI 61-201, DoDI 5230.24)	
3	Security classification markings properly applied. (DoDM 5200.01V2_AFMAN 16-1404V2)	
4	Proper inclusion of table of contents, list of tables, list of illustrations and indices, as required.	
5	TO arranged IAW specifications. (Performance/Detail Specification)	
6	Purpose of TO clearly stated.	
7	Use of TO identified.	
8	Scope of TO outlined.	
9	Inclusion of a listing of ECPs, TCTOs and configuration changes to properly update TO, if applicable. (Performance/Detail Specification)	
10	Applicable safety precautions included.	
11	Notes, cautions and warnings prepared and used properly and consistently.	
12	All abbreviations and technical terms fully explained and identified as required.	
13	Nomenclature consistent within and between related publications.	
14	Materials referred to using approved government or commercial specifications and standards where applicable.	
15	Materials used and methods for use of materials comply with AF regulations especially as to effects on health and the environment. (AFOSH STDs and AFI 32-70XX Series)	
16	Theory covered only to the extent necessary.	
17	Complete troubleshooting procedures and corrective procedures presented in a clearly understandable and usable form.	
18	Maintenance schedules (inspections) covered, if applicable. (Performance/Detail Specification)	
19	Special Maintenance that may be required in unusual climatic conditions of cold, heat, wind, altitude and noise included, if applicable. (Performance/Detail Specification)	
20	Maintenance concepts and using personnel skill levels align with maintenance procedures. (TO 00-5-1)	
21	Calibration instructions accurate and clearly defined. (Performance/Detail Specification)	
22	Dial, meter and switch setting is given at the beginning of each operation, if required.	
23	Data flow in a logical order IAW use or repair of the equipment.	
24	Standard test equipment and special tools to be used for job performance listed.	
25	Procedures for locally manufactured tools and support equipment identified and included.	
26	Text supported properly with necessary illustrations, charts and tables.	
27	Drawings properly prepared.	
28	Glossary, if required, is adequate in scope.	
29	Certification forms reviewed to ensure verification was satisfactory and equipment can be operated, tested and maintained with the written procedures.	
30	Coverage compatible with other TOs, including Illustrated Parts Breakdown (IPB).	

Table 3-1. Technical Order Review Evaluation Guide - Continued

	NOTE	Yes/No/NA/ Comment
	Refer to MIL-STD-38784, MIL-STD-3048, and MIL-PRF-32216 for style and format, unless otherwise noted.	
31	Written not to exceed the 9th Reading Grade Level (RGL).	
32	Short sentences used in preference to long, complex sentences.	
33	Adequate use of necessary cross-references to other chapters, sections, volumes, etc.	
34	No unnecessary duplications of textual material, procedures, routines, diagrams, etc.	
35	Prescribed forms/formats have been discussed with forms management personnel. (DAFMAN 90-161)	

Table 3-2. IPR Completion Percentage Guide

In-Process Review Level:	35%	75%
TO Section	Percent Complete	
TO Title Page	100%	100%
Front Matter	-	75%
Introduction	100%	100%
General Information	50%	90%
Installation Instructions	25%	70%
Operation Instructions	25%	70%
Theory of Operation	50%	100%
Maintenance Instructions	25%	75%
Checkout and Troubleshooting	-	75%
Circuit Diagrams/Illustrations	25%	75%
Parts Lists	35%	80%

3.8.7 Contractor Certification Process. The contractor certification process will be detailed in the proposal submitted in response to the RFP. The proposed process may be modified, if necessary, during contract negotiations, and when approved, becomes part of the final contract. The decision to place the process on contract is made by the government IPT based on assessed risk, including contractor past performance and existing TO certification procedures. Approved certification requirements must also be applied to any products or processes supplied by vendors or subcontractors. The contractor certification process will also be attached to the TOLCMP, if available, and not marked proprietary by the contractor.

NOTE

Procedures and source data developed organically by the Air Force do not require certification, but must be verified prior to incorporation into a TO.

3.8.7.1 Certification Requirements. The contractor is responsible for the end result of the TO development process: delivery of adequate, safe, current, and accurate TOs which conform to government requirements. The data must be fully compatible in depth and scope with the established maintenance concept and the approved logistics support plan. The data must be checked for security classification, distribution restrictions, and Reading Grade Level (RGL). The contractor might use any or all of the previously mentioned procedures as part of their TO certification management process. These requirements also apply to sustainment contracts.

3.8.7.2 Performance Certification. When the proposed certification process includes task performance, the following guidance will be followed:

3.8.7.2.1 Nondestructive malfunctions may be introduced for the purpose of checking procedural and fault isolation tasks or systems tests. Procedures which could cause damage to the hardware or injury to personnel should be simulated.

3.8.7.2.2 Only support equipment listed in the TO should be used in testing procedures. The TOMA will be consulted if substitution of support equipment is required. The contractor must identify and request any Government Furnished Equipment (GFE) required to support the TO development effort. The TOMA will coordinate with applicable PMs, if necessary, to provide GFE and ensure the equipment will be available to support the weapon system or commodity in the operational environment.

3.8.7.2.3 Locally fabricated tools or test equipment listed in the TO should be used during testing. Procedures for fabricating these items will be included in the TOs.

3.8.7.2.4 Tasks will be performed at the contractor facility during system or commodity development testing. If required GFE is not available, tasks may be performed at an operational or test site when approved by the procurement/sustainment managing activity. The contractor will coordinate requirements with any affected agencies.

3.8.7.2.5 When the contractor cannot perform some tasks due to non-availability of GFE resources, the TOMA will be notified. The TOMA may provide the required resources (if available) to the contractor or suggest use of a field location. In some cases, combining contractor certification with AF verification or other scheduled events may be authorized. As a last resort, the PM may authorize use of simulation or Desk-Top analysis of the procedures.

3.8.7.2.6 Task performance or simulation may be unnecessary for existing manuals and source data applicable to the current configuration of the equipment, if a Desk-Top analysis or publication review proves the manuals are current, adequate, accurate, and conform to contract requirements.

3.8.7.2.7 EOD source data procedures only require contractor Desk-Top analysis; the government will perform any procedures requiring verification.

3.8.8 Verification. All tasks in TOs and TO updates will be 100 percent verified unless waived by the PM IAW DAFI 63-101/20-101 and this TO. This includes data that has been formalized and is in the sustainment phase of the TO life cycle. Technical data for Contractor Logistics Support programs need not be verified unless the data will be used by government personnel. Verification is accomplished IAW the TOLCVP using PTOs provided by the contractor. The TOMA is responsible for keeping the TOLCVP updated and coordinated throughout the program life cycle. Find the TOLCVP template under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)). Participation in verification efforts by MAJCOM and other affected agency personnel is critical to the development of TOs. Verification activities will not be halted due to lack of attendance by other support agency personnel. Contractor support for the verification effort should be part of every contract for the acquisition and/or sustainment of TOs. The support usually consists of a writer and/or engineer. This support is required to minimize delays caused by faulty procedures, lack of spare parts, etc.

3.8.8.1 PTOs. PTOs cannot be requisitioned through ETIMS. If PTOs are required prior to formalization, contact the TOMA for distribution. Using organizations may use PTOs for hands-on training, operations or maintenance when verified and authorized by the PM or equivalent along with concurrence from Lead Command. Authorization for the use of preliminary data will not exceed 180 days unless readdressed. The authorization memorandum must accompany the data at all times.

3.8.8.1.1 Using Command Verification. When PTOs or partially-verified formal TOs must be distributed, operational units may be required to verify some procedures on site. For operational unit verification, the following requirements and procedures will apply:

NOTE

PTOs may be watermarked. The watermark should state the PTO is not for field use.

3.8.8.1.1.1 The unit Product Improvement (PI) office or other responsible function will monitor and control the verification effort. For FMP publications, the unit Standardization Evaluation (Stan Eval) will perform this function. The verification monitor will contact the TOMA or FMM (identified on the Verification Status Page) and request permission to perform unit-level verification of the procedure involved. If necessary, the TOMA or FMM will arrange for program office or verification team on-site support. For calibration TO (Category 33K) verification, see TO 00-20-14.

NOTE

For major tasks, such as wing or stabilizer removal and replacement and any task involving nuclear weapons or critical components, on-site verification team support must be provided.

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3.8.8.1.1.2 The operational unit will determine the availability of personnel, support equipment, special tools, spare parts and consumables required to accomplish the task.

3.8.8.1.1.3 When the on-site verification team (if required) and all support requirements are available, the procedure will be performed under PI supervision. PI will record any discrepancies found during the effort.

3.8.8.1.1.4 If discrepancies are found, the procedures will be corrected on-site, during verification, if possible. Major problems, especially those that could cause personnel injury or equipment damage, may require TOMA or depot support. All discrepancies will be reported using the ETIMS RC process, AFTO Form 27 or DAF Form 847 IAW Lead Organization or PMs reporting requirements.

3.8.8.1.1.5 Upon successful completion of verification, the TCM/ES or TOMA will be notified via one of the forms listed above or through ETIMS verification, and the unit will annotate completion on the Verification Status Page (VSP).

3.8.8.2 Scheduling. The TOMA will work with the MAJCOM to develop a verification schedule that accounts for the overall availability of trained technicians and production configured assets to conduct verification. Furthermore, verifications should be completed in sufficient time to permit correction, publication, and distribution of formal TOs to field operations prior to or concurrent with delivery of the hardware and software to support Operational Test and Evaluation (OT&E). When this is not possible, with command approval, use Interim Contractor Support or authorize use of PTOs or partially-verified TOs until verification can be completed. Additionally, the TOMA will ensure the TOLCMP reflects the latest TO verification schedule.

3.8.8.3 Use of PTOs. The TOMA, with approval from the PM in coordination with the Lead Command or Depot, may issue a waiver to distribute PTOs to operational units or depot repair facilities for verification using production equipment. The use of preliminary data will not exceed 180 days unless readdressed.

3.8.8.4 Partially-Verified TOs. The inability to verify certain specific maintenance procedures, such as aircraft wing or missile canister removal and replacement should not delay formalization and distribution of TOs. If a partially-verified TO is issued, the TO will include a Verification Status Page (VSP) or screen, and the first field unit or depot facility required to use an unverified procedure will perform using command verification IAW TO 00-5-1. Other reasons for issuing partially-verified TOs include lack of equipment or other required support to perform verification. When the destructive nature of the procedures prevents verification by performance, use simulation or Desk-Top analysis IAW [Paragraph 3.8.9.2](#) or [Paragraph 3.8.9.3](#).

3.8.8.5 Verification Waivers. The PM may waive verification by performance/simulation when procedures are similar to other, previously-verified procedures on like equipment. The waiver will be documented on the AFTO Form 27, or on the form creating a TO update. Verification of minor updates to previously-verified procedures may be accomplished by simulation or Desk-Top Analysis without a waiver.

3.8.8.6 Use of Substitute Items. The TOMA or Verification Team Manager (VTM) may authorize the use of substitute equipment, facilities, or draft procedures. This authorization may be given when the required items are not available and there will be no significant difference in procedures. Any such substitution must be coordinated and documented on the AFTO Form 27 or on the form creating a TO update.

3.8.8.7 MAJCOM Responsibilities. Both technicians for the verification team and site for verification should be provided by the Lead Command. The selection of qualified MAJCOM personnel to perform verification depends on the type and level of maintenance established for the military system or commodity being covered. Different teams and verification locations may be required to cover all maintenance types and levels (on- or off-equipment, field or depot) for TO verification. The verification team will consist of the VTM, technicians, QA and Safety personnel, other support agency personnel, and the contractor. The technicians should include the lowest grade and skill level (5-level minimum) projected for day-to-day use of the TO. The MAJCOM may use support contractors as part of the government team.

3.8.8.8 Prioritization. The verification schedule must be prioritized based on critical operational and maintenance tasks that affect safety, operational readiness and supportability of the system and commodity during initial deployment. Personnel, hardware, consumables and support equipment will be scheduled to ensure availability for each verification effort.

3.8.8.8.1 First priority for verification is organizational-level operation and maintenance procedures. Within this grouping, procedures are further prioritized as follows

- Pilots and/or Operators Manuals

- All Safety of Flight and Operations procedures
- All Critical Safety precautions
- All TOs required for Nuclear and/or Flight Certification
- Day-to-day maintenance and operational tasks in O&M TOs and checklists
- All newly-developed Contractor Furnished Equipment (CFE) TOs used in support of the above TOs and procedures
- All remaining TOs and procedures

3.8.8.8.2 Second priority is intermediate and depot level maintenance procedures. Depot TO verification should be performed in conjunction with depot prototype overhaul certification to the maximum extent possible. This will ensure that test equipment, software and TOs are compatible, and will reduce the overall cost of the program.

3.8.8.8.3 New and updated non-procedural data verification will also be prioritized, as listed below. The PM, SCM or designee may waive verification of non-procedural data based on priority and risk, the waiver will be documented on an AFTO Form 27 or the form generating an update.

- Safety-related items (Warnings, Cautions, protective gear, etc.)
- Tool and equipment part numbers
- Consumable item part numbers
- Repair parts lists
- Work Unit Codes
- Theory of Operations
- Correction of typos, references, etc.

3.8.8.9 Combining Contractor Certification and Verification. Contractor certification and Air Force verification processes may be combined when the following conditions exist and the option is approved and agreed upon by the contractor, PM, and MAJCOM:

3.8.8.9.1 Formally resolve the question of liability for damage to equipment or injury to personnel between the contractor and the government before joint performance of procedures. The contractor is responsible for any damages or injuries caused by following faulty procedures. Establish a negotiation process to resolve and document any disputes over liability during the combined effort (request assistance from the Contract Law Office if necessary).

3.8.8.9.2 Tasks should be reviewed for the complexity and hazardous nature of the procedures. Highly complex or hazardous procedures should be certified by the contractor prior to delivery for verification. Each case must be evaluated and agreed upon by the PM and MAJCOM.

3.8.8.9.3 MAJCOM personnel will perform the TO procedures, during government verification, with the guidance and assistance of contractor technicians.

3.8.8.9.4 The procedures must be in final deliverable format.

3.8.8.10 Explosive Ordnance Disposal Technical Orders. Category 60 Joint Service EOD publications for U.S. nonnuclear and foreign explosive ordnance are developed by the NSWC IHD EODTECHCEN. EOD publications will be accepted as valid for Air Force use upon completion of verification and publishing on the Joint EOD Portal and in the JEOD MFK software (indicating acceptance by the Military Technical Acceptance Board). AFCEC/CXE manages Air Force participation in the verification program for EOD publications.

TO 00-5-3

3.8.8.11 Nuclear Weapons TOs. Any TO listed in the ETIMS N* catalog will be verified IAW TO 11N-1-1 or this TO, as applicable. The appropriate TCM/ES from the AF Nuclear Weapons Center, (AFNWC), must participate in the verification.

3.8.8.12 Nonnuclear Munitions and Explosives TOs. The USAF Global Ammunition Control Point (GACP) ([Paragraph 2.2.9.2](#)) must participate in verification of procedures involving nonnuclear munitions and explosives components. The USAF GACP Air Superiority Cell (ASC) must participate in verification of air superiority missile system TOs (except AGM-65 Maverick, which falls under the GACP).

3.8.8.13 Exemptions. COTS and Commercial Derivative Aircraft (CDA) manuals and source data specifically approved by the TOMA are exempt from verification by performance. TOs for Contractor Logistics Support are exempt from AF verification.

3.8.8.14 Calibration Technical Orders. Verification of category 33K TOs will be performed by assigned field-level Precision Measurement Equipment Laboratories (PMEL) within 45 days after receiving the commercial manual or PTO, as directed by AFMETCAL.

3.8.8.15 Minor Updates. Verification of TO updates, including minor changes to procedural data, may use the simplified Using Command Verification procedures in TO 00-5-1. These procedures may be used for either field or depot level TOs.

3.8.8.16 Flight Manual Verification Policies. The TOMA and FMM must ensure new or modified flight manual data is verified as soon as possible to ensure flight crew members do not operate aircraft without proper flight manual data IAW AFI 11-215 and DAFI 63-101/20-101. Preliminary Flight Manual data should only be used for the purpose of verification. If Preliminary Technical Orders/Flight Manuals must be used operationally they will be verified and must be in a format usable by air crews. Red-line or mark-up data will not be used for operational purposes. Ensure draft/preliminary flight manual data is available a minimum of 30 days prior to delivery of new or modified equipment/aircraft to allow for verification and training.

3.8.9 Verification Methods. Verification can take any one or a combination of three acceptable methodologies for accomplishment, depending on the type of equipment or instructions being verified.

3.8.9.1 Performance. Actual performance on production-configured hardware or government-approved inert versions (for explosive items) is the only acceptable means to verify certain tasks. Tasks to be verified by performance include, but are not limited to, all operating and maintenance procedures.

3.8.9.2 Simulation. In some instances, actual hands on demonstration of procedures duplicates similar tasks already demonstrated, needlessly subjects equipment to damage, activates one-time items such as Electro-Explosive Devices (EED) or exposes the technician to personal injury. In these cases, the procedures may be simulated by observing the operational configuration of the equipment while studying the task to ensure that procedures are logical, effectively descriptive and can be accomplished.

3.8.9.3 Desk-Top Analysis. Desk-Top analysis involves side-by-side comparisons of source data with TO data (text, links, illustrations, etc.). Non-procedural data and any procedural data where verification by performance/simulation has been waived will be verified by Desk-Top analysis. Desk-Top analysis is usually performed during IPRs or reviews. When an IPR is waived or new data is incorporated after the IPR, a separate Desk-Top verification will be required.

3.8.10 Verification Procedures. Specific verification procedures for the system under development will be documented in the TOLCVP.

3.8.10.1 Verification Site. The site selected for any particular verification effort will be jointly determined by the TOMA or TCM/ES and Lead Command, based on the availability of support functions, the type of procedure being verified, the level of maintenance, etc. The site should provide facilities as similar as possible to the operational locations where the TO procedures will be used.

3.8.10.2 Verification Team Manager (VTM). The TOMA or TCM/ES will act as, or request the MAJCOM appoint a VTM to control verification. Specific roles and responsibilities of the VTM will be documented in the TOLCVP. The VTM will coordinate with all affected agencies to ensure the availability of facilities, equipment and personnel to conduct the verification. When the data or procedures are delivered and all required hardware, support equipment, personnel, supplies and data are available, the VTM will schedule and supervise the verification effort, including pre- and post-verification meetings.

3.8.10.3 Pre-Verification Meeting. The VTM will conduct a pre-verification meeting with the verification team to ensure team members are aware of responsibilities and duties. Subjects to be covered during the meeting include the maintenance concept, any reference documentation available, the specific TOs and procedures to be verified, safety precautions, documentation required and individual team member assignments. Team members will review the procedures prior to beginning any task verification.

3.8.10.4 Verification Tasks. The VTM will supervise the actual verification effort. The VTM will make every effort to resolve problems on-site to prevent delaying or canceling verification. Checklists will be verified simultaneously with the parent manual. A separate AFTO Form 27 will be completed on each TO or portion of a TO and checklist verified to document discrepancies and the overall results of the verification. The TO VSP will be updated to reflect the verified status. Verification of TO updates may be recorded on the document creating the update. Verification of ETMs and IETMs/S1000D based TOs must be performed on the electronic viewing devices (eTools) designated for operational use. Specific verification tasks include:

3.8.10.4.1 Performing the procedures to verify usability by personnel with the planned skills and training, ensuring the arrangement of material and method of presentation support the operations or maintenance concept.

3.8.10.4.2 Observing and reporting any safety violations or hazardous conditions. STOP operations if necessary.

3.8.10.4.3 Performing TO RGL computations, if not documented by the contractor.

3.8.10.4.3.1 When a TO is developed organically or when updates meet the criteria specified herein, government personnel will document RGL checks using the AFTO Form 124. A copy of the AFTO Form 124 or contractor equivalent will be included in the TO documentation package for each TO maintained by the TOMA.

3.8.10.4.3.2 RGL computations may be computer-generated or performed manually using any accepted computation procedure. The actual RGL can be computed automatically by many word processing and publishing software packages. If online resources are used, the web address and method used should be included in the RGL documentation for review and filing. Computations will be reviewed during IPRs.

3.8.10.4.4 Ensuring all actions and suggested or required TO changes are fully documented.

3.8.10.5 Verification Updates. The TOMA must ensure updates due to verification are accomplished on an expedited basis. Expedited updates should be restricted to those of a technical nature affecting operation and maintenance procedures. Expedited editorial changes will be restricted to those affecting comprehensibility. Routine changes must be submitted through the normal TO change process.

3.8.10.6 Post-Verification Meeting. The VTM will conduct a post-verification meeting to resolve any problems, generate the minutes, and assign action items as required. VSPs will be updated as required. The Verification Record section of an AFTO Form 27 will be used to document any discrepancies found in the TO or procedures during verification, and recommend either further verification or formalization of the TO. The form will be submitted to the TOMA (or TO Review Board (TORB)/Flight TORB (FTORB)) for approval. When approved by the TOMA, the AFTO Form 27 recommending formalization will be used as authority to prepare the formal TO. Discrepancies found during verification of TO updates may be recorded on the document creating the update. The program CE or equivalent will approve verification results for TO updates.

3.8.10.7 Verification Review Boards. All comments and changes developed as a result of verification must be approved by a review panel, normally a TORB or FTORB, prior to incorporation in the TO. This review panel should consist of personnel from activities involved in the acquisition or modification program, as determined by the TOMA and documented in the TOLCVP, including verification team members and the contractor. The flight manual review panel must include at least three rated officers. After review, coordination and approval, the changes will be sent to the contractor for update of the TO involved, and if verification was completed successfully, preparation of the formal manual. Review boards are not required for TO updates provided the CE approves the changes.

3.8.10.8 Verification Documentation. Each verification effort requires complete documentation, including minutes and any forms generated. For concurrent contractor/government testing, contractor records will be included with verification documentation. Verification activities and results of TOs under development or being updated as part of a modification program will be documented using ETIMS verification, AFTO FORM 27 or DAF Form 847. The TOMA will maintain a file of all verification documentation issued for the life of the TO covered.

3.8.11 Technical Order Pre-Publication Reviews. The TOMA and IPT will ensure that verification comments and corrections are incorporated and that manuals meet contractual requirements. A formal pre-publication (pre-pub) review may be required. Pre-pub reviews are scheduled and conducted by the TOMA, as called for in the IMP. Pre-pub reviews are an examination of the master TO or update reproducible file prior to delivery to ensure incorporation of changes resulting from verification, recommended changes, and as a final check on contract compliance. Pre-pubs are not required in every case, the TOMA decides if one is needed on a TO-by-TO basis, depending on number and complexity of changes from verification contractor performance on updating previous TOs, etc. Every effort should be made to include verification team members at pre-pub reviews to enhance continuity. If necessary, an AFTO Form 158, may be utilized during the pre-publication review.

3.8.12 Hazardous Materials (HAZMAT) and Ozone Depleting Substances (ODS). TCMs/ESs/PMs must ensure the procedures in TOs minimize the generation, use and disposal of HAZMAT and ODS IAW AFD 32-70 and associated instructions. Any use of HAZMAT and ODS must be justified by the contractor and approved by TCM/ES/PM. Materials used and methods for use of material must comply with AF regulations especially as to effects on health and the environment (AFOSH STDs and AFI 32-70xx Series).

3.8.13 Contractor Furnished (Aeronautical) Equipment (CFAE/CFE) Notice Processing and Tracking Procedures. As system or commodity development proceeds, the prime contractor or subcontractors may identify additional hardware support requirements or components of the end item that require separate or additional TOs for operation and maintenance of the end item or commodity. CFAE/CFE Notices are submitted by contractors when required by a CDRL item, or by other government agencies developing TOs for the Air Force to identify these new or additional TO requirements. The notices identify the purpose and use of specific technical manuals for the operation, maintenance and inspection of equipment used with the end-item system or commodity, and which are not already covered by the TO development contract. The manuals may be MIL-SPEC TOs, commercial manuals, or contractor data developed for the government.

3.8.13.1 CFAE/CFE Content. CFAE/CFE content is specified by DID DI-TMSS-80067. Notices should be checked to be sure all blocks are filled in (i.e. contract number and date, submitting contractor name and vendor code, publisher name and vendor code, stock number, configured item number, etc.) Incomplete or inaccurate notices should be returned to the contractor for corrective action. CFAE/CFE Notices should be revised and resubmitted or superseded whenever the item represented undergoes significant change or data requirements change.

3.8.13.2 Federal Stock Class (FSC). The FSC of the equipment covered is listed on the CFAE/CFE Notice. The FSC is used with the D086, *Mission Workload Assignments System*, to determine the prime office responsible for management of the commodity and manual involved.

3.8.13.3 CFAE/CFE Procedures. The TOMA or TCM/ES will establish a procedure for reviewing and processing CFAE/CFE inputs. The procedures for processing CFAE/CFE Notices will be documented in the TOLCMP and updated throughout the program life cycle as needed. The procedure must stipulate who reviews CFAE/CFE Notices for each type of document recommended and who has ultimate approval authority for acceptance and numbering of the recommended documents. Use MIL-PRF-32216 to determine acceptability of CFAE/CFE Notices.

3.8.13.4 CFAE/CFE Approval. Upon approval of a CFAE/CFE Notice, the TOMA forwards a letter through the appropriate contracting office notifying the contractor of the TO number assigned, title (if other than proposed), license rights and copyright release statements, quantities required, and shipping instructions (if not covered in the contract TMCR).

3.8.13.5 CFAE/CFE Disapproval. If the CFE Notice is disapproved, full justification must be provided. If the item has been classified as a non-reparable or throwaway item, the appropriate PM must be notified to ensure the equipment is covered in the supportability analysis database. If disapproval is due to errors in CFAE/CFE Notice preparation rather than unnecessary or unsuitable data, the TOMA should immediately inform the contractor to allow timely revision and resubmittal of a corrected CFAE/CFE Notice to avoid costly delay.

3.8.13.6 Military Specification TOs. As system or commodity development proceeds, contractors may identify additional hardware support requirements or components of the end item that require separate TOs for operation and maintenance of the item or commodity. For new SE, the contractor may submit a SERD, accompanied by any required CFE Notices (DI-TMSS-80067). Contractors may develop their own processes for notifying the government of new SE requirements, as long as all Logistics Management Information (LMI) required to make accept/reject decisions is provided. For new manuals to support end item components, only the CFE Notice is required. CFE Notices may not be required if all TO requirements can be completely defined in advance in the contract (usually on less complex projects).

3.8.13.7 CFAE/CFE/CFE Notice Status. Depending on the number of contractors and volume of COTS data, a database for each contractor should be maintained with summary pages showing status of each notice, as well as individual work sheets on each notice providing more detailed information on actions taken.

3.8.13.8 New Support Equipment. For new SE, the contractor will submit a SERD accompanied by any required CFAE/CFE Notice (DI-TMSS-80067). Contractors may develop their own processes for notifying the government of new SE requirements, as long as all data required to make accept/reject decisions is provided. For new manuals to support end item components, only the CFAE/CFE Notice is required. CFAE/CFE Notices may not be required if all TO requirements can be completely defined in advance in the contract (usually on less complex projects).

3.8.13.9 SERD Review. Each SERD submitted must be reviewed and approved as directed by the PM before the equipment can be used with the end item. Disapproval of the SERD usually disapproves any associated CFAE/CFE Notices. For approved SERDs and end item components, associated CFAE/CFE Notices must be reviewed for applicability, need for a stand-alone manual, depth of coverage recommended, etc. and approved separately.

3.8.13.10 Contractor Data. In lieu of developing MIL-SPEC TOs, the contractor may recommend use of in-house contractor format technical data. The CFAE/CFE Notices and the data recommended must be reviewed and approved like commercial manuals.

3.8.13.11 Commercial Off-The-Shelf (COTS) Manual. When the contractor recommends use of commercially available SE or end item components, use of manufacturer manuals customarily provided with the commercial article may also be recommended. Copies of the COTS manuals are attached to the CFE Notice recommendations for government review and approval IAW MIL-PRF-32216. CFE Notices on COTS manuals must include the contractor evaluation of suitability based on MIL-PRF-32216. See [Chapter 3, Section V](#) for additional information when working with COTS programs.

3.8.13.12 Developing Supplemental Data. When supplemental data is required to make the manual acceptable, the contractor should be contacted to determine if the additional data can be obtained from the vendor or if the contractor will have to develop such data. If the additional data is obtained, the manual will be returned for reevaluation or if the required data cannot be obtained from the vendor, a cost estimate for the development of the additional required data must be provided.

3.8.13.13 COTS Manual Records. Each program must establish a list to track proposed COTS manuals. The list should include CFAE/CFE Notice numbers, date approved or disapproved (with disapproval reasons), contractor, prime responsible office, ship dates for the approved manuals, and whether or not the manuals were received at the appropriate destination. A follow-up letter should be sent to the responsible Program Office for the commodity and the supporting manual to ensure receipt and authorize contractor payment.

3.8.14 Computer Program Identification Number (CPIN) Items. Software program tapes and control documentation will be referenced in TOs using only the basic CPIN. XXX may be used in the last three alpha-numeric position of a CPIN. Users must check ETIMS for the latest version and revision for their application. CPIN revision/version will not be published in TOs without coordination and written approval of the CPIN PM. If revisions/versions are used, the TOs must be updated on a priority basis to reflect changes in the revision/version numbers and dates of programs authorized for use in ETIMS.

3.8.15 Other Program Reviews Affecting Technical Manuals.

3.8.15.1 Preliminary and Critical Design Reviews (PDRs and CDRs). PDRs and CDRs address many issues which affect the TOs. Automatic versus manual testing, maintainability requirements, special tools, unique support equipment, and special skills are discussed. A common contractor practice is to propose changing TO procedures rather than hardware design to overcome deficiencies. TOs must NOT be used to compensate for design deficiencies.

3.8.15.2 Functional and Physical Configuration Audits (FCAs/PCAs). These events are critically important to the TOMA because they form the basis for establishing the production baseline configuration of the hardware/software items under development. All technical manuals are required to reflect the production baseline and therefore, any program which schedules TO delivery before these events have been accomplished, is not acceptable.

3.8.15.3 Provisioning Reviews. Provisioning is the process of cataloging all of the parts expected to be procured as replacement spares throughout the life of the program. This review is critical to the Illustrated Parts Breakdown (IPB) manual because the output of the provisioning effort will determine the depth and level to which an item will be repaired or replaced. The purpose of provisioning activities is to ensure integration of support elements such as production, support equipment, technical manuals/orders, training, and facilities. The provisioning conference provides for the government to make item selection and assign technical and management codes. It is imperative that only personnel well qualified in their technical

specialty attend provisioning conferences and that continuity of personnel be maintained throughout the item development. In all cases, representatives must be authorized to make commitments for their activity. The TOMA should be involved in the conference to ensure that official Source, Maintainability and Recoverability (SMR) codes are assigned and are given to the contractor, through the Contracting Officer, for publication in the IPB or the numerical index of the IPB, IAW MIL-DTL-38807. See AFMCMAN 20-106 and the Product Support Tool Kit (PSTK) ([Paragraph 1.2.4.4](#) in this TO) for additional guidance on provisioning activities and conduct of the provisioning conference.

3.8.15.4 Supportability Analysis Reviews. The supportability analysis process is a review of tasks performed to examine all elements of a proposed system to determine the logistics support required for the system; and to influence the design so that both the system and support can be provided at an affordable cost. Supportability data is the foundation for identifying and managing support resources including: supplies, support equipment, technical orders, training resources and configuration management. Supportability data is acquired as part of the Technical Data Package (TDP) of the weapon system acquisition and contributes to the sustainment processes: data management and configuration management as well as forming the basis for maintenance and supply. Supportability data links the allocated baseline of the weapon system to the physical baseline and integrates technical and engineering data with maintenance and supply data and forms the basis for managing the sustainment of the weapon system. The TOMA should be involved in the supportability review conferences to ensure that the technical reports developed and delivered as part of the supportability analysis reflect results of maintenance task analysis and Reliability Centered Maintenance provide information for selection and development of SMR codes, spares, support equipment, technical orders and other related logistics data. This includes identifying procedures for system disassembly, demilitarization and disposal. Where procedures already exist (e.g. 309th Aerospace Maintenance and Regeneration Group workbooks and procedures for existing aircraft), the TCM/CE will review and verify those procedures. Demilitarization and disposal procedures should identify DEMIL-coded parts and HAZMAT locations, and include special tools and equipment, personnel qualifications, and Environmental, Safety and Occupational Health (ESOH) requirements.

3.8.16 Maintenance Advisory. A Maintenance Advisory (MA) is non-directive or non-procedural information originated by vendors, OEMs, Lead Commands or program offices analysis and approved for release by the program PM or CE. An MA may be used to alert field units of the existence of suspected conditions or future actions (e.g. conditions leading to potential TCTOs, supply shortage notifications, etc.).

3.8.16.1 MAs are used for informational purposes only and will never direct maintenance, inspections or implement procedural actions.

3.8.16.2 MAs will never direct or authorize any type of technical order deviation or contain any procedural steps, to include removal/installation of components, inspections, suitable substitutes and/or modifications.

3.8.16.3 ETIMS provides the capability to uniquely index/catalog an MA, upload a digital-only MA, and notify subscribers of an MA's existence in the ETIMS Repository.

3.8.16.4 MAs capability in ETIMS is activated by the applicable weapon system and must be requested through the AFTOMS office. Prior to activation, PMs should contact the AFTOMS office for additional guidance on meeting mission needs.

3.8.16.4.1 Once the MA is uploaded into the ETIMS Repository, the approved subscribers of the Series Headers and TOs associated to the MA during creation are notified via ETIMS of the existence of the MA, which can then be viewed in the ETIMS Repository. ETIMS distributes MAs to eTool devices under a TODO account on subscription for the associated Series Header, or TO. The MA will automatically be distributed to eTools during scheduled eTO synchronizations.

3.8.16.4.2 Programs are encouraged to coordinate with their Lead Command before requesting activation of the ETIMS MA capability and consider documenting MA predistribution coordination requirements.

SECTION III. TECHNICAL ORDER UPDATES

3.9 GENERAL.

This section describes acquisition-phase procedures for updating TOs and PTOs. The TOMA is responsible for ensuring that TOs remain current and accurate throughout the acquisition phase by contracting for TO updates.

3.9.1 RFPs and Contracts. The RFP Instruction to Offerors section must address TO sustainment as a requirement of the program. The contractor will propose coverage requirements and update cycles. Best practice is to contract for TO sustainment in renewable options once the initial TO development contract is completed, to allow the Air Force time to assume the TO sustainment role.

3.9.2 Engineering Change Proposals (ECP). Updates to TOs as a result of an ECP are considered to have the same contractual status as the ECP. In other words, if the ECP is in the scope of the contract, so is the TO update; if the ECP is out of scope, the cost for updates to the TOs must be included in the ECP costs.

3.9.3 Update Submittal. Updates are submitted through the Recommended Change (RC) process in ETIMS IAW procedures specified in the program TOLCMP. The TOMA or FMM may specify use of the RC process for reporting deficiencies on formal TOs and PTOs used by operational units during program acquisition. The change process to be used during TO development along with the routing and approvals required will be documented in the TOLCMP and updated as required throughout the program life cycle.

3.9.4 Update Approval and Incorporation. The TOMA must ensure that all involved agencies are made aware of the routing and approval requirements. Because the Air Force may not have the capability to perform an engineering evaluation of suggested changes during acquisition, the contractor is often tasked to provide this support. Normally, a TO Review Board (TORB) and Flight TO Review Board (FTORB) are established to review, approve and determine verification requirements for all proposed PTO updates. After updates are approved by the TORB/FTORB, the TOMA sends them to the contractor for incorporation in the affected TO.

3.9.5 Verification. All changes to technical data procedures, no matter how they are published will be verified by performance or as otherwise specified by this TO.

3.10 TYPES OF PRELIMINARY TECHNICAL ORDER UPDATES.

The types of updates used with formal TOs (TO 00-5-1) will also be used with PTOs during acquisition. In addition, an approved AFTO Form 27 may be inserted into the PTO as an interim update. This would be done only in cases of work stoppage or to eliminate safety hazards. The TOMA must issue an index page with each RC/update to identify all current updates; the index page will be dated and identify the PTO, updates, and organizations affected.

3.10.1 Procedures for AFTO Form 27. The AFTO Form 27 is the primary vehicle for submitting updates and improvements to PTOs. The AFTO Form 27 will be used by the TO verification team, and, when authorized by the TOMA, other users of PTOs on all programs. The criteria for submitting and processing Emergency, Urgent and Routine AFTO Form 27 are specified below. Completion instructions are in the AFTO Form 27. [Figure 3-2](#) is provided as an example. Most current version must be obtained through Air Force E-Publishing.

3.10.2 Use Period. The TOMA is responsible for determining when the AFTO Form 27 will no longer be used to recommend updates or improvements to PTOs. This is after verification has been completed. The period of use will be specified in the TOLCMP.

ATTACH

PRELIMINARY TECHNICAL ORDER (PTO) PUBLICATION CHANGE REQUEST (PCR)/TO VERIFICATION RECORD/APPROVAL				
AUTHORIZED USE: THIS FORM WILL BE USED ONLY AS DIRECTED BY THE TECHNICAL ORDER MANAGER IAW TO 00-5-3				
I. ROUTING AND IDENTIFICATION				
1. TO (TOMA/Designated Representative)		2. FROM (Organization reporting)		3. CONTROL NUMBER
4. PUBLICATION NUMBER	5. DATE OF PUBLICATION	6. CHANGE NO. / DATE	7. PARAGRAPH/FUNCTION NO.(s)	8. FIGURE
9. PAGE(s)	10. NATURE OF FORM <input type="checkbox"/> PCR (Section II) <input type="checkbox"/> VERIFICATION (Section III)			
11. ORIGINATOR'S/SYSTEM VERIFICATION MANAGER'S (SVM) NAME GRADE DSN SIGNATURE DATE		12. ORIGINATOR'S SUPERVISOR/VERIFICATION TEAM MANAGER'S NAME GRADE DSN SIGNATURE DATE		
II. PUBLICATION CHANGE REQUEST				
13. NATURE OF PCR <input type="checkbox"/> EMERGENCY <input type="checkbox"/> URGENT <input type="checkbox"/> ROUTINE		14. DATE PCR RECEIVED	15. ACTION TAKEN <input type="checkbox"/> APPROVED AS WRITTEN <input type="checkbox"/> APPROVED WITH MODIFICATION <input type="checkbox"/> DISAPPROVED (See Block 17)	16. DATE PCR ACTION CLOSED
17. STATEMENT OF DEFICIENCY (Attach additional sheets if required)				
18. RECOMMENDED CHANGE (Attach additional sheets or mark up copy if required)				
VERIFICATION REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO				

AFTO FORM 27, 20180718

PREVIOUS EDITION IS OBSOLETE

G1702164

Figure 3-2. AFTO Form 27, Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval (Sheet 1 of 4)

III. VERIFICATION RECORD			
19. CONTRACT NUMBER		20. VERIFICATION DATES A. START B. COMPLETE	
21. VERIFICATION SITE			
22. TYPE VERIFICATION <input type="checkbox"/> A. PERFORMANCE <input type="checkbox"/> B. SIMULATION <input type="checkbox"/> C. DESK-TOP ANALYSIS			
23. DEVIATIONS <i>(List any equipment or procedures not in accordance with the Technical Order)</i>			
24. PCR DISPOSITION/VERIFICATION RESULTS			
25. RECOMMEND FORMALIZATION <input type="checkbox"/> YES <input type="checkbox"/> NO			
IV. DISPOSITION AND APPROVAL			
26. TECHNICAL ORDER REVIEW BOARD/FLIGHT TECHNICAL ORDER REVIEW BOARD (TORB/FTORB) AND TOMA USE ONLY			
REVIEW BOARD (a)	REVIEW BOARD DISPOSITION (b)	SIGNATURE AND DATE (c)	
(1) USING COMMAND			
(2) ILS MANAGER/EQUIPMENT SPECIALIST			
(3) CONTRACTOR			
(4) TOMA/DESIGNATED REPRESENTATIVE			
(5) OTHER			
(6) OTHER			
(7) OTHER			

AFTO FORM 27, 20180718

PREVIOUS EDITION IS OBSOLETE

G1702165

Figure 3-2. AFTO Form 27, Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval (Sheet 2)

Add Page

PRELIMINARY TECHNICAL ORDER (PTO) PUBLICATION CHANGE REQUEST (PCR)/TO VERIFICATION RECORD/APPROVAL (CONTINUED)	4. PUBLICATION NUMBER	3. CONTROL NUMBER
<div>EXAMPLE</div>		

CONTINUATION PAGE

AFTO FORM 27, 20180718PREVIOUS EDITION IS OBSOLETEG1702166

Figure 3-2. AFTO Form 27, Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval (Sheet 3)

AFTO 27 PROCEDURES
<p>AFTO Form 27 entries shall be typed, and the forms shall be routed electronically. The AFTO Form 27 will be completed as follows:</p> <p>Section I, ROUTING AND IDENTIFICATION:</p> <p>BLOCK 1 - TO (TOMA/Designated Representative): Enter the complete 3/4 line address from either the TO the TO Verification Status Page (VSP) or as directed by the TO Manager letter/message through the MAJCOM.</p> <p>BLOCK 2 - FROM (Organization Reporting): Enter the complete 3/4 line address of the organization submitting the RC or conducting the verification.</p> <p>BLOCK 3 - CONTROL NUMBER: Control number will be assigned per internal organizational requirements or LCN instructions in TO 00-5-3.</p> <p>BLOCK 4 thru BLOCK 6: Self-explanatory.</p> <p>BLOCKS 7 thru 9: If more than one paragraph, function, figure, or pages are involved, enter "See Block 17" and enter the specific paragraph, function, figure numbers, or pages.</p> <p>BLOCK 10 - NATURE OF FORM: Enter an "x" in either "PCR" (Section II) or in "Verification" (Section III). This indicates which sections of the form to complete. If a verification record AFTO Form 27 also contains recommended TO updates, put an "x" in both blocks.</p> <p>BLOCK 11 - ORIGINATOR'S/SYSTEM VERIFICATION MANAGER'S (SVM) SIGNATURE and DATE: Enter the full name, grade, DSN number and signature of the originator or SVM, and the date signed. This block establishes ownership for any subsequent suggestions submitted.</p> <p>BLOCK 12 - ORIGINATOR'S SUPERVISOR/VERIFICATION TEAM MANAGER'S SIGNATURE and DATE: The responsible individual will review the form for accuracy, duplication, etc. and will indicate AFTO Form 27 approval by entering name, grade, DSN number, signature and the date. Disapproved forms will be returned to the originator with an explanation of the disapproval action. Approved forms will be forwarded as directed by the TO Manager.</p> <p>SECTION II. PUBLICATION CHANGE REQUEST:</p> <p>BLOCK 13 - NATURE OF PCR: Enter an "x" to indicate the category of the update request. An "x" in either "EMERGENCY" or "URGENT" requires immediate TO Manager action and preparation of an Interim Operations or Safety Supplement, or TO Page Supplement to preclude work stoppage or possible injury to personnel.</p> <p>BLOCK 14 thru 16: Completed by the TO Manager.</p> <p>BLOCK 17: STATEMENT OF DEFICIENCY (Attach additional sheets if required): Enter a concise description of the deficiency or deficiencies discovered.</p> <p>BLOCK 18 - RECOMMENDED CHANGE (Attach additional sheets or mark-up copy if required). When recommended changes are included, word them exactly as the change should appear in the TO. If the wording is not known, that is, the update will require engineering or research beyond the capability of the reporting unit, specify the type of change required (e.g., "Add more in-depth fault isolation procedures for the _____ subsystem.") and add the statement "Unable to develop at field level." Minor corrections may be entered in this block and on continuation sheets. Larger corrections may be attached as mark-up copies of the procedures or Paragraph verified. If additional sheets or mark-up pages are required, indicate the number of pages in this block. Attaching "mark-up" copies of TO pages or procedures is encouraged when this would clarify the changes requested. At the bottom of Block 18, put an "x" either VERIFICATION REQUIRED? "YES" or "NO" to indicate whether the recommend procedures OR the verification recorded on the reverse required (re-) verification.</p> <p>SECTION III. VERIFICATION RECORD: (AFTO Form 27 Reverse)</p> <p>BLOCK 19 thru 22: Self-explanatory.</p> <p>BLOCK 23 - DEVIATIONS: List any deviations to TO-specified procedures or support equipment which occurred during the verification. The deviations must have been approved by the TO Manager or Verification Team Manager. Document verification waivers in this block, including the justification and approving official name/office symbol. For verification of multiple tasks, or for complex tasks with numerous corrections, an AFTO Form 158 may be used in conjunction with the AFTO Form 27.</p> <p>BLOCK 24 - RESULTS: Enter a narrative description of the verification results. If verification of multiple procedures or sections is being reported, list the in this block. For verification of multiple tasks, or for complex tasks with numerous corrections, AFTO IMTs 158 may be used in conjunction with the AFTO Form 27. Enter either "Verified as written" or "Verified, corrections required (See Block 18)."</p> <p>BLOCK 25 - RECOMMEND FORMALIZATION: Enter an "x" in either "YES" or "NO".</p> <p>SECTION IV. DISPOSITION AND APPROVAL:</p> <p>BLOCKS 26a thru 26c: Completed by the TORB/FTORB as directed by the TOLCMP. Block 26b must indicate whether formalization is or is not approved, and whether formalization is or is not approved, and whether or not pre-publication review is waived.</p> <p>BLOCK 26a(4) - TO MANAGER/DESIGNATED REPRESENTATIVE: For flight manuals, the Flight Manual Manager (FMM) or FMM representative will sign this block.</p>

AFTO FORM 27, 20180718

PREVIOUS EDITION IS OBSOLETE

T000-5-3-003

Figure 3-2. AFTO Form 27, Preliminary Technical Order (PTO) Publication Change Request (PCR)/TO Verification Record/Approval (Sheet 4)

TO 00-5-3

3.10.3 Processing AFTO Form 27. RCs and updates are categorized as Emergency, Urgent or Routine. The update category is based on its impact to the system, mission effectiveness, safety or maintainability. Emergency and Urgent submittals should be limited to technical and safety-related changes. Changes to report categories will not be made without the express concurrence of the TOMA and the submitting MAJCOM.

3.10.3.1 Emergency RCs. Emergency recommendations require immediate action on a TO deficiency which, if not corrected, WOULD result in a fatality or serious injury to personnel, extensive damage or destruction of equipment or property, or inability to achieve or maintain operational posture (MISSION ESSENTIAL), including field-level work stoppage. The TOMA/TCM/ES or designated representative must provide written corrective action or downgrade the RC within 48 hours. For an RC to correct a TO deficiency resulting in a work stoppage, response must be received within 72 hours of receipt.

3.10.3.2 Urgent RCs. Urgent recommendations require action on a TO deficiency which, if not corrected, COULD cause one or more of the following: personnel injury; damage to equipment or property; reduce operational efficiency, and/or jeopardize the safety or success of mission accomplishment. Submit RCs that could result in over \$25,000 or 1000 man-hours annual savings to the Air Force as urgent. All technical TCTO deficiencies are submitted as urgent. Identification of or replacements for EPA Hazardous Materials (HAZMAT) and ODS are submitted as urgent.

3.10.3.3 Routine RC. Routine recommendations require action on TO deficiencies that do not fall into emergency or urgent categories.

3.10.4 Disposition. The TOMA or designated representative will forward approved RCs to the contractor for incorporation in the next update to the PTO.

3.11 CONTROL AND TRACKING OF RECOMMENDED CHANGES.

The TOMA must track and control RCs from the time requests are received or generated until incorporation into the TOs. Specific items to be recorded include date received/initiated, action taken, date disapproved or forwarded to contractor, and date incorporated.

3.12 CLASSIFIED RECOMMENDED CHANGES.

RCs containing classified data will be marked with the proper classification and appropriate downgrading and declassification instructions IAW DoDM 5200.01V1_AFMAN 16-1404V1. The program Security Classification Guide (SCG) will be referred to when determining if classified data is included. Unclassified RCs on classified TOs will be marked: This is an unclassified AFTO Form _____ on a classified manual. Security violations involving TOs will be reported IAW DoDM 5200.01V1_AFMAN 16-1404V1, not by use of an RC.

3.13 TECHNICAL ORDER UPDATES DUE TO EQUIPMENT MODIFICATION OR REPLENISHMENT SPARES PROCUREMENT.

3.13.1 Requirements. New specification requirements, modifications and replenishment spares procurement can result in new inventory items for replacement or replenishment issue. New TOs may be required and/or existing TOs updated or rescinded.

3.13.2 Coordination and Advisement. The TCM/ES will coordinate with the reparable assembly or system PM to determine if safety, life support or critical systems are involved. The TCM/ES and TOMA will identify and advise affected TOMAs, PMs, SAP users and other DoD agencies (Army, Navy, etc.) of the proposed new or modified equipment/end item and recommend updating of affected TOs. Advisement must include known systems or commodities TOs, when stocks of the original equipment/end item TOs will be exhausted, and specific TO updates required (if known). Coordination and advisement requirements are not required for common National Stock Class items (e.g., nuts, bolts, resistors, etc.) unless safety, life support, or critical systems or material are involved. In conjunction with the TOMA, the TCM/ES will initiate acquisition of new TOs or TO updates for commodities/equipment/end items under TCM/ES control. Notify the TOMA in writing to rescind obsolete TOs as required. Keep MAJCOMs informed of the TO status and anticipated publication date(s). Follow up with the MAJCOM to ensure TO updates are distributed and support requirements of users have been satisfied.

3.14 UPDATE DISTRIBUTION AND FILING.

The provisions of TO 00-5-1 do not apply to the distribution of PTO updates or RCs approved for use with PTOs during acquisition. The TOMA must make arrangements to provide copies of approved updates to all affected users of the PTOs.

RACs, ISSs and IOSs to PTOs will be posted the same as for formal TOs. RCs approved for operational use will be posted like Interim TOs. Operational PTO files will contain only those RCs/updates which apply to that organization; reference files may contain all RCs/updates applicable to the command.

SECTION IV. FORMALIZATION/COMPLETION

3.15 PRELIMINARY TECHNICAL ORDERS (PTO).

Every effort will be made to replace PTOs with formal TOs prior to or concurrent with delivery of the first production-configured system or commodity to the first operational unit. Air Force personnel may use unverified data during system Test and Evaluation (T&E) on new or modified hardware or software or in the performance of routine maintenance if the intent is to verify the data. PTOs should be used to the maximum extent possible to support Air Force T&E (DAFI 63-101/20-101). PTOs are also used for development of formatted training plans and course syllabuses.

3.16 VERIFYING AND FORMALIZING PTO.

After the PTO has been verified to the maximum extent possible, the TOMA develops a TO update to convert the PTO to a formal TO. Prior to distribution of formal TO/eTO update, the TOMA will enter the publication date. The Available for Distribution flag in the TO index is automatically set to "Yes" when the content is loaded to DSO (for distributed media) or eTO is deployed (for -WA-1). ETIMS will automatically display the estimated distribution date (EDD) from DSO when the Available For Distribution flag is set to "Yes". The Available For Distribution flag will be manually set to "Yes" by the TOMA to indicate a -WA-2 is available for distribution. For all media types, the Available for Index flag must be set to "Yes" and Publication Stock Number (PSN) created by ETIMS for the ETIMS catalog to be updated.

SECTION V. MINOR ACQUISITION PROGRAMS

3.17 OVERVIEW.

Minor acquisition programs differ from Major acquisitions in terms of overall cost and degree to which each type of program relates to events or milestones. Both types of programs require some degree of acquisition strategy and planning, though far more planning is required for a large aircraft development program, than for a small hydraulic jack program. Smaller programs typically do not require the same number of personnel to administer. Major events which have a direct effect on minor acquisition programs are included below.

3.17.1 Data Call. Used by Program Offices to solicit requirements for minor programs. These events replaced the more structured Data Requirements Review Boards in many instances. The TOMA is a key player along with the IPT members in determining the scope and depth of each new program. Data calls are an integral part of the requirements development process.

3.17.2 Technical Manual Contract Requirements (TMCR). Technical manuals requirements are similar in both major and minor acquisitions. Refer to [Paragraph 3.6.1](#) for further explanation.

3.17.3 DD Form 1423 - CDRL and CLIN for TOs. See [Paragraph 3.6.4](#) for further explanation.

3.17.3.1 Draft CDRLs may be required for all known data delivery requirements. The CDRL for TO delivery, with the TMCR attached, will be referenced in RFP section J. The Instruction to Offerors will require the offerors to develop SOW paragraphs, complete CDRL tailoring and submit any other suggested data requirement CDRLs with the proposals.

3.17.3.2 If CDRLs are not included in the RFP, the Instruction to Offerors will require offerors to propose all data requirements, including TOs. In this case, a partly-tailored TMCR may be placed in either the system specification or the Proposal Technical Library.

3.17.3.3 Justification. Offerors must justify each data requirement included in proposals. The TOMA or Program Data Manager will complete DD Form 1423 (CDRL) for approved requirements. See DoD 5010.12-M for DD Form 1423 instructions.

3.17.4 Initial TO Guidance Conference/Post Award Conference. Refer to [Paragraph 3.8.2](#).

3.17.4.1 Negotiations. Negotiations can also occur during the performance of the contract for Engineering Change Proposals (ECP), Contract Change Proposals (CCP), or as a result of differences in contract interpretation. TOMA participation remains the same whatever the reason for negotiations, and must be performed through the PCO.

3.17.4.2 Additional Evaluations. Evaluate ECPs, associated TCTOs, and CCPs against the baseline contract to ensure costs correspond to the original proposal and were not included in the baseline costs. Some TO updates as a result of ECPs should be included in the routine periodic update program, and some proposed additions to the number of TOs developed or acquired may be included in contract baselines. Evaluate the ECPs/CCPs against similar items previously submitted by the contractor.

3.17.4.3 Contract Adjustments. If, for any reason, the contractor does not perform some functions as originally proposed (for example, when schedules are accelerated and revised need dates prevent some quality checks, or vital support equipment will not be available in time), an equitable adjustment to the contract/order price should be negotiated. The PCO will manage negotiations and may or may not require TOMA support.

3.17.4.4 Guidance Conference/Post Award Conference. The IPT, with the contractor included, holds a Guidance Conference or a Post Award Conference where program plans are reviewed and approved, and schedules are established. The timing is usually within 60 days after contract award to avoid delaying contractor tasks. The contractor can initiate TO preparation after the TO guidance conference. Refer to [Paragraph 3.8.2](#) for additional information.

3.17.4.5 Management and Scheduling. Refer to [Paragraph 3.8.2](#).

3.17.4.6 Requirements. Requirements that were not fully defined or could not be defined until hardware selection and applicable operation and maintenance concepts had been analyzed will be finalized during the TO Guidance Conference. Any changes affecting contract performance or costs must be approved by the PCO.

3.17.4.7 Objectives. Refer to [Paragraph 3.8.2.1](#).

3.17.4.7.1 The TOMA briefs on the purpose, objectives, scope and functions of the conference. Specific agenda items should include a review of the contract to ensure mutual understanding of the requirements; a review of applicable specifications and established Air Force TO policy; a review of basic planning data to ensure mutual understanding of the program and intended users requirements; and establishment of contacts to provide subsequent guidance and information.

3.17.4.7.2 The results of the conference will be fully documented by contractor minutes, and coordinated with IPT members. The TOMA will approve the minutes and summarize conference findings and action items, prior to completion of the conference.

3.17.4.8 Participation. Refer to [Paragraph 3.8.1.3](#).

SECTION VI. SPECIAL PURPOSE TECHNICAL ORDER REQUIREMENTS PROGRAMS

3.18 SPECIAL PURPOSE TECHNICAL ORDER REQUIREMENTS.

NOTE

All manuals will be prepared IAW the specifications and standards stated in the TMCR.

Most weapon system acquisition programs will require procurement of special purpose TOs and source data, requiring different acquisition and management procedures. These TOs and data require coordination with or even management by agencies outside the standard process. The types of TOs or source data requiring special treatment include, but may not be limited to the following:

3.18.1 Aircraft Battle Damage (Assessment and) Repair (ABDR) (-39 Series) TOs. These manuals are developed IAW MIL-DTL-87158 and managed IAW DAFI 63-140 (Assessment is very seldom used in referring to these TOs). AFSC/LZDB is the Air Force OPR for ABDR and must be notified of acquisition activities involving these procedures. Developers may request A4RC-TSO for assistance in developing procedures.

3.18.2 Nuclear Weapon TOs. The Air Force Nuclear Weapons Center (AFNWC) is responsible for Nuclear Weapons System TOs. Air Force Global Strike Command, Nuclear Stockpile Division (A4Z) is responsible for the JNWPS subset of these TOs to include Nuclear Related EOD TOs, which must be requisitioned through an N* TO Distribution Office (TODO) account.

3.18.3 Ballistic Missile Codes (21M-XX-16 Series) TOs. The National Security Agency (NSA), Section V62, is the focal point for the acquisition agency TOMA for Inter-Continental Ballistic Missile (ICBM) launch and targeting codes and procedures. NSA retains this responsibility for the entire life cycle of the military system. The TOMA will ensure developmental codes data and procedures are routed to this organization for coordination and approval.

3.18.4 Calibration and Metrology (Category 33K and System-Unique) TOs and Procedures. AFMETCAL, email: toqap@us.af.mil, is the Air Force OPR for calibration and metrology procedures.

3.18.4.1 AFMETCAL will approve calibration requirements and intervals, and verify and approve calibration procedures in TOs. AFMETCAL will also determine if requirements are to be included in system O&M TOs or if a separate TO is required.

3.18.4.2 AFMETCAL usually prepares stand-alone TOs from source data acquired from the contractor by the TOMA. Procedures to be included in other TOs are usually contractor-developed and must be verified and approved by AFMETCAL.

3.18.4.3 AFMETCAL must review and approve or disapprove Contractor Furnished (Aeronautical) Equipment (CFAE/CFE) Notices which identify commercial or MIL-PRF calibration manuals. AFMETCAL provides TO numbers for both MIL-PRF TOs and approved commercial manuals.

3.18.4.4 When requested, AFMETCAL will assist the TOMA with calibration procedure development and acquisition. Developers may also request AFMETCAL assistance in developing calibration procedures.

3.18.5 Corrosion Control (1-XX-23, 10-XX-9, and 21-XX-22 Series) TOs and Procedures. These TOs and corrosion control procedures will be developed by the contractor IAW the technical requirements of MIL-DTL-87929. AFLCMC/EZPT-CPCO, email: afcorr@us.af.mil, is the Air Force OPR for corrosion control. The TOMA must contact AFLCMC/EZPT-CPCO early in the planning stages to establish requirements and schedules for TO review and approval. The PM must establish a Corrosion Prevention Advisory Board (CPAB) to evaluate the adequacy of corrosion prevention measures included in the system and/or commodity design, review the contractor approach to prevention, and advise on corrosion prevention matters. Membership and responsibilities of the CPAB are contained in DAFI 63-140. The contractor, through the TOMA, may request AFLCMC/EZPT-CPCO assistance to develop new procedures.

3.18.6 TO 00-105E-9/STANAG 3896, Aerospace Emergency Rescue and Mishap Response Information (Emergency Services). TO 00-105E-9 and STANAG 3896 describes aircraft emergency rescue and mishap response procedures that must be used by military and civilian fire departments that might have to respond to military aircraft accidents.

3.18.6.1 The source data for these procedures will be developed by the contractor IAW DID DI-TMSS-81532 and provided to the AFCEC/CXF, with a copy to AFCEC/CXE ([Paragraph 3.18.7](#)). The DID is required for ALL aircraft programs to include modifications affecting the list in [Paragraph 3.18.6.3](#).

3.18.6.2 The TO is only available electronically. Military or civilian users, whose duties are related directly or indirectly to the performance of aerospace emergency rescue and mishap response, may request access by contacting their local Air Force Fire & Rescue or contact AFCEC.CXF.Workflow@us.af.mil.

3.18.6.3 To help ensure safety and rapid response of crash/fire/rescue personnel responding to aircraft mishaps, TOMAs and TCMs/ESs will coordinate TO 00-105E-9 changes that affect the following aircraft subject areas with AFCEC/CXF

- Fire hazards
- Personnel hazards (intakes, exhausts, radar emitting devices, hot brake areas, auxiliary power unit (APU) ports, etc.)
- Aircraft entry (normal and emergency)
- Engine or APU shutdown (normal and alternative methods)

TO 00-5-3

- Oxygen and fuel shutoff valves
- Ejection or escape system changes in safing, releasing and extraction
- Stationary seat restraint systems
- Changes to flammable systems (oxygen, fuel, hydraulics, batteries and miscellaneous chemicals)
- Fuselage skin penetration points and cut-in areas
- Cabin arrangements and personnel locations, or number of personnel on board
- Alternative engine shutdown access areas
- Airframe materials (types of metals and advanced composites)
- Aircraft Dimensions and Specifications
- EPU

3.18.7 Explosive Ordnance Disposal/Render Safe Procedures (EOD/RSP) (Category 60) Manuals and Source Data. AFCEC/CXE, 6013 Howard Rd, Rm 202, Indian Head MD 20640-4622, email: NIPR - afcec.cxe@us.navy.mil; SIPR - afcec_cxe@navy.smil.mil, is the Air Force liaison to the NSWC IHD EODTECHCEN, Indian Head MD. AFCEC/CXE is the single point of contact for Navy-managed joint service nonnuclear EOD publications, responsible for technical acceptance of EOD source data for Air Force weapon systems and commodities, and development of Category 60 EOD TOs to support those systems and commodities. Additional responsibilities for AFCEC/CXE are specified in DoDD 5160.62 and AFMAN 32-3001.

3.18.7.1 The TOMA is responsible for acquisition of EOD/RSP source data for development of nonnuclear Category 60 TOs, using DID DI-SAFT-80931, Explosive Ordnance Disposal Data.

3.18.7.2 Nuclear warhead and reentry vehicle EOD procedures (Category 60N TOs) will be developed IAW the 1964 Joint Nuclear Weapons Publication System (JNWPS) Agreement between the Department of Energy (DOE) and DoD. In essence, that agreement provides that nuclear source data will be prepared by the Defense Threat Reduction Agency (DTRA) and submitted to the agency responsible for preparing EOD TOs for integration with the nonnuclear interface data. AFGSC/A4Z is responsible for providing this interface data. AFGSC/A4Z distributes the 60N series EOD TOs.

3.18.8 Make-Safe Procedures for Public Display (TO 00-80G-Series). HQ AFMC/SE is the Air Force OPR for Make Safe procedures. The contractor will develop the procedures IAW TO 00-80G-1. The procedures must be reviewed and approved by HQ AFMC/SE.

3.18.9 Nonnuclear Munitions Loading (-33 Series), Weapon Delivery (-34 Series) and Positioning and Tiedown (11-1-38) TOs. The procedures for -33 series and -34 series TOs and source data are covered in [Chapter 3, Section IX](#) of this Chapter - Source Data.

3.18.9.1 Positioning and Tiedown (11-1-38) TOs. For 11-1-38 TO, the munitions TOMA will acquire source data from the prime contractor for the munitions item, and provide the data to the USAF GACP, AFLCMC/EBHMA, Hill AFB UT, for TO development and updates.

3.18.9.2 Strategic Systems TOs. TOs for munitions used with strategic aircraft systems are acquired from the contractor like any other operation and maintenance TOs. HQ ACC/XRS and/or 98 Range Wing (RANW), 3770 Duffer Drive Bldg 200, Nellis AFB NV 89191, perform verification of these TOs.

3.18.9.3 Combat Sortie Generation (CSG) (-33-1 through -33-4) TOs. These munitions and stores loading TOs provide procedures for hot loading of aircraft in combat situations. (Hot loading includes simultaneous munitions loading, aircraft maintenance, and refueling with one or more engines running.) The procedures are based on a Systems Safety Engineering Analysis (SSEA) performed by HQ AFMC/SES IAW DAFI 91-202, The US Air Force Mishap Prevention Program. CSG TOs will not be changed without prior approval from HQ AFMC/SES.

3.18.10 Other Nonnuclear Munitions TOs. TOs in Categories 11, 21, 31, 33 and 35 and source data for updating general Category 11 TOs relating to nonnuclear munitions and explosive components will be acquired by the TOMA and managed by the USAF GACP, or for air superiority missiles, the USAF GACP ASC. The TOs and data must be reviewed and approved by the USAF GACP or the USAF GACP ASC. These TOs and data cover such areas as commodity item maintenance (-7 series), 11A-1-10, 21M-1-101, 11A-1-61 series, and 11A-1-63, for munitions and explosives. The TOs and data must be reviewed and approved by the USAF GACP or the USAF GACP ASC. Any tasking for EOD support in these TOs must have prior coordination with AFCEC/CXE.

3.18.11 Non-Destructive Inspection (NDI) (1-XX-36, 2-XX-9 or 21M-XX-26 Series) TOs and Procedures.

NOTE

The AF NDI program office POCs are listed in TO 33B-1-2.

These TOs and NDI procedures will be developed IAW the technical requirements as outlined in TO 33B-1-1 and EZ-SB-15-002. The AF NDI Program Office (AFLCMC/EZPT-NDIO), 5295 Warehouse Road, Tinker AFB Ok 73145-3317, email: aflcmc-ezpt-ndio@us.af.mil, is the Air Force OPR for the NDI program. The TOMA must contact the Air Force NDI Program Office prior to initiating contracts for TO development for any military system or commodity, to establish requirements and schedules for TO development, reviews (including IPRs), and approval. The PM must coordinate an NDI Advisory Board to establish NDI requirements as specified by MIL-STD-1530 and DAFI 63-140. The Technical Order developer may contact the Air Force NDI Program Office through the TOMA for assistance. Reference TO 33B-1-2, Points of Contact paragraph.

3.18.12 Work Unit Code (WUC) (-06 Series) Manuals and REMIS Push-Down Tables. System-specific coding in these manuals and tables is the responsibility of the TCM/ES. HQ AFMC is OPR for the other data elements listed in TO 00-20-2 (Support General WUCs, How Malfunctioned Codes, etc.). For a specific system, the PM procures the equipment listing from the contractor, and ensures the codes are assigned.

3.18.13 Critical Alloy and Precious Metals Conservation Procedures and Requirements. The TOMA will acquire source data for these procedures from the contractor and provide the data to the office responsible to develop, prepare, and publish 00-25-113 series TOs.

3.18.14 SEEK EAGLE Certification. SEEK EAGLE (DAFI 63-101/20-101) is the Air Force program to certify all aircraft and store configurations (including weapons, fuel tanks, dispensers, pods, etc.) for loading, safe carriage and employment, and ballistics accuracy. The Air Force SEEK EAGLE Office (AFSEO), 96 SK, monitors this certification process. SEEK EAGLE products are source data for inclusion in the aircraft operational flight program and in Category I aircraft and stores TOs. The affected munitions, stores, and aircraft TOMAs must coordinate with the AFSEO to determine user priorities and which TOs will be specifically monitored for the SEEK EAGLE certification process. The TOMAs must provide copies of status reports on the selected TOs to the AFSEO, and ensure that the TOs and/or updates are published in time to meet MAJCOM need dates.

3.18.15 Organic Coatings. When applicable, the TOMA must ensure that source data on new systems is acquired to update TO 1-1-8. The OPR is AFLCMC/EZPT-CPCO.

3.18.16 TO 1-1A-14-2 and 1-1A-14-3 Installation and Repair Practices - A/C Circular Electrical Connectors and Accessories, Vols II & III. NAVAIR is the OPR for these general reference TOs. This series of TOs provides data for military and commercial electronic cable components for aircraft and test equipment. The source data for new connectors, cables and wiring in any Air Force system or commodity will be identified by the contractor and provided to NAVAIR.

3.18.17 Powered Aerospace Ground Equipment (AGE) Generic Servicing Inspection Workcards. There is a set of generic powered and non-powered AGE servicing inspection workcards (TO 35-1-256WC-1). Inspection/testing requirements of general and other applicable technical orders have been considered in the preparation of these workcards. If an inspection requirement exists, it has been included in these cards. The 406 SCMS/GUEE manages these workcards. The SPO or IPT acquiring new AGE must ensure that source data to update these workcards is provided to the 406 SCMS/GUEE.

3.18.18 Inspection and Maintenance Manual. There will be one inspection and maintenance (-6) TO prepared for applicable weapons (i.e., aircraft, air/ground launched missiles, rocket, drone, Communications-Electronics (C-E), and support systems). The need for additional manual(s) will be as determined by the acquiring activity. When depot maintenance schedules or workload are affected, see [Paragraph 3.4.3.2](#).

3.18.19 Aircraft Cross-Servicing Guide. Aircraft cross-servicing guides are additional manuals that accompany aircraft tasked to deploy in support of North Atlantic Treaty Organization (NATO) and Air Standardization Coordinating Committee (ASCC) activities. The manuals are numbered by AFLCMC/LZPTC. Cross-servicing guides are not part of the organizational maintenance manual set. However, the guides provide cross-references for various types of servicing and loading equipment used by ground personnel and is used in conjunction with aircraft servicing and loading TOs.

3.18.20 List of Applicable Publications (LOAP). This -01 TO type is required for all new and existing weapon and military systems. It will be maintained current throughout the system's life cycle by the TCM/ES.

3.18.21 Commercial Vehicle Fleet Maintenance Manuals. Whenever the Air Force procures new fleet vehicles, maintenance manuals are typically delivered with the new vehicle. Concurrent with the procurement, the manuals are indexed in ETIMS to support TODO subscriptions and one-time requisition requests. Such requests require sponsor approval justification in ETIMS, including the following as justification:

- Make
- Model
- Air Force Vehicle Registration Number (Tag Number)
- Vehicle Identification Number (VIN)
- Fleet vehicles delivered with web-based manuals for maintenance, as authorized in AFI 24-302, must have a TO indexed in ETIMS designated as WA-2 to support and track TODO subscriptions. The WA-2 TO will specifically identify the approved repository for vehicle maintenance manuals. Manuals residing in the repository are then considered valid technical data for vehicle maintenance.

3.18.22 Alternate Mission Equipment (-21) TOs. The -21 TO lists all items authorized for each aerospace vehicle or missile Mission, Design, and Series (MDS). The TOMA is responsible to ensure that the -21 TO be prepared and updated as equipment is modified. The -21 TO is divided into three sections covering three categories of equipment: Section I, Maintenance Safety and Protection Equipment (MSPE) used to protect the aerospace vehicle or missile from damage and/or to make it safe for maintenance. Section II, Alternate Mission Equipment (AME), used to configure an aerospace vehicle or missile for one of its optional missions. It can be installed and removed quickly. Section III, Crew and Passenger Support Equipment (CPSE), used for life support and comfort of crew and passengers.

3.18.23 Aircraft Crew Breathing Systems Using On-Board Oxygen Generating System (OBOGS). Aircraft equipped with On-Board Oxygen Generating System will develop operating and maintenance procedures for incorporation into system level TOs IAW MIL-STD-3050, Appendix C. These maintenance and operating procedure requirements will be included as part of the tailored TMCR when applicable.

SECTION VII. COMMERCIAL OFF THE SHELF (COTS) PROGRAMS

3.19 COTS PROGRAMS.

COTS manuals are developed at contractor expense and are sold as a commodity item, the USAF must deal with issues, i.e., proprietary data rights, copyright restrictions, and a myriad of different formats for this type of data. Government data rights are not guaranteed on COTS purchased items. Each contractor can set their own restrictions on the sale, printing, distribution, and storage of COTS technical data. The below paragraphs explain the unique requirements for review and approval of COTS data.

3.19.1 COTS Manuals and Other Commercial/Contractor Data. COTS Manuals are acquired using the USAF TMCR (TM 86-01) for centrally procured and managed (NSNs assigned) equipment, no matter the format, and will be evaluated for effectiveness and content IAW MIL-PRF-32216. If acceptable, or if they can be supplemented to be acceptable, they will be adopted as TOs (given a TO number) and indexed in ETIMS. This will NOT include COTS manuals for locally purchased equipment. Local purchase manuals and software must be controlled and managed by the procurement activity.

3.19.2 COTS versus New Development. Existing commercial operating instructions, parts breakdown handbooks, and repair manuals will be acquired instead of developing new TOs if no degradation in system operation, safety, support or

reliability will result IAW DAFI 63-101/20-101. COTS manuals will be reviewed and evaluated by the TOMA, MAJCOM and assigned TCM/ES IAW MIL-PRF-32216.

3.19.2.1 Commercial aircraft maintenance and operations (flight) manuals (FMP) proposed for use by Air Force personnel must be reviewed by the TCM/ES and FMM compared against both MIL-PRF-32216 and MIL-DTL-7700. Air Force and commercial roles and responsibilities for flight crews and ground crews are different. Reviewers must consider the possibility that commercial manuals may allocate maintenance and operations tasks differently than military manuals, and if there are differences, take action to include changes in both the appropriate flight crew and maintenance manuals. Failure to consider this possibility could result in aircraft accidents or incidents.

3.19.2.2 Approved manuals will be adopted for Air Force use, assigned a TO number and managed in ETIMS, unless the requirements for Commercial Derivative Aircraft (CDA) manuals are approved by the applicable program office per [Paragraph 3.19.4](#). Manuals which are initially disapproved will be supplemented, if possible, to make them acceptable, and approved manuals will be developed to identify pertinent information associated with COTS Manuals. An Identifying Technical Publication Sheet (ITPS) will be posted as a cover page immediately on top of the COTS manual title page or safety summary and will provide all necessary information about the manual to include the appropriate distribution statement, export control, data rights, and the authority notice IAW MIL-PRF-32216 (See [Figure 3-3](#)).

3.19.2.3 When supplementing is not adequate, new TOs will be developed to military TMSS or approved commercial specifications. Careful consideration of future support costs, incorporation of commercial updates, and ease of use will determine whether military or commercial specifications should be used.

3.19.2.4 With the exception of the ITPS Cover Page and Safety Summary, ITPS supplemental pages are numbered as routine formal supplements and filed behind the COTS manual as a Commercial Manual Supplement (CMS), IAW TO 00-5-1.

3.19.2.5 The TCM/ES, TOMA, depot engineering or technical support activity and/or FMM will determine if any updates received apply to TO-numbered flight and/or maintenance manuals, and if the updates will be referenced by the commercial number or will have the information extracted for inclusion in supplements or other TO updates. When a COTS TO user becomes aware of a later version of the COTS manual that applies to their equipment (and not just to a later model/version of the equipment), they should notify the TCM/ES so that he/she can evaluate the later manual version for adoption by the Air Force. If adopted, the TO will be indexed in ETIMS.

3.19.2.6 For programs using temporary or Interim Contractor Support (ICS) contracts (support required until organic capability is attained), data used by the contractor to fulfill the terms of the contract is excluded from numbering and management in ETIMS. However, if this data will transition to the AF, it is subject to review and verification by AF personnel. COTS and contractor manuals transferring to the AF will comply with this TO and MIL-PRF-32216. Data developed for system or equipment contractor internal use, if later purchased by the government, will be treated the same as COTS data.

3.19.2.7 When operation and/or maintenance are planned to be Contractor Logistics Support (CLS), whether the military system or end item is commercially available or is developed specifically for the Air Force, the PM or SCM acquires, numbers, and manages the Operations and Maintenance (O&M) data outside ETIMS (no TO numbers are assigned). However:

3.19.2.7.1 The data is subject to Air Force technical content, reproducibility and rights reviews to ensure it is adequate for competition of follow-on contractor support (adequate, means usable by another contractor with comparable skills and experience to fulfill the terms of the contract).

3.19.2.7.2 Data developed or modified specifically for the CLS contract will be certified by the contractor; Air Force verification is not required.

3.19.2.7.3 Pre-existing, unmodified commercial data will be certified for adequacy and accuracy by the contractor acquiring the data for the CLS contract.

3.19.2.7.4 When existing military systems or end items are transitioned from organic support to CLS, TOs which will continue to be used primarily by Air Force personnel will remain in ETIMS. TOs which are peculiar to the system or end item to be used totally (or with Air Force assistance) by the contractor, will be rescinded from ETIMS and managed as directed by the CLS contract. However, CLS contracts will require the contractor to use and maintain any MIL-SPEC manuals in the MIL-SPEC format.

IDENTIFYING TECHNICAL PUBLICATION SHEET FOR COMMERCIAL MANUAL

PURPOSE: This technical publication is issued for the purpose of identifying and authorizing the following commercial manual for Air Force use.

MANUFACTURER: ELDEC P.O. Box 100
16700 - 13th Avenue West
Lynnwood, WA, 98036
CONTRACT NO: F19628-70-C-0218
REQUISITION NO: NA
EQUIPMENT: N1 Rotor Percent of RPM Indicator
9-191-01
TITLE: Overhaul Instructions with Illustrated Parts Breakdown - N1 Rotor Percent of RPM
Indicator - Part Number 9-191-01
ADDITIONAL IDENTIFICATION: ELDEC Document 761202
DATE: 1979-11-15

ADDITIONAL COPIES: Additional copies are available from _____
(Contracting activity will furnish information, but if no information is furnished, this paragraph will be omitted and the following paragraph moved up into its place.).

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G1500004

Figure 3-3. Format for an Identifying Technical Publication Sheet (ITPS) for Commercial Manual/Supplemental Data (Sheet 1 of 2)

**IDENTIFYING TECHNICAL PUBLICATION SHEET
FOR
COMMERCIAL MANUAL**

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16700 - 13th Avenue West
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CONTRACT NO: F19628-70-C-0218
REQUISITION NO: NA
EQUIPMENT: N1 Rotor Percent of RPM Indicator
9-191-01
TITLE: Overhaul Instructions with Illustrated Parts Breakdown - N1 Rotor Percent of RPM
Indicator - Part Number 9-191-01
ADDITIONAL IDENTIFICATION: ELDEC Document 761202
DATE: 1979-11-15

DISCLOSURE NOTICE - 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 Air Force 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.

DISTRIBUTION NOTICE D - Distribution authorized to Department of Defense and U.S. DoD contractors only, Administrative or Operational Use, 15 December 1989. Refer other requests for this document to 420 SCMS/GULAB, Tinker AFB, Oklahoma 73145-3029

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Published under authority of the Secretary of the Air Force

NOTICE: Reproduction for non-military use of the information or illustrations contained in this publication is not permitted. The policy for military reproduction is established for the Army in AR 38-4, for the Navy and Marine Corps in OPNAVINST 5510.1, and for the Air Force in AFPD 34-1.

SUPPLEMENTAL DATA

LIST OF AFFECTED PAGES IN BASIC MANUAL.

TOC	6-1	7-14	8-5	8-11	8-19
3-1	6-4	7-16	8-6	8-12	8-43
4-1	7-3	7-17	8-7	8-13	
5-1	7-7	7-21	8-8	8-14	
5-2	7-10	7-27	8-9	8-15	
5-3	7-11	8-4	8-10	8-16	

SUPPLEMENTARY INFORMATION. The information contained in the above identified commercial manual is supplemented as follows:

- a. Chapter 3
- b. Chapter 4
- c. Chapter 5
- d. Chapter 6
- e. Chapter 7
- f. Chapter 8

G1500064

Figure 3-3. Format for an Identifying Technical Publication Sheet (ITPS) for Commercial Manual/Supplemental Data (Sheet 2)

TO 00-5-3

3.19.2.7.5 When CLS programs are transitioned to organic support, the policy in this TO will be used to evaluate, approve, number and manage CLS manuals.

3.19.2.8 Factory Test Equipment (FTE) and Special Test Equipment (STE) and its support data are designed by a contractor for internal use and are not commercially available. However, if the government decides to acquire the FTE and/or STE for organic use, the policy in this TO will be used to accept the support data and to determine if it is included in or excluded from ETIMS.

3.19.3 Exclusions. ETIMS includes all TOs developed or acquired for organic operation, maintenance, inspection, modification, or management of centrally acquired and managed Air Force systems and end items. The following COTS TO systems are excluded per TO 00-5-1:

3.19.3.1 Contractor-operated experimental equipment designed for research.

3.19.3.2 Operation and maintenance of real property or real-property-installed equipment as defined in DAFI 32-9005.

3.19.3.3 Systems or equipment to be maintained and operated by the original manufacturer or a contractor over its life cycle. Policy on data to support these systems and end items is in DAFI 63-101/20-101.

3.19.4 COTS Manuals for Commercial Derivative Aircraft (CDA). CDA is defined as a commercially produced aircraft with an FAA type certification and produced under an FAA production approval (see FAA Order 8110.101A and MIL-HDBK-516). These aircraft may then be modified to varying extent for military use, and be fully or partially approved by the FAA. The policy and procedures for acquiring COTS manuals given in this section also apply to CDA programs.

3.19.4.1 COTS data provided for CDAs by the Original Equipment Manufacturer (OEM) and component suppliers commensurate to Federal Aviation Administration (FAA) Meet-the-Intent (MTI) standards, may reference commercial manuals (e.g. Component Maintenance Manuals (CMMs)) or technical data that allocate maintenance and operations tasks differently than the military. For CDA/COTS that are procured and have access to unaltered web-based manuals, a TO indexed in ETIMS as a WA-2, to support TODO subscriptions will be required. The indexed TO will point to the repository or vendor maintained system where the supporting manuals reside.

3.19.4.2 Although safety is improved with FAA type certification oversight, commercial data references contained in operation and maintenance manuals must comply with the same review and acceptance criteria as COTS manuals. The referenced commercial data should be reviewed together with the parent COTS manual to ensure sufficient lead time to develop new TO data in case the commercial data is rejected.

SECTION VIII. SOURCE DATA

3.20 GENERAL.

Source data, as used in this TO, is information of any sort used to develop or update TOs. The contractor uses source data from program development and test for program TOs. The TOMA must acquire any source data required to develop or update non-program TOs (e.g., weapon data to update aircraft loading TOs) or to assist associated contractors with TO development or update (e.g., a support equipment vendor). The TOMA must follow up on source data delivery to ensure that TOs to be developed or updated will be published in time to meet program milestones.

NOTE

Source data developed organically by the Air Force does not require certification, but must be verified prior to delivery or incorporation into a TO.

3.20.1 Types of TOs Requiring Source Data. Types of TOs where source data would be required include, but are not limited to, Aircraft Emergency Rescue, EOD/RSP, Munitions Loading, Munitions Positioning and Tiedown, Weapons Delivery, and Explosive Storage and Maintenance manuals. Source data on support equipment provided by other contractors is required for prime contractor developed TOs.

3.20.2 Procedural Source Data. Procedural data is a special category of source data required during most TO development and acquisition programs. This data is a similar and organized grouping of the data required to perform operations and maintenance tasks on a military system or commodity item. The data is acquired when development of a stand-alone TO is

inappropriate, or when TOs managed by other agencies must be updated. The content of procedural data is determined by the appropriate contract requirements, and includes text, diagrams, illustrations, charts, schematics, and other data required to describe the procedures and support equipment.

3.20.3 Source Data OPRs. OPRs requiring source data must be included in program TO Planning/Requirements Conferences ([Paragraph 3.4.1](#)) to ensure data requirements are specified accurately in RFPs and contracts. OPRs munitions-unique OPRs and requirements are covered in this chapter.

3.20.4 Delivery. The contractor provides certified, adequate, safe and accurate source data as required by the contract. The TOMA must work with the source data recipient to ensure that data provided is adequate. Delivery requirements may differ between OPRs and users as well. In some cases a single delivery may be sufficient, while other cases require deliveries or updates throughout the period of the contract.

3.21 ACQUISITION OF SOURCE DATA.

3.21.1 Development. Many different MIL-SPECs and DIDs may be used to procure source and procedural data, including those for Loading Standard Data Packages (LSDPs), engineering drawings, test and inspection reports, interface control documentation, and supportability analysis tasks. EOD source data is acquired using DI-SAFT-80931. Aircraft Emergency Rescue Information (Fire Protection) source data is acquired using DI-TMSS-81532. Existing contractor data may be acquired through the contract Data Accession List. If existing TOs managed by the TOMA or temporarily placed under TOMA control require updating, Table 2 of the TMCR, TM 86-01 may be used to obtain updates, supplements or source data.

3.21.2 Acquisition Procedures. Procedures for source data acquisition are the same as for TOs. Source data requirements are determined during the TO Guidance Conference. In-Process Reviews are held as required. The contractor applies internal certification management processes and delivers an adequate, accurate data package for Air Force verification. After verification is complete, the contractor makes corrections as required; the package receives a final review if necessary and is delivered to the appropriate agency.

3.22 NONNUCLEAR WEAPONS DELIVERY SOURCE DATA - WEAPONS SOURCE DATA PACKAGE (AIR-CRAFT -34 SERIES TECHNICAL ORDERS AND TO 1-1M-34).

The weapons delivery source data package provides aircrew weapons delivery information for newly developed or modified nonnuclear munitions.

3.22.1 Requirements. The weapons delivery source data package is developed to support four main requirements: (1) AFMC Development Test and Evaluation (DT&E); (2) Initial Operational Test and Evaluation (IOT&E); (3) revisions to both aircraft-specific weapons delivery manuals (-34 series) and the TO 1-1M-34 series Standard Volumes; and (4) user-unique Flight and/or Weapons Delivery Planning Programs. (Planning Programs provide the user with automated ballistic solutions for mission planning.)

NOTE

For weapon systems with authorized release to FMS countries, a separate weapons delivery source data package is developed for each country with approved FDO release IAW DAFMAN 16-201.

3.22.2 Contents. Weapons delivery source data package data consists of a section for generic munitions data and sections of aircraft-specific data for each aircraft which will employ the munitions item. Weapons delivery source data package content is described in MIL-DTL-7700.

3.22.3 Development. Delivery envelopes for unguided and laser guided GBU-10/12/16/27/28/54 series munitions are developed by the Air Force SEEK EAGLE Office (AFSEO), 96 SK, from computer simulation programs. Envelopes for precision guided munitions (six degree of freedom or 6DOF weapons) are provided by the weapon contractor as a part of the weapons delivery source data package.

3.22.4 Procedures and Responsibilities.

3.22.4.1 Weapons delivery source data package acquisition participants are the munitions TOMA, MAJCOM(s), aircraft PMs, the Responsible Test Organization (RTO), and AFSEO.

TO 00-5-3

3.22.4.2 The contractor develops the weapons delivery source data package to meet established program schedules; the package should be delivered at least 30 calendar days prior to the start of DT&E. During IPRs, the weapons delivery source data package is reviewed for use of common and standard terms for munitions items. Contractor QA is limited to Desk-Top Analysis.

3.22.4.3 RTOs and AFSEO use the weapons delivery source data package during aircraft/munitions testing to verify procedures. AFSEO initiates action, if required, to incorporate the weapons data into the Combat Weapon Delivery Software (CWDS) mission planning program. The testing agencies document any discrepancies and forward them to the munitions TOMA for action. An updated weapons delivery source data package must be available 30 days prior to the start of IOT&E.

3.22.4.4 MAJCOMs and support agencies use the weapons delivery source data package during IOT&E and forward any additional discrepancies to the munitions TOMA.

3.22.4.5 The munitions TOMA distributes the final weapons delivery source data package to the appropriate aircraft PMs for TO 1-1M-34, and AFSEO, 96 SK. The TOMA will also provide initial hardware delivery and user need dates (SEEK EAGLE PMD 5077) for informational and work effort planning purposes.

3.22.4.6 AFSEO issues the Certification Recommendation (CR) upon completion of SEEK EAGLE testing. The CR is required by the aircraft PMs prior to formalization of the weapons delivery TOs.

3.22.4.7 The aircraft PMs update each applicable aircraft weapons delivery TO, make formal distribution, and issue the Certification Completion Notification.

3.22.4.8 AFSEO develops and maintains CWDS through a Mission Planning Enterprise Contract (MPEC). At the completion of Functional Qualification Test (FQT) by the developer, a copy of the CWDS is sent to 84 SCSG/GBSVM either by AFSEO (Joint Mission Planning System versions) or the developer (Portable Flight Planning Software versions) for distribution to the Developmental Test/Operational Test (DT/OT) organizations. When OT certifies the CWDS version, 84 SCSG/GBSVM makes formal distribution to the field. Weapon source data packages are used to correctly add new weapons to CWDS.

3.23 NONNUCLEAR MUNITIONS AND AIRCRAFT SOURCE AND PROCEDURAL DATA - LOADING STANDARD DATA PACKAGE (AIRCRAFT -33 SERIES TECHNICAL ORDERS AND TO 1-1M-33).

3.23.1 Requirements. An LSDP or contractor source and procedural data containing nonnuclear munitions loading procedures is required during the development and testing of new munitions items or systems, for integration of existing munitions with new aircraft, for integration of new munitions with new aircraft, and for major modifications to existing aircraft/munitions configurations.

3.23.2 Contents. LSDP contents are specified in MIL-DTL-9977. The LSDP contains munitions descriptive data, munitions preparation data, and loading procedures, but NO aircraft-specific procedures or data.

3.23.3 Development. The contractor source and procedural data is maintained by the munitions acquisition TOMA, the LSDP is maintained by the GACP, Weapons Loading TO Content Manager.

3.23.4 Nonnuclear Munitions Loading TOs. The -33 series TOs and checklists contain descriptive data and procedures for loading nonnuclear munitions on or into Air Force aircraft. TO 1-1M-33 contains descriptive data for munitions, suspension equipment, guns and gun pods, support equipment, and supplementary information.

3.23.5 Participants. Acquisition participants include the TOMA, MAJCOM(s), aircraft PMs, AFLCMC/EBHMA (for the LSDP), AFLCMC/EBD-Eglin (for TO 1-1M-33), the RTO and AFSEO.

3.23.6 Procedures for New Munitions. The following steps outline the sequence of events for incorporation of new munitions items on new or existing aircraft. [Paragraph 3.23.7](#) provides abbreviated procedures for incorporating existing munitions into additional military systems.

3.23.6.1 The contractor develops source and procedural data to meet established program schedules; delivery should be at least 30 calendar days prior to the start of DT&E. During IPRs, contractor source and procedural data is reviewed for use of common and standard terms for munitions items. Contractor certification is limited to Desk-Top Analysis.

3.23.6.2 AFSEO or equivalent reviews and coordinates the contractor source and procedural data for RTO use during DT&E.

3.23.6.3 The test activity or designated office prepares local guidance i.e. -33 series checklist, munitions procedures etc., from the contractor source and procedural data. Non-procedural munitions technical documentation/data packages (identification, inspection, storage and handling to include an IHC for hazardous items) will be coordinated through the local RTO/DTO wing's SES/SEW, QA and Munitions Flight; approval level is the RTO/DTO wing's SES/SEW office. All other checklists/procedures will comply with MIL-SPEC format and verified for use IAW local RTO directives to support DT&E and SEEK EAGLE certification. In addition, procedures and checklists used by RTO require MXG/CC (or equivalent) approval.

3.23.6.4 After completion of DT&E and SEEK EAGLE testing, comments or corrections to the contractor source and procedural data are coordinated with AFSEO and sent to the TOMA.

3.23.6.5 The TOMA will initiate verification scheduling in coordination with the munitions OT&E manager and the lead MAJCOM. Verification should be scheduled within 120 days after the estimated receipt of the revised contractor source and procedural data. The lead MAJCOM will develop and publish a coordinated verification schedule based on the availability of aircraft, personnel and equipment required for verification.

3.23.6.6 The AFSEO reviews and approves the revised contractor source and procedural data, and forwards the package through the TOMA to affected agencies (including AFLCMC/EBD-Eglin) at least 90 days prior to the scheduled start of verification. The affected aircraft PMs develop (or contract for development of) preliminary -33 series loading procedures for each aircraft involved, and provide them to the affected MAJCOMs, AFLCMC/EBHMA, and the OT&E manager at least 30 days prior to verification.

3.23.6.7 Verification participants will include representatives from each aircraft PM involved, affected MAJCOMs, the OT&E manager, AFLCMC/EBHMA LSDP Office, the munitions TOMA, and the AFSEO, if required. The lead MAJCOM will provide the Verification Team Manager (VTM) for multi-aircraft verifications, while the aircraft PM provides the VTM for single aircraft verifications. The load crew is provided by the MAJCOM. Both the LSDP and the preliminary -33 series procedures are verified.

3.23.6.8 After completion of verification, AFLCMC/EBHMA converts to an approved LSDP. Required verification changes to the LSDP are sent through the munitions TOMA to the contractor for update. Changes to preliminary -33 series procedures are routed to the aircraft TOMAs for similar update.

3.23.6.9 The verified LSDP and preliminary -33 series procedures, marked: For OT&E Use Only, are used for the duration of OT&E. The test team continues to evaluate the LSDP, and preliminary aircraft -33 series procedures during OT&E and submits comments and recommended corrections to the respective OPRs.

3.23.6.10 Proposed updates and corrections are approved by a TORB consisting of the TOMA(s), AFSEO, the MAJCOMs and AFLCMC/EBHMA. AFLCMC/EBHMA updates and distributes the approved LSDP to aircraft PMs. The TOMAs will use the LSDP and -33 series procedures to develop formal aircraft -33 series TOs. The AFLCMC/EBHMA LSDP office will maintain the currency of the LSDP.

3.23.6.11 Aircraft PMs are responsible for providing AFLCMC/EBHMA and AFLCMC/EBD-Eglin with updated descriptive data (including illustrations) for new or modified aircraft-peculiar test equipment, Munitions Material Handling Equipment (MMHE), special tools, etc., required for inclusion in TOs 1-1M-33 and 11A-1-63. AFLCMC/EBH will use the LSDP and PM inputs to update the TOs.

3.23.6.12 AFSEO flight certification is dependent upon publication of formal -1, -33, and -34 TOs and update of TOs 11M-33, 1-1M-34, and 11A-1-63. This must be accomplished in time to meet the need date specified in the SEEK EAGLE PMD.

3.23.7 Procedures for Existing Munitions. The following abbreviated steps are for incorporation of existing munitions on additional or new aircraft.

3.23.7.1 The MAJCOM requests AFSEO certification for additional aircraft which require certification with an existing munitions or stores item.

3.23.7.2 The aircraft TOMA (or munitions TOMA during munitions acquisition) will request the MAJCOM to coordinate with the affected agencies and schedule verification of the loading procedures.

3.23.7.3 The aircraft TOMA requests the applicable LSDP(s) from AFLCMC/EBHMA LSDP office and develops (or contracts for the development of) preliminary -33 series loading procedures. The procedures must be available for review at least 30 days prior to the start of verification. Verification and update of procedures are the same as for new munitions.

3.23.7.4 Upon completion of AFSEO testing and receipt of the CR, the aircraft PM will provide any changed or modified data to AFLCMC/EBD-Eglin for inclusion in TO 1-1M-33 and to AFLCMC/EBHMA LSDP office to maintain currency and for inclusion in TO 11A-1-63, incorporate necessary changes into the aircraft -33 series TO and issue the certification completion notice.

3.24 NONNUCLEAR EXPLOSIVE ORDNANCE DISPOSAL (EOD)/RENDER SAFE PROCEDURES (RSP) SOURCE DATA.

EOD/RSP source data, developed IAW DID DI-SAFT-80931, provides information and procedures for the development and/or update of joint service Category 60 TOs on newly developed or modified bombs and warheads; fuses and fusing systems; guided and ballistic missiles, grenades, artillery, mortar, rocket, and small arms ammunition; mines and torpedoes; depth charges, demolition charges, and pyrotechnics; clusters and dispensers; cartridge- and propellant-actuated devices (such as aircraft egress systems); and all similar or related items or components which may cause injury to personnel or damage to material. This includes ALL new or modified aircraft, munitions, delivery systems such as Unmanned Aerial Vehicles and Unmanned Ground Vehicles and ordnance items that contain explosives, propellants, and/or hazardous chemicals.

3.24.1 EOD TOs. Category 60 TOs (and source data) differ from maintenance TOs in that EOD TOs provide information and guidance rather than detailed step-by-step procedures. These TOs are typically used in accident, incident, mishap, dud-dropped, and dud-fired situations where the systems or items have been damaged or failed to function as designed and standard TO maintenance procedures cannot be used.

3.24.2 Air Force Liaison. AFCEC/CXE is the Air Force centralized agency for EOD data acquisition and liaison with the NSWC IHD EODTECHCEN.

3.24.3 Requirements. The EOD source data package is developed to support three main requirements: (1) RTO need for emergency EOD, RSP and (if required) recovery procedures during DT&E operations, product improvement testing, failure analysis, and initial space vehicle deployment; (2) MAJCOM need for emergency EOD and RSP during OT&E operations; and (3) Development of the Joint Service Category 60 TOs by NSWC IHD EODTECHCEN.

3.24.4 Participants. The TOMA will invite EOD representatives from AFCEC/CXE, the RTO, and MAJCOMs to the TO Planning/Requirements Conference. AFCEC/CXE will be delegated as the representative for other EOD activities. At the conference, the representatives will identify and justify requirements for data for EOD operations, and commodities and recovery equipment to support EOD TO certification and verification, and determine delivery schedules. EOD SDP is developed IAW DID DI-SAFT-80931.

3.24.5 Delivery. Critical delivery dates are initial delivery for DT&E, delivery for OT&E, and delivery for TO development. TO development may take up to 12 months, depending on availability of hardware for verification. DoD requires delivery of verified TOs 30 days prior to fielding/stockpile IAW DoDD 5160.62 and AFMAN 32-3001.

3.24.6 EOD SDP Procedures.

3.24.6.1 The contractor develops the SDP IAW DI-SAFT-80931. The package should be delivered at least 60 calendar days prior to the scheduled delivery of assets for Air Force testing. During IPRs, the SDP is reviewed for conformance to item and system configuration and identification of Hazardous Item Recovery Candidates required for recovery and test failure analysis. AFCEC/CXE or a designated representative will participate in the Contractor certification process.

3.24.6.2 The AFMC EOD RTO supporting system or commodity testing will integrate the SDP data into the Test Support Project for the system or commodity and submit the project to a Safety/Hazard Review Board for approval before use. During DT&E, the RTO will document any comments or discrepancies with the SDP on an AFTO Form 27, and forward the form to the TOMA and AFCEC/CXE. If at any time the data is determined to be no longer safe for use (due to errors in the data, modifications to the hardware, or other reasons), the RTO will stop testing, notify the TOMA of actions required to resolve the problem(s), and obtain corrections prior to continuing testing. AFCEC/CXE and the MAJCOM EOD representative must review and approve the DT&E-revised SDP prior to further use.

3.24.6.3 Procedures for OT&E are the same as for DT&E, except that the EOD RTO is usually a MAJCOM agency and must ensure the MAJCOM has approved the data for use. The OT&E-revised SDP is used to support development of the joint service Category 60 TO. The TOMA will re-verify the user TO need date and ensure the AFCEC/CXE schedules have incorporated the date.

NOTE

NSWC IHD EODTEHCEN is a working capital fund organization and charges a fee based on EOD TO SOW complexity.

3.24.6.4 Once the source data package is received by AFCEC/CXE, the SDP is forwarded to NSWC IHD EODTEHCEN. NSWC IHD EODTEHCEN formulates a SOW and cost estimate to create or revise an EOD TO. NSWC IHD provides a copy of the SOW to the responsible program office for funding. Once the final SDP (i.e., configuration lock) and funding is received, the TO should be completed in 180 days. AFCEC/CXE initiates the joint service development project with NSWC IHD and establishes a distribution need date, based on the Required Assets Available (RAA) and/or the Initial Operational Capability (IOC) date of the weapon system. The NSWC IHD in concert with the four service detachments will develop, validate, verify and publish the TO for DoD EOD use. Distribution and publishing will be via the Joint EOD Portal and JEOD MFK software. JEOD MFK software is distributed semi-annually (Mar and Sep). Some foreign customers may receive EOD TOs in Adobe PDF format when the NSWC IHD International Programs Office (IPO) determines them releasable.

3.24.6.5 The TOMA monitors the development process to ensure required support equipment is available, any hardware configuration changes are forwarded, and delivery schedules will be met. If verified TOs will not be available in time to meet DoD and user requirements, the TOMA must work with AFCEC/CXE and NSWC IHD EODTEHCEN to develop interim support procedures.

SECTION IX. DIGITAL TECHNICAL ORDER AND TECHNICAL MANUALS SPECIFICATIONS AND STANDARDS (TMSS) REQUIREMENTS

3.25 DIGITAL TECHNICAL ORDER DATA.

3.25.1 Policy. If considering a conversion effort, legacy programs will perform a Cost Benefit Analysis (CBA) to determine feasibility of converting to S1000D. If the CBA does not support or justify development or conversion to S1000D, TOs will be developed IAW current TMSS, unless the requirement is waived IAW TO 00-5-1 or TO 00-5-3. Refer to DAFI 63-101/20-101 for S1000D requirement.

3.25.1.1 The authoritative version of ASD-S1000D and MIL-STD-3048 are identified in the TMCR Automation Tool document. Tools for conducting a CBA are covered in the S1000D Decision Point Tool under Support on the TMSS Share-Point (reference [Paragraph 6](#)).

3.25.1.2 For modification programs, if the CBA does not support or justify development or conversion to S1000D, TOs will be sustained in existing digital formats in compliance with current TMSS. Before converting legacy (existing) TO data to a new authoring format, use and changeability must be considered. In many cases, converting hard-copy TOs to word-searchable PDF files is sufficient for user needs, and is compatible with ETIMS distribution and viewing.

3.25.1.3 AF TO Programs desiring to implement S1000D/IETM initiatives will utilize all available/applicable AF Approved Product List tools and resources for the implementation and organic sustainment of IETM/S1000D tech data, i.e., Content Management System (CMS), distribution and COTS/GOTS viewing software, etc. Systems and/or tools provided by the contractor will be made interoperable with AF infrastructure/technology.

3.25.1.4 S1000D/IETM programs currently utilizing contractor provided technology such as viewer software, distribution systems and or content management solutions will make every effort to migrate tech data into available/approved Air Force solutions if technically interoperable and economically practical.

3.25.1.5 To deviate from AF TMSS or S1000D standards when acquiring, converting or sustaining TOs, TOMAs may request a program waiver through their PM, Lead Command/A4 and AFTOMS office. The request may include a CBA showing authoritative savings over the life cycle of the program and proof of compatibility with ETIMS and all other AF information systems and product life cycle support databases.

3.25.1.6 Legacy programs will use AF TMSS SGML DTDs or XML schemas, without modification, for sustainment of legacy TMSS developed TOs. TO Revision updates to TMSS SGML or XML TOs will be prepared utilizing the most recently approved standard, non-legacy version of TMSS Digital Support Suite (DSS) or Digital Support Tools (DST) and corresponding output specification. A waiver prepared according to [Paragraph 3.25.1.5](#) must be approved to deviate from this policy. AFLCMC/GBS maintains a web site ([Paragraph 6](#)) where all of the standard DSS are maintained and made available to support acquisition and sustainment. DSTs provide the XML templates and stylesheets to be used for electronic PDF TOs and may be used by programs with no paper requirements to develop Web Accessible (WA) only TOs. DSSs provide the SGML templates to be used, and are part of the governing specification or standard.

NOTE

Approved waivers permitting deviation from use of the most recently approved standard, non-legacy version of TMSS DSS could result in an inability to publish TOs via the AF enterprise TO Authoring and Publishing (TOAP) system, since compliance with the policy stated above is enforced within that system environment.

3.25.1.7 The following guidelines apply to DSS decisions:

3.25.1.7.1 When cost effective, always choose the new acquisition DSSs and DSTs. This ensures TO data is delivered in the most current AF format for immediate digital uses and allows efficient reformatting and reuse of the data. Those DSS categorized as legacy are not as compliant to the current TMSS, but have options built in to allow existing (legacy) TOs to be captured in a more standardized format using SGML. If the program requires hyper-linked, interactive TOs, legacy DSS will not provide the desired outcome. Additionally, use of those DSS categorized as legacy will prevent use of TOAP for TO publishing/sustainment requirements.

3.25.1.7.2 Make full use of the hyper-linking capabilities that are provided in AF DSSs and DSTs. These capabilities include full and complete use of SGML and XML constructs IDREF, XREF, EXTREF, EXREFID, HYTIME linking, referenceID, and calls to external processes wherever applicable in the data.

3.25.1.7.3 When a hyper-linking, Web browser-type application is required and the contractor is converting legacy TO data that does not comply with the new acquisition TMSS, re-authoring may be required to apply appropriate structure (primary paragraphs, subparagraphs, steps, etc.) and titles must be applied (created) where missing in the legacy TO, using the new acquisition TMSS as a guide.

3.25.1.7.4 Ensure that page-oriented output produced for distribution from SGML (or other structured source formats) is generated through use of the same publishing system that will be utilized for sustainment of the technical order data. Failure to do so can result in increased printing and distribution costs since the output produced by different publishing systems differs even when the same structured source data is utilized for publishing.

3.25.2 Development of Digital Support Suites. Contractors proposing use of commercial TM specifications or other NGS, obsolete TMSS or TMSS with no Air Force DTD/schema and/or stylesheets available from AFLCMC/GBS, may develop DSS components needed for use as a final resort. The contractor will be responsible to support the associated costs of DTD and update for the usable lifetime of the DSS. The only exception is when AFLCMC/GBS adopts the DSS for Air Force use. If the acquiring organization authorizes the contractor to construct their own DTDs/schemas or DSS (including stylesheets, such as XSLT, XSL-FO, CSS, and RSS), the contractor must contact AFLCMC/GBS for guidance prior to initiating the development process. The following procedures will be followed:

3.25.2.1 AFLCMC/GBS coordinates all non-AF DTDs/schemas and stylesheets to be used for AF organic TO sustainment. Approved offeror-proposed specifications will be added to the program TMCR, by contract modification if necessary. DSS submitted and approved in execution of a contract become the property of the government.

NOTE

EXCEPTIONS: DSS for Space and Missile TOs are managed and approved by US Space Force (USSF). If TOs are to be maintained by the contractor for the life of the system, SGML and XML based tools developed for electronic TOs are not restrained to ETIMS compatibility.

3.26 USE OF TECHNICAL MANUAL (TM) SPECIFICATIONS AND STANDARDS (TMSS).

3.26.1 TMSS Selection. Preference will be given to specifications and standards developed under DoDM 4120.24. Air Force TM Standards, MIL-DTL specifications (AF-TMSS) with attached DTDs/schemas and stylesheets are required for TO acquisitions.

3.26.1.1 When these are not available for a specific type of TO or a program decision has been made to use non-government standards (except as noted in [Paragraph 3.26.1.2](#)), approval to use other government performance or non-government (commercial) specifications and standards may be requested from HQ AFMC/A4F. The contractor may also suggest or develop commercial substitutes for the approved government TMSS, but use is subject to Air Force approval. RFPs and contracts must reflect this policy.

3.26.1.2 The TOMA must refer to the ASSIST database (reference [Paragraph 6](#)) to ensure only the latest version TMSS are placed on contract.

NOTE

Specifications/Standard Interface Records (SIR) apply to programs in sustainment for new and changed TOs.

3.26.1.3 TMSS Approval. Only AF-approved MIL-STDs and MIL-SPECs listed in the TMCR should be used for Air Force programs. Other military services' TMSS which have NOT been adopted for Air Force use, but which otherwise meet Acquisition Reform guidelines, may be used on joint-service programs when the TMSS will promote commonality and reduce costs.

3.26.1.4 New TMSS. Submit proposals for new TMSS to HQ AFMC/A4F for review and disposition.

3.26.1.5 Upgrading TMSS. When revised specifications applicable to a program are published, the TOMA must review them for impact to the program and, in conjunction with the contractor, using command and support agencies, determine if a contract change should be initiated to incorporate the changes. Consider factors such as safety, usability, life cycle cost and schedule.

3.27 SPECIFICATION/STANDARD TAILORING, INTERPRETATION, DEVIATIONS AND WAIVERS.

3.27.1 Tailoring Guidance. Approved MIL-SPECs and MIL-STDs (TMSS) will be tailored by selecting from the approved options, but no other additions or deletions are authorized without written approval from the preparing activity, provided IAW DoDM 4120.24. For AF TMSS, the preparing activity is AFLCMC/GBS (or for space and missile TMSS, USSF). Only formal DID revisions can add requirements to DIDs. DIDs may be tailored down by removing excess requirements.

3.27.2 Tailoring Documentation. All TMSS tailoring will be documented in the Specification/Standard Interface Record (SIR) for that specification or standard and included in the TMCR, by contract modification, if necessary. Programs should utilize the TMCR TMSS Tailoring Tool and/or S1000D Decision Point Tool located under Support on the TMSS SharePoint (reference [Paragraph 6](#)) to capture all tailoring requirements, and attach the file output to the SIR section within their TMCR. The basic TMCR already contains SIRs specifying the AF-only options for joint-service TMSS, but even these TMSS may be further tailored for a specific program. The Instruction to Offerors will direct the offeror to complete tailoring the joint-service TMSS, and add SIRs for other TMSS recommended for the program. If revised TMSSs replace those on contract, new SIRs are also required.

3.27.3 TMSS Clarification. Contractors may request clarification of specification requirements or government intent through submission of Specification Interpretation Documents (SID). Responses which affect the scope of the contract will be documented in the SIR.

3.27.4 Deviations and Waivers. Contractors may request the TOMA to apply to Product Support Management Division for deviations from or waivers to provisions in TMSS. These requests must include an objective justification and evaluation of the impact on: (1) time and material for the users (operating command and support agencies); (2) life cycle cost of the publication and equipment covered by the publication; (3) acquisition cost; and (4) preparation and/or delivery in digital format. The TOMA will submit deviation and waiver requests IAW [Paragraph 1.1.4](#). Approved requests will be documented in the applicable SIR.

3.27.5 Copies. Copies of SIRs, SIDs and other program documents which could affect TMSS content will be provided to AFLCMC/GBS for information. ([Appendix A](#)).

CHAPTER 4

TECHNICAL ORDER SUSTAINMENT

4.1 SUSTAINMENT OVERVIEW.

Upon completion of acquisition, the Technical Order (TO) enters the sustainment phase of life cycle management ([Chapter 3, Section IV](#)). It is the responsibility of the Technical Order Management Agent/Agency (TOMA) to ensure the sustainment process is implemented to ensure currency, completeness and accuracy for support of affected equipment until equipment disposal. Sustainment includes: updating, publication (editing & printing), numbering changes and revisions, renumbering, and indexing. TO content is managed by the Technical Content Manager (TCM)/Equipment Specialist (ES) ([Paragraph 2.1.6](#)) as identified in the Enhanced Technical Information Management System (ETIMS) Catalog record. Printing and distribution is controlled by the assigned TOMA and is covered below and in [Chapter 5](#).

4.2 TO UPDATES.

All submitted TO change recommendations are known collectively as Recommended Changes (RC). ETIMS is the required method for submitting RC requests for TO improvements. In some instances, it may be necessary for organizations to submit RCs using the AFTO Form 22 (refer to TO 00-5-1 for legacy RC forms and routing). If the RC is for Flight Manual Publications (FMP) and ETIMS is not available, use DAF Form 847 (See AFI 11-215 for completion and routing instructions). The TOMA is responsible for the review, evaluation, and disposition of RCs. If an RC disposition of Recommended for Approval is selected, this initiates the Publication Change Request (PCR) process. Joint Nuclear Weapons Publication System (JNWPS) RCs will be completed IAW TO 11N-5-1.

4.2.1 ETIMS RC/PCR Process. RCs are initiated in ETIMS by any user with an AF Portal ID and access to TOs in ETIMS, see TO 00-5-1 for initiator instructions and routing procedures up to the TCM/ES review. Once initiated, RC routing is managed through roles and privileges in ETIMS. Roles and privileges for RC routing include: Initiator Supervisor (Preliminary Review), Product Improvement Managers (PIM), and Command Control Points (CCP). Once the RC reaches the TOMA (Agency), it will be assigned to the TCM/ES identified in the ETIMS catalog record. The Responsible Individual for each status of an RC, PCR, or Verification is reflected by roles and privileges within the TOMA as follows: TCM/ES, ES Supervisor, Engineer, Chief Engineer (CE), and TOMA (Agent). As the RC and PCR moves through ETIMS routing, notifications are sent via the ETIMS home screen and email, to the individual responsible for the current step in the process. The following provides an overview of the ETIMS PCR process workflow (See [Figure 4-1](#)):

- a. Upon receipt of an RC from the PIM or CCP, the TCM/ES reviews and dispositions the RC.
- b. If recommended for approval, the TCM/ES will generate the PCR.
- c. Once the PCR is developed, the TCM/ES will verify recommended procedures and coordinate reviews with the Systems Engineer and base agencies, as applicable.
- d. Following coordination, the TCM/ES makes any necessary changes and forwards to the ES Supervisor for concurrence. The ES Supervisor may also be the CE delegate authority for approval; if so mark the PCR as Ready for Incorporation and forward to TOMA.
- e. If required, the ES Supervisor forwards to the CE for evaluation/approval.
- f. Upon approval, the CE or delegate authority will mark the PCR Ready for Incorporation and forward to the TOMA.
- g. The TOMA will aggregate approved PCRs submitted since the last TO update, create a TO update package for editorial, create the new increment in ETIMS, associate the applicable PCRs to the new increment, and the PCR status changes to Pending TO Verification.
- h. Following the editorial update, the TOMA conducts a TO Update Verification with the TCM/ES ([Paragraph 4.2.16.6](#)).
- i. When the final production copy is ready for distribution, the TOMA will index the next TO increment and distribute the applicable media types.

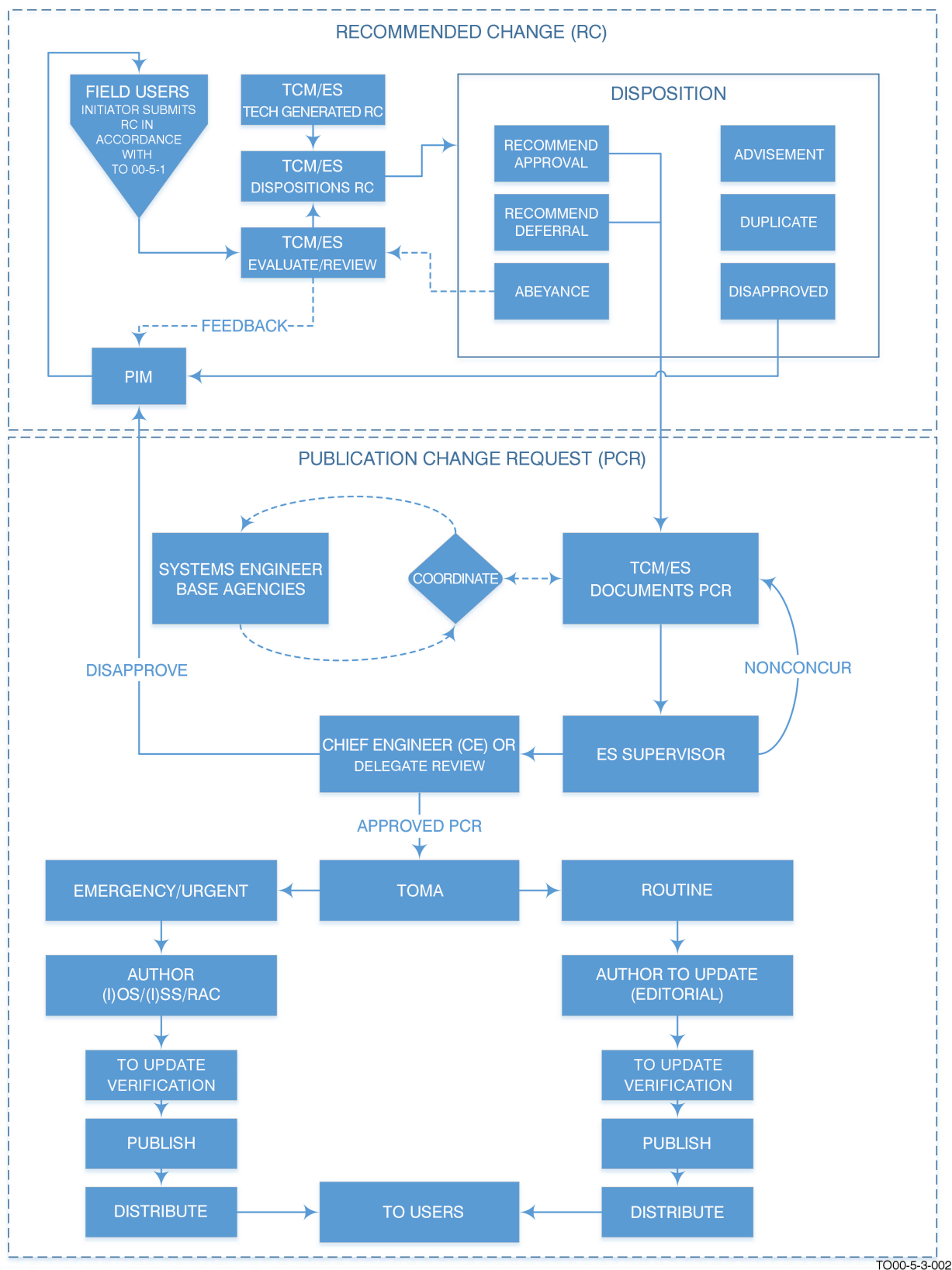


Figure 4-1. TO Improvement Process Flow Chart

4.2.1.1 Field Generated vs. Tech Generated PCR. The PCR is the official method of directing changes to AF TOs and can only be generated by an RC. RCs are initiated by any user with access to ETIMS. However, RCs fall into two categories when it comes to generating a PCR: Field-generated and Tech-generated.

4.2.1.1.1 Field-generated PCRs begin with the TCM/ES recommending approval of an RC submitted by a field user. The TCM/ES, then creates the PCR with word-for-word instructions on how the RC will be incorporated into the TO.

4.2.1.1.2 Tech-generated PCRs begin with the TCM/ES, FMM or any privileged user initiating an RC internally. The supervisor, PIM, and MAJCOM routing procedures in TO 00-5-1 do not apply to internally initiated RCs. The TCM/ES, then saves and dispositions the RC to generate a PCR with word-for-word instructions on how the RC will be incorporated into the TO.

4.2.1.2 Special Handling PCR. Tech-generated RCs initiated as a result of an Engineering Technical Assistance Request (ETAR) for a work stoppage or anticipated work stoppage are eligible to be Special Handling PCRs. Once dispositioned, the TCM/ES selects Yes in the Special Handling block of the Publication Change Request screen in ETIMS. After completion of the PCR, the resulting form is labeled as an ETIMS Generated Special Handling 252.

4.2.1.2.1 In response to an approved ETAR or AFMC Form 202, formal TO changes must be distributed within time limits specified in [Table 4-1](#).

4.2.1.2.2 An ETIMS Generated Special Handling 252, fully-coordinated and approved, may be issued to provide the corrected or newly developed data necessary to resolve an actual or anticipated work stoppage until the formal change is accomplished.

4.2.1.2.3 The TCM/ES will coordinate with the TOMA to send a copy of the ETIMS Generated Special Handling 252 to the Planner, who in turn will send to the TODO for distribution in eTools (see TO 00-5-1).

4.2.1.3 Engineering Technical Assistance Request (ETAR). Depot maintenance activities will use the AFMC Form 202 or automated ETAR to request and receive technical data for procedures and repairs beyond existing TO authority, IAW AFMCMAN 63-1202. Field maintenance activities will use TO 00-25-107 and automated ETAR to request and receive technical data for procedures and repairs beyond existing TO authority.

4.2.2 IETM/S1000D Change Process. In some cases, IETM/S1000D RCs may be a built-in function of the IETM/S1000D database, which will identify where the deficiency is within the database. RCs must identify the location of the data to be updated within the database. In most cases, this will be a step within a task, or an illustration/table. If necessary for clarity, a screen print or digital annotation of the deficient data will be submitted with the RC.

NOTE

- All externally generated RCs must be input into ETIMS.
- **EXCEPTION:** Mark, transmit, and handle classified RCs IAW TO 00-5-1.

4.2.3 Item Unique Identification (IUID)-Related TO Updates. If an IUID-related, engineering change is processed on a component, subcomponent, assembly, or sub-assembly (generically a part) and a published TO specifies the overhaul, remanufacture, repair (or assembly) of that part, that TO will be updated to specify the processes and location for marking the item by IUID.

4.2.3.1 Illustrated Parts Breakdown (IPB). If the IPB is contained in a separate -4 (i.e., not in the repair manual), then the IPB is not to be used to specify the location or the method for marking a part with IUID. If applying IUID to a part changes a part number in the IPB (e.g., if a new data plate is specified which differs from the existing data plate called out in the IPB), then the IPB will be updated to show IUID; otherwise, the IPB need not be updated to show IUID label location or part number.

4.2.3.2 Implementation. TO updates associated with IUID instructions will be implemented IAW standard procedures, and the TCM/ES will select IUID from the Project Code dropdown in the ETIMS Publication Change Request screen. This will allow tracking IUID-related updates apart from other TO changes.

4.2.4 Special Packaging Instruction (SPI) Related TO Updates. TO updates that drive changes to SPIs must be coordinated with the center packaging specialists, IAW DAFI 24-602V2.

4.2.5 TO Updates for Obsolete Systems and Commodities. Obsolete systems and commodities include those still in limited use or scheduled to leave the inventory within two years. While users may continue to submit routine RCs for TOs on obsolete systems and commodities, the TCM/ES will hold recommended changes in abeyance pending the decision to rescind or update the TO. The TOMA will provide an adequate schedule for updating the affected TOs when no review is scheduled. In these cases, the updates will be published as ITOs. The TCM/ES will process Emergency and Urgent updates as usual.

4.2.6 Evaluating RCs. Upon receipt, the TCM/ES first reviews the RC and supporting documentation for validity, accuracy and completeness. The TCM/ES then assigns the appropriate disposition status; Recommended for Approval, Recommended for Deferral, Abeyance, Advisement, Duplicate or Disapproved. See disposition definitions below.

4.2.6.1 Disposition Definitions.

- Recommended for Approval: Used for any priority RC (Emergency, Urgent or Routine) where intent of the RC must be processed for further evaluation as a PCR. Regardless of who disposes the RC, an ETIMS PCR is automatically created with the assigned ES as the Responsible Individual.
- Recommended for Deferral: Used for Routine Priority RCs only. The RC is recommended for approval but limiting factors prevent publication within the time limits specified in [Table 4-1](#), OR the changes are minor and will be incorporated when the affected pages are updated for other reasons. Provide the resolution date for the limiting factors and reasons for the delay as a disposition remark. Deferred status items will be published when limiting factors no longer exist. Minor changes will be incorporated if the applicable page(s) of the TO are updated for other reasons, such as a modification, new acquisitions etc., or at the next TO revision. Regardless of who disposes the RC, an ETIMS PCR is automatically created with the assigned ES as the Responsible Individual.
- Abeyance: Used for Routine Priority RCs only. ES Review of the RC is delayed for management reasons, the overall timeline, still applies. Used when existing factors preclude processing the RC within the time limits specified in [Table 4-1](#). These factors include recommendations affecting TOs on obsolete systems and equipment or TOs controlled by all-MAJCOM committees such as the Air Force CTOM. Recommendations from foreign countries under the SAP will not be placed in Abeyance. Expected resolution and projected date will be added as a disposition comment. The RC remains assigned to the TCM/ES who initially dispositioned the RC until a new disposition is selected.
- Advisement: May be used for any priority RC when engineering study is required before ES Review can be completed. ES Review time may extend beyond the time limits specified in [Table 4-1](#), the overall timeline based on priority, still applies. Expected resolution and projected date will be added as a disposition comment. The RC is automatically routed to a systems engineer with an ETIMS privileged role.
- Duplicate: May be used for any priority RC. Upon disposition, the ETIMS RC is automatically sent to an ES Supervisor for review. If more than one ES Supervisor is assigned to the ETIMS TO proponent, the RC will be placed in ES Supervisor Review status without an assigned Responsible Individual (see [Table 4-1](#)).
- Disapproved: The reason for disapproval will be explained in disposition comments. Upon disposition, the ETIMS RC is automatically sent to an ES Supervisor for review. If more than one ES Supervisor is assigned to the ETIMS TO proponent, the RC will be placed in ES Supervisor Review status without an assigned Responsible Individual (see [Table 4-1](#)).

UNCLASSIFIED	
Subject: (U) IOS 33XX-XX-XX-XS-2 Date: 11-March-2019 From: WR-ALC/406 SCMS/GUHA To: Distribution List for 33XX-XX-XX-1 Attachment(s): SH252 RC-2019020500421, 2 Pages	Special Handling 252 RC-2019020500421

APPLICABILITY: DEPOT-LEVEL MAINTENANCE ONLY

1. THIS PUBLICATION SUPPLEMENTS TO 33XX-XX-XX-1, DATED 12 AUGUST 1987, TITLE: OPERATION AND MAINTENANCE INSTRUCTIONS WITH ILUSTRATED PARTS BREAKDOWN, XXXXX TITLE XXXXX.
2. COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED AF PERSONNEL. MAJCOMS, LOAS, AND DRUS ARE RESPONSIBLE FOR RETRANSMITTING THIS IOS TO SUBORDINATE UNITS NOT INCLUDED AS ADDRESSED ON THIS MESSAGE.
3. DISTRIBUTION STATEMENT B: DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES ONLY (CRITICAL TECHNOLOGY) (10 MAY 2004). OTHER REQUEST FOR THIS DOCUMENT SHALL BE REFERRED TO 406 SCMS/GUHA, ROBINS AFB, GA 31098.
4. EXPORT CONTROL 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 50, U.S.C., APP. 2401 ET SEQ. VIOLATIONS OF THESE EXPORT LAWS ARE SUBJECT TO SEVERE CRIMINAL PENALTIES. DISSEMINATE IN ACCORDANCE WITH PROVISIONS OF DOD DIRECTIVE 5230.25.
5. HANDLING AND DESTRUCTION NOTICE: COMPLY WITH DISTRIBUTION STATEMENT AND DESTROY BY ANY METHOD THAT WILL PREVENT DISCLOSURE OF CONTENTS OR RECONSTRUCTION OF THE DOCUMENT.
6. PURPOSE: ISSUE SPECIAL HANDLING 252 RC-2019020500421 TO PROVIDE CORRECTED OR NEWLY DEVELOPED DATA TO RESOLVE AN ACTUAL OR ANTICIPATED WORK STOPPAGE AT DEPOT-LEVEL MAINTENANCE ACTIVITY OR TO DEFINE IUID PART MARKING REQUIREMENTS AND PROCESSES.
7. THIS SH252 WILL REMAIN VALID UNTIL RESCINDED, SUPERCEDED OR RECIEPT OF AN INTERIM OR FORMAL TO UPDATE TO INCORPORATE THE DATA.

G1411742

Figure 4-2. Example of SH252 IOS Coversheet

Table 4-1. Recommended Change Processing Time Limits

RC Priority	Responsibility	Time	Action Required
USAF TOs AND JOINT SERVICE TECHNICAL MANUALS MANAGED BY AIR FORCE (Cognizant Activity Code F)			
EMERGENCY	TCM/ES	Upon RC status of ES Review, immediate response required.	Disposition: Recommended for Approval: Create PCR and FWD to ES Supervisor. Downgrade: Return RC to PIM. Disapprove: Within 24 hours, notify ES Supervisor of required Review action in ETIMS. Advisement: Notify engineering of Advisement review requirement.
	System Engineer (For Advisement Only)	Upon RC Advisement status, immediate response required.	Return RC to TCM/ES within sufficient time to meet overall emergency timeline.
	ES Supervisor	Upon RC/PCR status of ES Supervisor Review, immediate response required.	IF dispositioned as: Recommended For Approval: Forward - constitutes approval. Return - constitutes disapproval. Disapprove/Duplicate: Close Rec Chg - constitutes approval. Return - constitutes disapproval.
	Chief Engineer (if applicable)	Upon PCR status of Chief Engineer - Review, immediate response required	Evaluation: Forward - constitutes approval. Return - constitutes disapproval.
	TOMA	Within 48 hours from RC Status of ES Review.	Notify subscribers via ETIMS or email per Paragraph 4.2.25.1 AND if unable to distribute formal TO update, distribute RAC or ITO.
		Within 72 hours from RC Status of ES Review for a work stoppage.	Notify subscribers via ETIMS or email per Paragraph 4.2.25.1 AND if unable to distribute formal TO update, distribute RAC or ITO.
		40 Days	Follow-on Formal TO update: Return RAC format to basic TO format (if necessary) for next routine update, or draft a formal TO update to incorporate an ITO. Print and distribute.

Table 4-1. Recommended Change Processing Time Limits - Continued

RC Priority	Responsibility	Time	Action Required
URGENT	TCM/ES	Within 15 days of RC in ES Review status	Disposition: Recommended for Approval: Prepare PCR and forward to ES Supervisor. Downgrade/Return: Return RC to PIM Disapprove: Within 24 hours, notify ES Supervisor of required Review action in ETIMS. Advisement: Notify engineering of Advisement review requirement.
	System Engineer (For Advisement Only)	Upon RC Advisement status, immediate response required	Return RC to TCM/ES within sufficient time to meet overall Urgent timeline
	ES Supervisor	Upon RC/PCR status of ES Supervisor Review, immediate response required	IF dispositioned as: Recommended For Approval: Forward - constitutes approval. Return - constitutes disapproval. Disapprove/Duplicate: Close Rec Chg - constitutes approval. Return - constitutes disapproval.
	Chief Engineer (if applicable)	Upon PCR status of Chief Engineer Review, immediate response required	Evaluation: Forward - constitutes approval. Return - constitutes disapproval.
	TOMA	Within 40 days from RC Status of ES Review	Formal update: Publish and distribute a formal change or revision to the TO (using activities must allow for mail and TODO redistribution time).

Table 4-1. Recommended Change Processing Time Limits - Continued

RC Priority	Responsibility	Time	Action Required
ROUTINE	TCM/ES	Within 45 days of RC in ES Review status.	Disposition: Recommended for Approval: Create PCR and FWD to ES Supervisor. Downgrade/Return: Return RC to PIM. Disapprove/Duplicate: Within 24 hours, notify ES Supervisor of required Review action in ETIMS. Advisement: Notify engineering of Advisement review requirement.
	System Engineer (For Advisement Only)	Upon RC Advise-ment status, immediate response required	Return RC to TCM/ES within sufficient time to meet overall Routine timeline
	ES Supervisor	Upon RC/PCR status of ES Supervisor Review, immediate response required	IF dispositioned as: Recommended For Approval: Forward - constitutes approval. Return - constitutes disapproval. Disapprove/Duplicate: Close Rec Chg - constitutes approval. Return - constitutes disapproval.
	Chief Engineer (if applicable)	Upon PCR status of Chief Engineer Review, immediate response required	Evaluation: Forward - constitutes approval. Return - constitutes disapproval.
	TOMA	Within 365 days from RC Status of ES Review, includes Advisement/ Abeyance time.	Formal update: Combine all approved routine PCRs received during the period between the last update and current copy freeze date. Formally update TO and Distribute change or revision.

Table 4-1. Recommended Change Processing Time Limits - Continued

RC Priority	Responsibility	Time	Action Required
JOINT SERVICE TECHNICAL MANUALS MANAGED BY ANOTHER DoD COMPONENT (Cognizant Activity Code: A - Army; C - Coast Guard; D - Defense Logistics Agency; M - Marine Corps; N - Navy. Processing will be accomplished as indicated for USAF TOs with the following additions/exceptions:			
Any Priority	TCM/ES	Upon RC status of ES Review, immediate response required	Disposition: (If necessary, enter AFTO Form 22 content into ETIMS as an RC and attach original form). Recommended for Approval: Create PCR and FWD to ES Supervisor. The incorporated PCR will be added as an AF supplement to the Joint Service Technical Manual; a copy of the RC/PCR will be furnished to the responsible DoD component. Downgrade/Return: Downgrade action of an RC is not appropriate when the publication is managed by another DoD component. Disapprove/Duplicate: Within 24 hours, notify ES Supervisor of required Review action in ETIMS. Advisement: Notify engineering of Advisement Advisement: A copy of the RC to the DoD component is not required. However, when an RC placed in Advisement is later Approved or Disapproved, the requirements stated immediately above will apply.
	System Engineer (For Advisement Only)	Upon RC Advisement status, immediate response required	Return RC to TCM/ES within sufficient time to meet overall priority timeline.
	ES Supervisor	Upon RC/PCR status of ES Supervisor Review, immediate response required	IF dispositioned as: Recommended For Approval: Forward - constitutes approval. Return - constitutes disapproval. Disapprove/Duplicate: Close Rec Chg - constitutes approval. A copy of the disapproved/duplicate RC with justification, will be furnished to the responsible DoD component. Return - constitutes disapproval.
	Chief Engineer (if applicable)	Upon PCR status of Chief Engineer Review, immediate response required	Evaluation: Forward - constitutes approval. Return - constitutes disapproval.
	TOMA		Upon publication, by the responsible DoD component, of an increment which incorporates an approved PCR, initiate action to rescind the AF supplement which was issued when the PCR was approved.

4.2.6.2 **Disposition Comments.** Justification must be provided for downgrading the RC urgency, changing the Type or expected dollar/manpower savings associated with the RC. Include reasons for any modifications to the RC wording and for considering this report a Duplicate (if applicable). On approved and deferred RCs, include justification for recommended idea benefits, whether Tangible or Intangible, or for changing the calculations for the amount of tangible benefits. This is not required on Correction-type RCs.

4.2.6.3 **Evaluating RC Types.** Identification of RCs must be evaluated for accuracy IAW TO 00-5-1.

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4.2.6.3.1 Improvement. RCs that would result in an addition or significant change to a process or procedure which allows a function to be performed better, safer, faster or cheaper.

4.2.6.3.2 Correction. RCs that merely fix minor errors or omissions in the TO that are not of a technical nature and do not affect performance of the functions required for mission accomplishment.

4.2.6.3.3 Minor corrections which do not affect the performance of tasks or the OSS&E attributes of the covered item may be held until other updates to the affected page or its backing page are required. If the change could or would affect OSS&E attributes, the change will be made in the next routine TO update.

4.2.6.4 Non-TO Deficiencies. Disapprove RCs submitted on computer program or equipment deficiencies and refer the initiator to TO 00-35D-54, for reporting non-TO deficiencies. Also, disapprove RCs determined to be ineligible IAW TO 00-5-1.

4.2.7 Prioritizing RCs. If the RC is determined to have a different priority by the TCM/ES, return the RC to the PIM with justification for upgrade or downgrade.

4.2.8 SAP/FMS Procedures. The above policy does not apply to AFTO Form 22 that are submitted against CSTOs and received from foreign countries. Under the Security Assistance Program (including FMS), there are contractual arrangements to maintain the currency of the respective CSTOs. Refer to TO 00-5-19.

4.2.9 TCM/ES PCR Requirements. When preparing the PCR, the TCM/ES must make every effort to identify all affected TOs, and coordinate with and submit corresponding changes to the other responsible TCMs/ESs. In addition, the following fields must be populated to process the PCR effectively. See Equipment Specialist Supervisor Review-Publication Change Requests (PCR), accessible at the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.2.9.1 Select the applicable predefined Project Code, if required, e.g., IUID, 202, 107. Project codes will appear on the PCR.

4.2.9.2 Determine the Publication Type, e.g., TCTO, RAC, Change, Revision.

4.2.9.3 In conjunction with the TOMA, will review and update the TO Classification and distribution limitation statements as required.

4.2.9.4 Prepare an AFTO Form 124, check the RGL Certification block and attach the form if required, based on criteria specified below:

NOTE

- The actual Reading Grade Level (RGL) can be computed automatically by many word processing and publishing software packages.
- The MIL-STD-38784 required grade level can be tailored during the contracting process.
- Compute RGL on the entire text when more than 25% of the original text is changed. Exclude original text if the change adds new sections and/or chapters. Example: TO 2J-F100-6, Chapters 1 through 9 (original text) - The addition of Chapter 10 would not require recheck of Chapters 1 through 9.
- Compute RGL on only the changed text when changing two or more consecutive pages of text.
- Do not compute RGL if changing less than two pages of text.
- Review existing commercial manuals for RGL. Do not reject or re-write the manuals solely for RGL.
- MIL-STD-38784 specifies an RGL of 9 for Air Force TOs.

4.2.9.5 Obtain an Environmental Assessment if there are any environmental impacts (see AFI 32-1015).

4.2.9.6 Provide word-for-word instructions for editorial on how the RC will be incorporated into the TO update. If required, attach/upload applicable documents, illustrations, photographs, etc. to the PCR.

4.2.10 PCR Routing and Coordination. PCRs may require additional routing and coordination as follows:

4.2.10.1 If the contents of the PCR have changed the releasability of the TO, the TCM/ES must coordinate the changes with applicable offices for Scientific and Technical Information (STINFO), Security, Legal, Foreign Disclosure (FDO), and Public Affairs (PA), as required. It is imperative to validate or change distribution limitations for both the change or revision as well as the basic TO. Ensure Interim TOs (IOS or ISS) carry only the restrictions required by the contents (may not be the same as the basic TO).

4.2.10.2 The applicable Chief Engineer (CE) or PM will ensure coordination on all PCRs affecting personnel or equipment safety. Bio-Environmental Engineering (BEE) will coordinate on procedures affecting personnel health involving noise, heat, air contaminants, chemicals, radiation, lasers, thermal stresses, biological, and ergonomic hazards, etc.

4.2.10.3 Obtain a Nuclear Surety Technical Evaluation on change packages affecting Nuclear Surety Procedures **[NSP]** or Hardness Critical Items **[HCI]**.

4.2.10.4 Specialized functions (Non-Destructive Inspection (NDI), Corrosion Control, Life Support, Civil Engineer Readiness, etc.), will coordinate on change packages affecting the assigned areas of responsibility.

NOTE

AFMC organizations designated to provide Level 3 NDI services may provide NDI coordination, but an electronic copy of the submission WILL be provided to the AF NDI Program Office (AFLCMC/EZPT-NDIO) at the organizational email address, aflcmc-ezpt-ndio@us.af.mil.

4.2.10.5 Coordinate PCRs which may be applicable to military systems or commodities operated by foreign governments (FMS and European Participating Air Force (EPAF)). For those countries that are participants of an FMS Technical Coordination Program (TCP) the change packages will be submitted to the applicable TCP for review for determination of applicability to the Country Standard Technical Orders (CSTOs). For those countries that are not participants of a TCP, the change packages will be routed through the Air Force Security Assistance and Cooperation Directorate. Air Force Security Assistance Center (AFSAC) Country Managers initiate development of related updates to CSTOs.

4.2.10.6 Coordinate PCRs impacting commodity items managed by other Product Groups with the responsible group.

4.2.10.7 Coordinate PCRs against end-item TOs managed by a Program Manager (PM), which affect commodities assigned to a Product Group Manager (PGM).

4.2.10.8 Coordinate changes to Methods and Procedures TOs affecting policy and procedures with the AF OPR for that policy or procedure.

4.2.10.9 Indicate whether the proposed update will require verification, and the type of verification required. The verification results may be recorded in Remarks section or uploaded as a separate attachment.

4.2.11 Verification of TO Updates. All TO updates will be verified unless waived by the PM IAW DAFI 63-101/20-101. Verification procedures to be used during sustainment will be documented in the TOLCVP by the TOMA. The TOLCVP is mandatory for all programs. See [Paragraph 3.2.2.2](#) for TOLCVP requirements.

4.2.11.1 Reverification After Digital Format Conversion. Reverify previously verified source data or TOs converted into a digital format, to ensure that the data has been captured or converted accurately by the capture or conversion process (i.e., there was no distortion of graphics or alteration of the text; changes to the flow of the data between steps or tasks; or mismatching of the relationships or references within the data). Verify that the mark-ups applied to add intelligence (if any) were applied correctly to the converted data IAW the Air Force TMSS or the adopted/approved commercial standard(s). Most importantly, verify the data to ensure accuracy of applied effectivities (e.g., equipment configuration, users skill levels, etc.)

4.2.11.2 Post-Digital Conversion Verification Procedures. Verification of TOs and data converted to a digital format will be accomplished by desk-top comparison of the conversion instance to the source data to determine the accuracy of the conversion and data capture processes:

- Verify logical flow of procedures within the digital conversion file to ensure accuracy of the flow of text, steps and procedures, effectivity, and to ensure Warnings, Cautions, and Notes are displayed where required.

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- In some instances, logical flow may be enhanced to provide additional detail or direction to the user; therefore, logical flow must be 100% reverified.
- Verify all conditional branches when variable user inputs branch the logical flow.
- Verify dialog box text and response display.
- Verify correct graphics and hot spots are displayed for individual steps.
- Verify correct application of novice and expert delineations if applicable.
- For Illustrated Parts Breakdown conversion, in addition to verifying clarity and correctness of graphics, ensure correct application of effectivities and accuracy of converted parts information to include Notes, Alternate Part Numbers, SMR Codes, Cage Codes, and Units per Assembly. Ensure accurate conversion of non-displayed parts.
- For digital Wiring Diagrams (WDs), ensure complete/accurate/undistorted conversion of all wiring lines, symbols and reference designators. If the wiring information is interactive, ensure accuracy of interactivity to include signal flow, correct depiction of component operation (i.e. switches, fuses, relays) and correct wiring information display based on effectivity.
- When verifying -6 Inspection TOs and checklists, ensure similarly-worded steps are all present and correctly sequenced.
- Ensure all links added to enhance the relationships between items in the source data reference the correct data, and no broken links exist in the converted data instance.
- Verify functionality of software/data interaction IAW contract requirements (TMCR, SOW, etc.).
- Parse the instance against the target specification Document Type Definitions (DTDs) to ensure markup tags added to the data are accurate and comply with the DTD.
- Perform analysis of the composed document from the marked-up instance using the designated composition engine, to determine the compliance of the printed or viewed output (only required if paper pages or digital views will also be produced from the instance).

4.2.11.3 Some converted data may require hands-on verification. Hands-on verification will be determined by the acquiring activity. Instances where hands-on verification may be required are:

- When a task required significant change in logical flow
- When a sampling of tasks has been agreed to by the acquiring activity and the users
- When a task is identified by the acquiring activity, user or contractor as questionable after conversion

4.2.11.4 Use the certification process and tools of the conversion contractor to reduce reverification requirements if appropriate. Contractor certification processes and tools must first be analyzed for accuracy and completeness before adoption in the government reverification process.

4.2.11.5 MAJCOMs will support reverification efforts by providing subject matter experts when requested, to assist/perform Desk-Top analysis.

4.2.12 PCR Complete. The initiator (TCM or other function) will select Save and then Assign (to an individual with similar privileges) or Forward (to the CE or delegate). ETIMS will maintain a record of evidence of completion.

4.2.13 PCR Approval. The CE or delegate will check technical and procedural changes to ensure accuracy and adequacy of the TO update (this step is required even if individual RCs had already been reviewed, because of possible interactions between different proposed changes). The CE or delegate, by forwarding to the TOMA, acknowledges concurrence and the system will maintain a record of evidence of signature. For non-system and non-equipment TOs, the TCM's/ES's supervisor will sign or delegate the responsibility to the TCM/ES.

4.2.14 Early Implementation. TO users will not implement approved PCRs until the interim supplement or formal TO update is available, except as follows:

4.2.14.1 AFTO Form 252 generated from AFTO Form 22 initiated by the AF Primary Standards Laboratory (AFPSL), or issued against TMDE TOs or ICBM Depot Control Manuals, may be implemented upon approval, when early implementation is requested and justified by the initiator. If early implementation is approved, the TCM/ES will enter Approved for Implementation in the disposition block of the RC.

4.2.14.2 Updates approved for early implementation in Interactive Electronic Technical Manuals (IETM/S1000D based TOs) will be merged with the IETM/S1000D database and published electronically by the TOMA IAW procedures in [Paragraph 5.4](#).

4.2.15 TOMA PCR Requirements. Consolidate PCRs that are Recommended for Approval from all sources (Tech-generated and Field-generated) affecting the same TO. Include all improvement-type PCRs prior to the time limit specified in [Table 4-1](#). Routine correction-type PCRs for paper TOs, not affecting TO understanding and compliance, may be held until the affected page or backing page is updated for technical changes.

4.2.15.1 Aggregate all routine PCRs received after the cutoff date (publication freeze date) of the previous update and prior to the cutoff for the next update into a single update package for each TO. The action or response time periods for each RC begin with receipt of the RC. The periods end when an update is distributed or the RC is disapproved or determined to be a duplicate submission.

4.2.15.2 TOMAs will establish routine update schedules for all assigned TOs which meet the [Table 4-1](#) time limits.

4.2.16 Technical Order Update Practices. For all media types, TOMAs will determine whether to update TOs with a supplement, as a change or as a revision ([Paragraph 4.2.16.1](#) and [Paragraph 4.2.16.2](#)).

4.2.16.1 Routine Changes and Supplements. Routine changes must be authored and published using the same software application as the basic TO. Supplements should be authored and published using the same software application as the basic TO (see [Paragraph 4.2.17.1](#)).

4.2.16.2 Revisions. Revisions to Generalized Markup Language (GML) and TMSS Standard Generalized Markup Language (SGML) TOs will be prepared to the most recently approved standard, non-legacy version of TMSS Digital Support Suite (DSS) and corresponding output specification.

4.2.16.3 Paper TO Updates. When WA-1 TOs have paper distribution, the change must be merged with the baseline TO file, and then uploaded and indexed as a change in ETIMS. The same file will be used for the-WA-1 in ETIMS but will be indexed as a revision. TOs on CDs and DVDs will require update by a replacement medium containing either merged TO/change files or revised TOs (no supplements). Transition to digital only distribution will be pursued when paper distribution waiver criteria is not met per [Paragraph 5.4.2](#).

NOTE

If a distributed CD contains multiple TOs, the CD will be redistributed in its entirety when any of the TOs are updated.

4.2.16.3.1 TOMA should consider a revision to TOs distributed in paper or in both paper and WA-1 formats when the following conditions are met:

- When 70 percent or more of the basic TO (including the current update) has been changed.
- When there is a change to equipment configuration, compliance with new military specifications, etc.
- When updating brief TOs (20 or fewer pages).
- When a TO publication is being declassified by removing classified data, to prevent issuing warehouse stocks marked as classified. Exceptions are authorized. TOs may be declassified by issuing a TO change if cost effective.
- When the TO is a combined manual (e.g., Maintenance with Illustrated Parts Breakdown (IPB), etc.) and has an abbreviated title page and no A page.

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4.2.16.3.1.1 TOs which have transitioned, or are planned for transition to-WA-1 only distribution, should undergo revision when the following conditions are met:

- When the system or commodity will remain in service for 2 years or more.
- When the TO has supplements which have not been incorporated for 1 year or more.
- When the TO has greater than 6 outstanding changes.
- When the format of the publication does not promote clarity and usability when viewed on an eTool.

4.2.16.3.1.2 Updates to brief TOs (20 or fewer pages) will be accomplished by revision only.

4.2.16.3.2 Do not revise TOs distributed in paper or in both paper and WA-1 format when the following conditions are met:

- The system or commodity will be removed from the inventory within two years ([Paragraph 4.2.5](#)).
- The paper TO is usable as is (even if 100% of the pages have changed over a period of time).

4.2.16.4 New or Revised Technical Manual Specifications and Standards (TMSS). The TOMA determines whether or not to issue a TO revision when the governing MIL-SPEC or MIL-STD used to prepare the TO is revised. The TOMA may direct contractors who will revise the TO to use a later version of the governing specifications when there will be no change in contract costs. Any such direction affecting contract cost must be coordinated with the PCO before going to the contractor.

4.2.16.5 Numbering Changes and Revisions. The TOMA assigns an identifying number to each TO change and revision being published, using the ETIMS Manage TO Detail screen. The TO change number will appear on the title page and each page containing changed data. The revision number identifies the version or edition of the TO and will not be printed on the TO Title page except when indicated in the Supersedure Notice. The TOMA should initially check the Available for Index in the ETIMS TO record.

4.2.16.6 Technical Order Update Verification. The final draft (reproduction copy or digital file) of a TO update developed as part of sustainment must receive a TO Update Verification for technical accuracy, currency and adequacy (depth of coverage), by the TCM/ES and TOMA, prior to distribution. The verification will be jointly conducted by the TOMA and the TCM/ES, with the assistance of other Subject Matter Experts (SME) as required. If the TO is indexed and distributed in ETIMS, the TO Update Verification must be completed (verified) prior to making Available for Index. See Indexing FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). The TO Update Verification may replace PCR Verification by Desk-Top analysis. During TO Update Verifications, the following items, as a minimum, should be checked:

- Accuracy of Title Page information - dates, supersedure notice, distribution limitations, etc., against information about the TO Update in the TO Index record.
- Accuracy of the List Of Changes (LOC) and/or List of Effective Pages (LEP) depending on output media. See TO 00-5-1 for when to use an LOC and/or and LEP.
- Procedures and illustrations for technical accuracy, completeness and readability.
- Compliance to MIL-SPEC format.
- Changed page numbering and markings.
- Publication date should be within 30 days of distribution date. Publication Date will be adjusted due to publication delays, issuance of supplements or receipt of urgent changes. In all cases, the publication date will be later than all previously released increments (basic, revisions, changes, and supplements).
- Coordination with affected functional areas - Engineering, Safety, Nuclear Surety, Bio-Environmental Engineering.

4.2.16.6.1 TO development or support contracts should allow for TOMA review and approval of draft TOs before delivery of final copy to the government. If the information in the draft must be published immediately, any serious technical errors in the review copy may be corrected with a RAC or an interim safety or operational supplement that is distributed concurrently

with the TO. Concurrently released RACs or supplements must be dated at least one day apart. Correct less critical errors through the routine update process.

4.2.16.6.2 For updates published in-house (organically), errors will be corrected prior to submitting the reproduction copy for distribution.

4.2.16.7 Technical Order Post-Publication Reviews (PPR). Perform PPRs to evaluate and improve formal TOs after delivery to the MAJCOM. There are two types of post-publication reviews: TOMA or TCM/ES PPR and currency reviews. During each review, manuals which are published in paper format should be evaluated for conversion to solely digital distribution.

4.2.16.7.1 TOMA or TCM/ES PPRs. These reviews are conducted after TOs have been delivered to the MAJCOM to evaluate and correct the instructions contained in the TOs. The need to conduct a PPR will be determined by the TOMA or TCM/ES based upon equipment modifications, RC received, or MAJCOM or PM recommendations. Participants may include the TOMA, TCM/ES, and MAJCOM representatives.

4.2.16.7.2 Distribution Statements and other STINFO markings will be evaluated to ensure the appropriate distribution audience. Action should be taken to correct deficiencies in Distribution Statements ([Paragraph 2.1.4.19](#)) or other STINFO related title page information.

4.2.16.7.3 Currency Reviews. Currency reviews are performed to ensure that the TO enables the safe, appropriate and effective maintenance and operation of equipment. TOs that are complete and document best practices will increase the operational readiness of systems. The responsible TCM/ES will:

- Review unclassified TOs that have not been updated for five years for currency, distribution limitation changes, etc.
- Review classified TOs at every update, but no less than annually, for currency and possible reclassification.
- Verify accuracy of ETIMS Catalog and cross-reference data, including work cards.
- Correct any deficiencies using authorized updates. If there are no deficiencies, maintain a record of completed currency reviews. [Table 4-4](#) may be used as a reference to ensure the TO is complete, accurate and up to date with current practices.

4.2.16.8 Periodic Deferral Review. If publication of routine changes or revisions must be deferred for any reason, the TCM/ES, in coordination with the TOMA, must review the publication package every 90 days from the date of the deferral decision for possible priority upgrading.

4.2.16.8.1 Base the upgrade decision on the potential to negatively affect OSS&E of the military system or commodity resulting from continued publication delays. The TCM/ES or TOMA should consider such things as negative maintenance trends, increased occurrence of safety incidents and the cumulative effects of aggregated changes which, if not addressed, are made worse by unpublished TO updates.

4.2.16.8.2 Only those portions of the change package actually requiring upgrade will be extracted from the package and published as an IOS or ISS, pending routine publication of the formal change or revision. If the entire package must be upgraded, publish the formal update within the upgraded priority category timelines. The TOMA will coordinate Interim TOs with the TCM/ES and Lead Command prior to issue.

4.2.16.9 Formal Supplements. Develop formal Safety and Operational Supplements (SS & OS) IAW MIL-STD-38784. Before issuing a supplement which will restrict any Air Force system from full capability or operational readiness, the Interim TO Advance Notification requirements of [Paragraph 4.2.23.7](#) must be implemented.

4.2.16.9.1 Formal safety and operational supplements will only be issued to update:

- TMs managed by other services
- Commercial Manuals
- FMP publications (according to AFI 11-215)

- Other TOs with temporary updates (with the express permission of the Lead Command functional manager). (Examples: reduced power levels or additional safety precautions pending completion of a TCTO).

4.2.16.9.2 **Supersede formal supplements directing permanent TO updates** in the next routine TO change or revision, not to exceed one year after issue. Formal supplements containing temporary data (for example, flight restrictions pending completion of inspections or other TCTOs, before data for TCTOs with a compliance period less than two years) may remain active for up to 30 months. Formal Safety and Operational Supplements are posted in the same manner as interim supplements.

4.2.16.9.3 **Routine formal supplements** are only issued to TCTOs, commercial manuals and joint use publications such as Army manuals adopted for Air Force use. Routine supplements to TCTOs are covered in TO 00-5-15. Routine supplements will not be issued as Interim TOs or RACs. Routine supplements are lettered and posted in the back of the TO or commercial manual.

4.2.16.9.4 **For joint-use TMs**, each service is responsible for publishing service unique supplements when the need arises. The lead service TCM and the TCMs from using services must establish standard update procedures to ensure urgent and routine information is provided to TM users in the appropriate time frames. TCMs must review technical content changes prior to publication by the lead service, determine applicability and distribute only those applicable to the using service.

NOTE

EXCEPTION: The text of formal Safety Supplements will be black, NOT red, for readability reasons.

4.2.16.10 **TCTO-Related TO Updates.** The TCM/FMM will update TOs and FMP publications affected by TCTOs. TOMA will release updates IAW TO 00-5-15.

4.2.16.11 **Joint Service TMs.** The Air Force OPR of a Joint Service TM managed by another service (Army, Navy, etc.) will issue an Air Force-only supplement to change Air Force compliance with procedures in a TM managed by another service. Coordination with the other service is not required when the changes affect only the Air Force, but a copy of the supplement will be provided to the lead service TM Manager for information. If the change is subsequently incorporated into the TM, the AF supplement will be rescinded. When the Air Force is the lead service, the TOMA must fully coordinate proposed updates with all affected services prior to publication.

4.2.16.12 **Country Standard TO (CSTO) Updates.** The equipment contractor produces CSTO updates under an FMS contract. See TO 00-5-19.

4.2.16.13 **Federal Aviation Agency (FAA) Manuals.** When AF personnel are authorized to access and use manuals from FAA online, the AF TCM will author an Identifying Technical Publication Sheet (ITPS) to:

1. Authorize the use of the specific FAA manual
2. Provide FAA online accessing instructions for the specific manual
3. Direct AF personnel to monitor FAA online for currency as the ETIMS subscription to the ITPS will only alert them to changes in the ITPS

The TOMA will number and index the ITPS in ETIMS as a Sponsor Approval-WA-1, upload the optimized PDF file into ETIMS, and manage subscription requests.

4.2.17 **Supplement Procedures.** For-WA-1 TOs, the TOMA, in coordination with the TCM/ES, will merge all supplements to include making all required annotations to the TO and the supplement. TOMAs shall link the supplement and use bookmarking to:

- Link the TO title page to the supplement title page
- Link the supplement title page to the TO title page
- Link each step in the supplement to the page in the TO the step refers to
- Link the page in the TO to the reference page in the supplement

For guidance with these processes, see Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.2.17.1 Development. Develop the supplement using a word-processing or publishing software program (formatted and numbered IAW TO 00-5-1). Convert it to PDF using Acrobat Distiller™ or PDF Writer™ (part of Adobe® Acrobat™).

4.2.17.2 Posting Supplements to Basic TO File. The TOMA will download the TO file from its distribution medium, open the file using Adobe Acrobat and attach the supplement file as described in the Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.2.17.3 Indexing and Distribution. Index the supplement as a printed copy in ETIMS, and index the merged digital TO as a revision with the same publish date as the supplement. Upload the TO file with notes and attached supplement to the distribution medium.

4.2.17.4 Supplementing IETM/S1000D Based TOs. IETM/S1000D based TOs will not be supplemented externally. All IETM/S1000D TO supplements must be incorporated into the IETM and released as a revision.

4.2.17.5 Digital Flight Manual Supplement Procedures. TOMAs will merge all FM supplements to include linking and making all required annotations to the TO and supplement. Linking a supplement will include linking the TO title page to the supplement title page, linking the supplement title page to the TO title page, linking each step in the supplement to the page in the TO the step refers to, and linking the page in the TO to the reference page in the supplement. For guidance with these processes, use Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.2.17.5.1 Digital Flight Manual Supplements Applied to Checklist Pages. Per AFI 11-215, flight crew checklists may be supplemented by a supplement to the parent TO or a separate supplement to the checklist.

4.2.17.5.1.1 When a separate supplement is not used for the checklist, the following applies. Formal supplements to the parent TO will provide checklist insert pages. Interim supplements will authorize write-in changes to the affected checklist. In either case, to complete the update process for a-WA-1, the FMM will provide the TOMA PDF insert pages formatted IAW MIL-DTL-7700. The title page will be annotated to show the supplement and date information from the parent TO. The TOMA will merge the pages into the checklist. No linking will be required since the title page will be the original page as no supplement was released against the checklist, and there will not be separate steps to link.

4.2.17.5.1.2 The checklist not containing the insert pages will be removed from the ETIMS repository, the checklist containing the insert pages will be uploaded and validated, and will be manually deployed using normal processes.

4.2.17.6 Removal of Technical Order Page Supplements (TOPS). IAW TO 00-5-1, TOPS are no longer authorized for use. Supersede TOPS directing permanent TO updates in the next routine TO change or revision, not to exceed one year after issue. TOPS with temporary updates may remain in effect for up to 30 months. Upon expiration of these timelines, rescind TOPS or supersede TOPS as follows:

4.2.17.6.1 If the TO is actively in use with USAF subscribers, initiate an RC in ETIMS to incorporate the TOPS. Ensure the supersedure statement includes the numbered TOPS increment.

4.2.17.6.2 If the TO is not actively in use and has USAF subscribers and FMS customers on subscription in Security Assistance Technical Order Data System (SATODS), determine if USAF subscribers require the TO using the rescission procedures in [Paragraph 4.5](#).

4.2.17.6.2.1 If the TO is retained for USAF, incorporate per [Paragraph 4.2.17.6.1](#) above.

4.2.17.6.2.2 If the TO is rescinded for USAF and retained for FMS, make every attempt to incorporate TOPS using formal changes without incurring USAF costs. Otherwise, FMS customers must fund incorporation of TOPS into the TO.

4.2.18 CD/DVD Procedures. The TOMA for a CD/DVD, with coordination from the PM and Lead Command, is responsible for CD/DVD content, numbering, indexing, updating, publication, packaging, labeling, and distribution. Classified and unclassified TOs will not be mixed on a single disk. The TOMA will determine routine CD/DVD update intervals, in conjunction with the Lead Command and the TOMA of the individual TOs included on the disk. If a separate content manager is assigned for the disc, some of these duties may be delegated to that function.

NOTE

AFCEC/CXE is authorized to develop and implement separate procedures for joint service management and use of EOD TOs on CD/DVD/Blu-ray media.

4.2.18.1 Content and Labeling. The CD/DVD must contain a content.txt file and may contain a readme.txt file (how to use the CD/DVD), an Index file (to automatically direct users to the correct TO files), and if necessary, a copy of the viewing software.

4.2.18.1.1 Content.txt File. The following information will be included in the required content.txt file:

- DOCUMENT IDENTIFICATION: (TO Number)
- TITLE: TECHNICAL MANUAL SET: (Name)
- REVISION: (REV 1, REV 2, etc.)
- PUBLICATION DATE AND OPTIONAL UPDATE FREQUENCY: (Pub Date and Block Cycle Update period)
- ORIGINATOR COMMENTS: (Information on Formats, etc.)
- POINT OF CONTACT: (CD/DVD TOMA, Address, Email, and Phone Number)
- ORIGINATOR: (CD/DVD TCM/ES, Address, Email, and Phone)
- TO POCs: (For each TO file included on the CD/DVD, list the TOMA and TCM/ES Names, Organizations, Email Addresses, and DSN Phone Numbers)

4.2.18.1.2 Readme.txt File (Optional). Use the same format for the content.txt file (above). The file may be included if required to describe access to and use of viewer software, access to and use of any other programs on the disk (such as ETIMS), and/or other helpful information not included in the content.txt file. If used, the readme.txt file should have a table of contents to help the user identify and navigate to needed information.

4.2.18.1.3 CD/DVD and Case Labels for reproduction and distribution are formatted IAW [Figure 4-3](#). CD/DVD markings for transfer of classified paper for reproduction and distribution are marked IAW DoDM5200.01V2_AFMAN16-1404V2.

4.2.18.2 Digitally-Distributed TO File Sustainment. Baseline TO files are the official, published (accessible to users) TO files consisting of the basic digital TO file with any published change files merged (posted) into the baseline TO file. The use of formal supplements for updating digital baseline TOs is discouraged and will be severely limited (see TO 00-5-1). TOPS will not be used.

4.2.18.2.1 Standalone TO changes will be merged with the baseline TO file for digital distribution. The standalone TO change or revised TO file will be used to produce a master for printing and distribution of paper.

4.2.18.2.2 For emergency and urgent updates, the TOMA or TCM/ES will develop digital RACs whenever possible, instead of an IOS or ISS (see TO 00-5-1). The digital RAC file will be merged with the baseline TO file, and the merged TO and standalone RAC files will be accessed from ETIMS. ETIMS users will receive automatic distribution of the merged file. The standalone RAC is distributed to allow local printing of the change for updating paper copies of the TO.

4.2.19 Technical Order Update Package Processing. The responsible TOMA will review all TO update packages to ensure required data is current and complete, properly coordinated and includes all PCRs specified for the next TO update. Submit approved packages to the editorial function for publication of the TO update, specify change or revision, and distribute in the next routine update cycle.

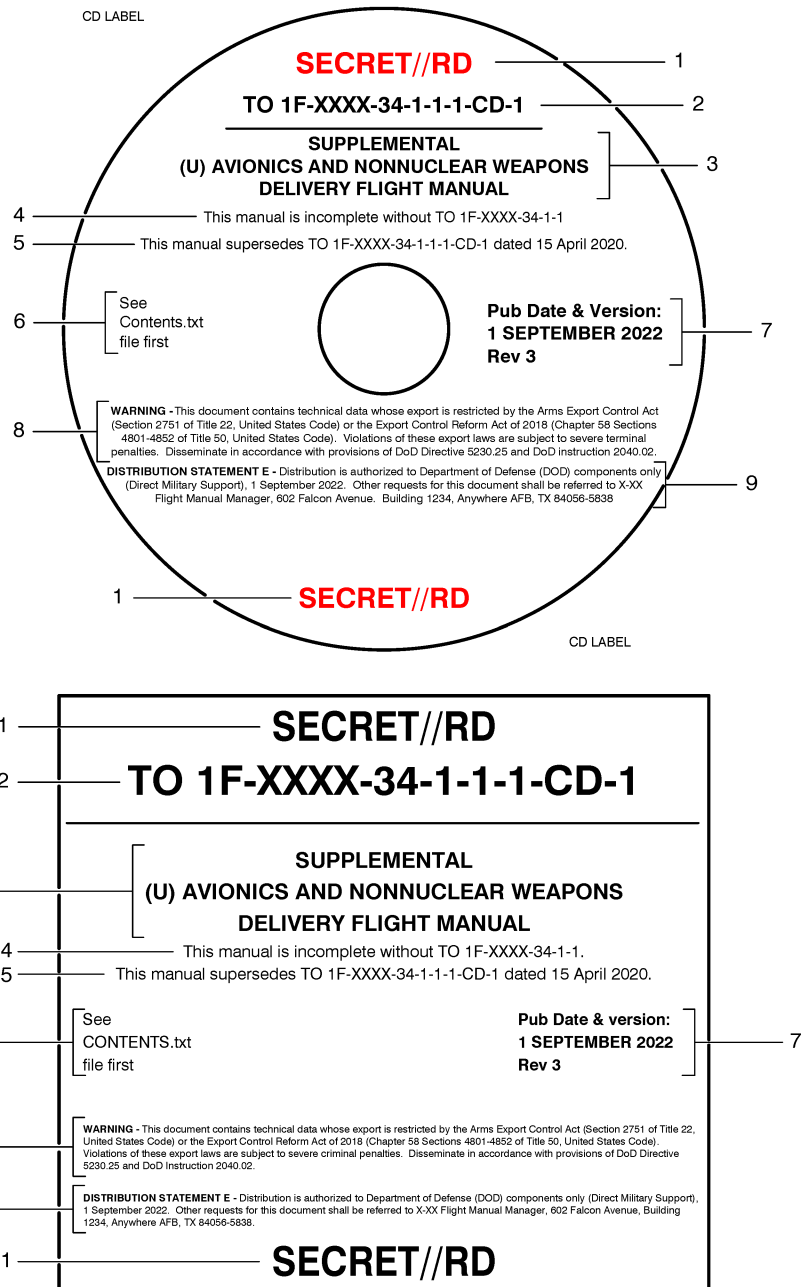
4.2.20 Technical Order Update Publication. Updates to individual TOs from all sources will be consolidated for publication in periodic TO updates. Periodic updates will not include modification-related changes if this would delay concurrent release with the prescribing TCTO. Out of cycle updates may be necessary to support the TCTO. Periodic intervals will be determined by the lead command, in conjunction with the PM, but should not exceed 365 days. Periodic updates may be delayed beyond the normal update interval if no significant inputs are received. When TOs are grouped for publication, for

example, a set of TO files published on a CD, it may be necessary to publish updates to the distribution media as frequently as monthly to accommodate varying TO publication release dates and cycles.

NOTE

Perform periodic reviews of change packages IAW [Paragraph 4.2.16.8](#) if publication must be deferred.

4.2.20.1 **General.** The TOMA will aggregate all approved PCRs submitted since the last TO update and should coordinate with the CE for possible interactions between different proposed changes. ([Paragraph 4.2.13](#)). The TOMA determines if the updates will be developed organically or through contractor support.



Legend for Figure 4-3 CD/DVD Disk and Case Label Format

1. Classification and Special Notice - 16 Point Bold (Disk), 24 Point Bold (Case)
2. TO Number with Media Suffix - 12 Point Bold (Disk), 24 Point Bold (Case)
3. TO Title as it appears on the title page - 12 Point Bold
4. Title Page notes: USAF Series, Supplemental or Parent manual statements - 8 Point
5. Supersedure Statement - 8 Point
6. See Content.txt - 10 Point
7. Publication Date and Version - 10 Point Bold
8. Export Control Warning - 6 Point
9. Distribution Statement - 6 Point

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Figure 4-3. CD/DVD Disk and Case Label Format

4.2.20.2 Contractor Preparation. For Contractor (OEM or Vendor) update prepared updates, the TOMA forwards a copy of AFTO Form 252 or ETIMS PCR Print Preview with all included documentation.

4.2.20.3 Organic Preparation. For organic update preparation, the TOMA forwards the ETIMS RC number to editorial function for PCR retrieval from ETIMS.

4.2.20.4 Distribution Controls. See [Chapter 8](#).

4.2.21 Evaluating RCs on Joint Service Technical Manuals.

4.2.21.1 Air Force-Managed Technical Manuals. Handle proposed changes to Joint Service TMs managed by the Air Force (cognizant activity code F) IAW [Paragraph 4.2.16.10](#).

4.2.21.2 TOMA Procedures for TMs Managed by Other DoD Components. The assigned Air Force TOMA handles receipt and proposed changes to Joint Service managed by another DoD component the same as for an RC against an Air Force TO. After evaluation for possible AF adoption, the RC is forwarded to the primary TM Manager for evaluation and possible adoption for all TM users. Supersede any AF-only supplement if the managing component incorporates the change in the TM.

4.2.21.3 TCM/ES Procedures for TMs Managed by Other DoD Components. The Air Force TCM/ES evaluates the recommended TM improvement and determines required actions. If there is no assigned AF TCM/ES, the TOMA will forward RCs to the managing component for evaluation.

NOTE

Downgrading RC priority is not appropriate when the TM is the responsibility of another DoD component.

4.2.21.3.1 For AF-approved RCs, the TOMA or TCM/ES issues an Air Force-only routine supplement IAW TO 00-5-1. The TCM/ES then routes an informational copy of the approved RC/PCR to the responsible DoD component IAW DAFI 20-118.

4.2.21.3.2 The TCM/ES furnishes an information copy of disapproved RC to OPR in the responsible DoD component for possible implementation.

4.2.21.3.3 When an RC is placed in Abeyance or Advisement status, notification of the responsible DoD component is not required. Process the RCs IAW [Paragraph 4.2.21.3.1](#) or [Paragraph 4.2.21.3.2](#) after approval or disapproval. Do not refer duplicate RCs to the other service. Do not use Deferred status for RCs against other service TMs.

4.2.22 Airmen Powered by Innovation (API) Program. The Airmen Powered by Innovation program is the Air Force enterprise-wide innovation program that solicits suggestions/ideas from Airmen which contribute to the efficiency, economy, or other improvement of operations or programs related to the armed forces. Ideas for improvement-type TO changes will no longer be accepted or processed through the Airmen Powered by Innovation (API) Program. Although all references for improvement type TO changes have been removed from DAFI 38-402, MAJCOMs may institute an internal or local process for recognition of these type of TO changes.

4.2.23 Interim Technical Orders (ITOs) and Rapid Action Change (RAC) Procedures.

NOTE

Programs issuing interim or formal Emergency and Urgent Operational and Safety Supplements or RACs which could restrict any Air Force combat weapon system from full capability or operational readiness will provide advance notifications IAW [Paragraph 4.2.23.7](#).

4.2.23.1 Description. Interim Technical Orders (ITO) are priority, electronically-distributed changes to TOs. Rapid Action Changes (RAC) are priority, electronically-distributed changes used in place of ITOs to update TOs. When an interim TO update is indexed and distributed, TODOs with paper subscriptions will print the supplement portion of the -WA-1 file and post to the front of their paper TOs as traditional pen and ink changes. ITOs and RACs are issued to resolve deficiencies of an Emergency or Urgent nature (see TO 00-5-1). They may revise procedures, deactivate defective subsystems or components, replace hazardous materials, restrict item use to known-safe areas of operation/flight envelopes, or remove systems/end items from service, depending on the nature and severity of the hazard.

TO 00-5-3

4.2.23.2 Interim Safety Supplement (ISS). Issue ISSs when circumstances preclude timely publication of a formal TO update. Issue Emergency ISSs and Urgent ISSs when safety conditions would result in a fatality or serious injury to personnel, or when extensive damage or destruction of equipment or property is involved.

4.2.23.3 Interim Operational Supplement (IOS). Issue IOSs when circumstances preclude timely publication of a formal TO update. Emergency IOSs are issued when the MAJCOM is unable to achieve or maintain operational posture (MISSION ESSENTIAL) or there is a field-level work stoppage. Urgent IOSs are issued for situations that reduce operational efficiency or probability of mission accomplishment, provide replacements for Environmental Protection Agency (EPA) Hazardous Materials (HAZMAT) and Ozone Depleting Substances (ODS), or could result in over \$25,000 or 1,000 man-hours annual savings to the Air Force.

4.2.23.4 Rapid Action Change (RAC). RACs are fully-formatted TO changes distributed electronically, used instead of interim supplements as priority TO updates. RACs require the same coordination, advance notification and approval as the equivalent interim supplement.

4.2.23.5 Timelines. An IOS, ISS or RAC must be issued within 48 hours after receipt of an emergency report. If the report is for a work stoppage, an IOS, ISS or RAC must be issued within 72 hours. An IOS, ISS or RAC must be issued within 40 calendar days after receipt of an urgent report. For distribution, see [Paragraph 5.5](#) and TO 00-5-1.

4.2.23.6 Security Assistance Program (SAP)/Foreign Military Sales (FMS) Support. IOSs, ISSs, and ITCTOs are issued to all FMS customer accounts on ID for the basic TO by the Security Assistance TO Program (SATOP). If CSTOs have been developed; a separate IOS/ISS/ITCTO must be developed for each and issued to the FMS customer by the SATOP.

4.2.23.6.1 The TOMA will ensure all ITOs with subscription for parent TO in SATODS are sent by encrypted email to SATODS workflow address (TinkerSatopInterim@us.af.mil) so the ITO can be reviewed for release by the FDO prior to issue to the FMS customers.

4.2.23.7 Advance Notification. The program office issuing formal or interim operational or safety supplements or RACs will provide advance notification when the supplement or RAC would restrict any Air Force combat weapon system from full capability or operational readiness (Reference TO 00-5-15).

- Notify senior AFMC and USAF leaders via the Advance Notice of Emergency/Urgent ISS, IOS or RAC Release Form at the ITCTO Advance Notification System SharePoint Site at <https://cs3.eis.af.mil/sites/ANS/Pages/AN-SHome.aspx>.
- See TO 00-5-15 for complete advance notification requirements and additional ITO/RAC distribution addresses.

4.2.24 Procedures. Refer to the Flowchart, [Figure 4-3](#). ITOs and RACs are usually prepared by the TCM/ES for the basic TO. ITO preparation may be delegated to an overflow contractor or the Original Equipment Manufacturer (OEM). Once an emergency or urgent situation is identified, the responsible activity evaluates it for alternative courses of action. If there must be an inspection or a configuration change to the system or equipment, issue an ITCTO (Refer to TO 00-5-15). ITOs and RACs applicable to TOs distributed digitally must be in the same digital format as the TO itself. RACs must be merged with the TO file, and ITOs must be attached to the file and digitally linked to the affected TO paragraphs. Link the TO title page to the ITO title page, link the ITO title page to the TO title page, link each step in the ITO to the page in the TO the step refers to, and link the page in the TO to the reference page in the ITO.

4.2.24.1 Developing Interim Supplements. Obtain the appropriate TO numbers from the TOMA. Research and develop the revised TO instructions, verify and coordinate them IAW this TO. Prepare a replacement interim or formal update if a previously published ITO must be changed before it is incorporated (RACs are incorporated upon issue).

4.2.24.1.1 Replace an ISS with a TO change or revision within 40 days of ISS release. Include IOSs/RACs in the next routine update.

NOTE

EXCEPTION: ISSs and IOSs issued to provide temporary instructions (for example, restrictions to operating parameters pending completion of a TCTO, use of prototype equipment for flight test, etc.) may remain active until completion of the task or project or for 30 months, whichever is shorter. For revisions, supplements will be incorporated or reissued. Timelines for Interim Safety Supplements pertaining to flight manuals can be found in AFI 11-215.

4.2.24.2 Creating Rapid Action Changes (RAC). A RAC will be formatted as closely as software will allow to the manual it updates, to include a new title page and List of Effective Pages (LEP) and/or a List Of Changes (LOC), as well as unchanged backing pages for each change page included. It may be prepared using desk-top publishing or word processing software and saved in a format compatible with the baseline TO file. RACs will be identified using the next sequential TO change number.

4.2.24.2.1 The TCM/ES will develop the RAC content; the TCM/ES, TOMA or editor will prepare (format) the RAC and create a merged RAC/basic digital baseline TO file for distribution to TODOs. The following steps are involved in creating a RAC:

- a. The TCM/ES, TOMA or editorial/production activity responsible for formatting the change obtains the digital baseline TO pages affected by the RAC (including title, LEP/LOC, data pages, and corresponding backing pages), and converts them (if required) into a changeable digital format.
- b. Make necessary changes to affected pages IAW the approved PCR. Title page and LEP/LOC format may vary slightly from the current specification or parent TO file format (e.g., column alignment, font size, dot leaders, graphic lines, etc.). The title page notice must identify the change as an EMERGENCY or URGENT RAC.
- c. The TCM/ES and TOMA review and approve the RAC.
- d. Convert the RAC file to PDF or other Page Description Language (PDL) software to convert RAC files to an insert file compatible with baseline TO files.

4.2.24.2.2 Merging and Publishing RACs. The TCM/ES, TOMA or editor electronically merges the PDF RAC file with the PDF baseline TO file to create a new baseline TO, and re-links (indexes) the new file. The PDF RAC file will also be included as attachment to merged PDF. Merged file with RAC attachment will be uploaded to ETIMS ([Paragraph 5.5.1](#)) to replace the previous version, thereby providing access to the complete TO and RAC. Merge and upload non-PDF TO files in whatever file format was used to distribute the baseline TO file.

4.2.24.3 Approval and Release. Approval and release levels are listed in [Table 4-2](#). The TO Management or FMM divisions will be the **only** PM functions allowed to release approved ITOs.

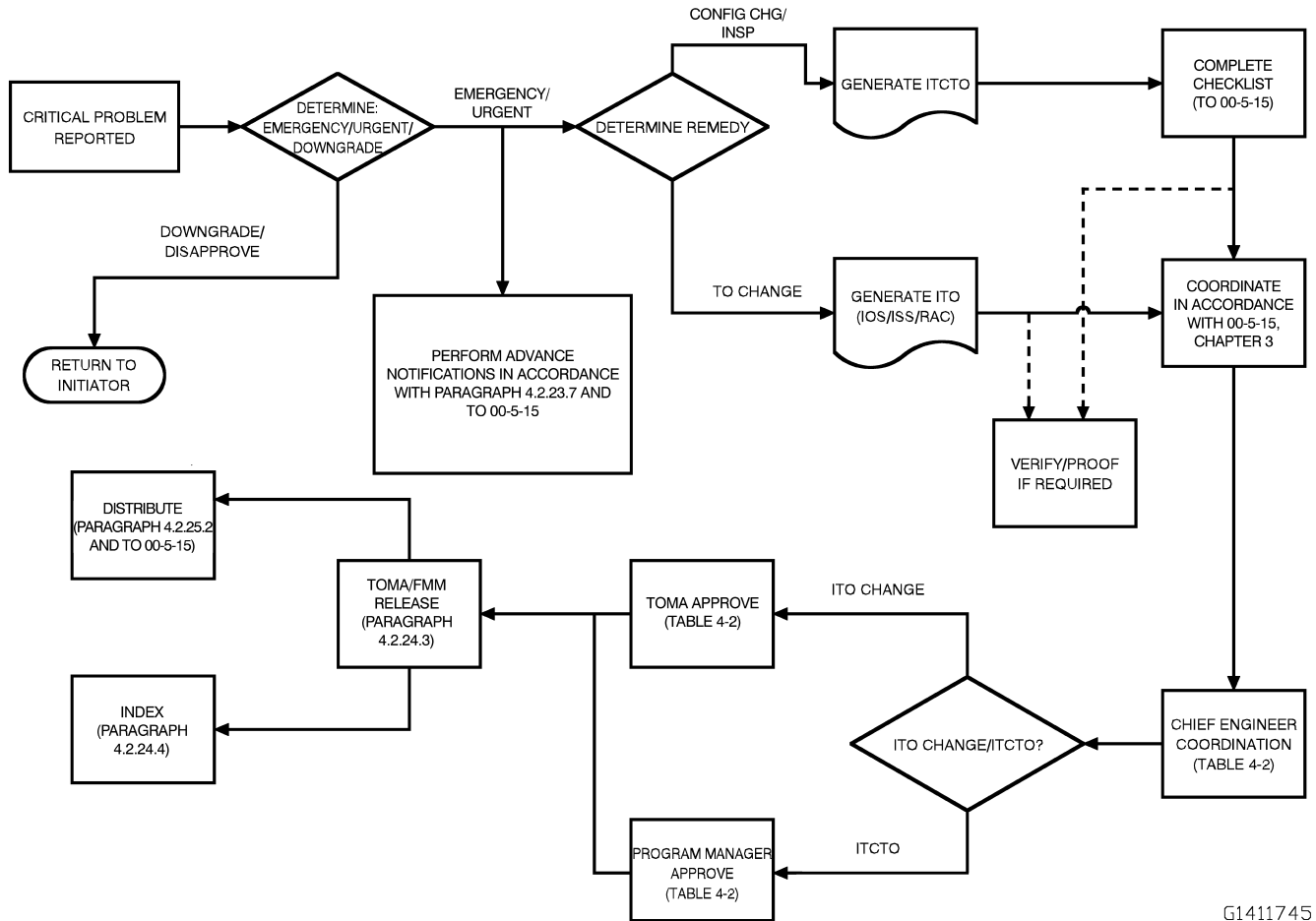
4.2.24.4 Indexing. The TOMA will index ITOs and RACs in ETIMS, marking it as local print (which will set the interim indicator flag to yes), prior to release. Send notification of release through ETIMS with instructions for TODO on how to obtain. RACs will be listed as regular changes.

4.2.25 ITO/RAC Notification and Distribution.

4.2.25.1 Notification Messages. When an ITO/RAC is issued, the TOMA or FMM responsible for the TO will notify affected TODO accounts using the ETIMS notification process that the ITO/RAC is available and how to obtain it. The ETIMS notification message will be sent within established timelines for Emergency or Urgent changes. ITO/RAC notifications will contain:

- Affected TO number and title
- RAC number and date
- File names and sizes of the merged TO (if applicable) and RAC files (sizes are required to ensure users have enough hard drive space to accomplish the download)
- Messages must include a point of contact and phone number to call in case of any technical problems.

4.2.25.2 Distribution. TODOs with paper subscriptions will print the supplement portion or RAC attachment of the -WA-1 file. If TO does not have a -WA-1 media type, any method of electronic distribution described in [Paragraph 5.5](#) may be used.



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Figure 4-4. IOS/ISS/RAC Flow Chart

Table 4-2. ITO/RAC Approval Signature Levels

	ITO/RAC IS:	Action:	Official:
1	All ITOs	Coordinate/Approve Contents: Release after approval:	Chief Engineer TOMA/FMM
2	ISS/IOS/RAC	Approval/Signature:	TOMA/FMM
3	Emergency ITO/RAC affecting SIOP-tasked systems/equipment	Approval: Through: Signature:	Chief of Staff, USAF PM, CC, AFMC/CC PM
4	Emergency ITO/RAC other than 3. above	Approval/Signature:	PM
5	Urgent ITO/RAC	Approval/Signature:	PM
6	ITO Supplement	Approval/Signature:	Same as basic TO

4.3 TO MANAGEMENT PRACTICES USING ETIMS.

The TOMA makes changes to management data about a TO using the appropriate ETIMS screens when the correction, addition, or deletion of TO management data elements is required. Use the screen completion procedures described in the applicable FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). The following paragraphs provide a variety of tasks that TOMAs must use ETIMS to perform.

4.3.1 Equipment Data Related to Technical Orders. The TOMA uses the Maintain Equipment List screens to input or update Commercial and Government Entity (CAGE) codes and item part numbers. See the Maintain Equipment List FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.3.2 Establishing Sponsor Approval. Sponsor Approval is required on all TOs for which initial subscription and distribution requests must be justified, reviewed and approved prior to issue. Sponsor Approval is automatically set by ETIMS when conditions of [Table 4-3](#) exist. The TOMA, in conjunction with the TCM/ES, will determine the need to screen distribution of other unclassified TOs.

4.3.2.1 All CSTO/CSTCTOs will remain marked as Sponsor Approval for the duration of the CSTO/CSTCTO life cycle. In addition, the Maximum Issue Quantity (MIQ) will be set to zero to prevent subsequent requisitions without sponsor approval (see the associated Note in [Paragraph 4.3.4](#)).

4.3.3 Processing ID Subscriptions Requiring Sponsor Approval. Review ID subscription requests for approval when the TO is flagged for Sponsor Approval in the Review Sponsor Approval Request screen in ETIMS. Obtain concurrence from the TCM/ES before approving the subscription. Approval/Disapproval will be completed within 10 calendar days of submittal by TODO. See Review Subscription Request FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.3.3.1 Proprietary data may be automatically approved for release to F*xxxx TO Accounts, but may only be released to a contractor account owning the proprietary rights.

4.3.3.2 For export controlled TOs, refer to TO 00-5-19.

4.3.3.3 TODO personnel are required to delete all paper media ID requirements outside TO 00-5-3, [Paragraph 5.4.2](#) exceptions, or submit justification to the AF CTOM/MAJCOM representative for reconsideration. The TOMA is required to send an ETIMS notification to the TODOs 30 days prior to rescinding paper media. If paper media is still required, the TOMA will then make the paper Sponsor Approval. The TODO must provide their AF CTOM/MAJCOM representative justification to continue receiving paper TOs using the Paper Justification/Waiver template available located under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)). Approved forms will be coordinated with the TOMA. TOMAs may send subsequent 30-day paper media rescission notification annually.

4.3.3.4 If paper TOs have FMS customers on ID, the TOMA will not mark the TO as sponsor approval. The TOMA will email the Security Assistance Technical Order Program (SATOP) office (AFLCMC.EZGTC.Workflow@us.af.mil) with the information and SATOP will contact the FMS customer within 30 days. If the TOMA does not receive a response from SATOP within 30 days, the TO will be marked as sponsor approval only. Once SATOP receives a reply, they will contact the TOMA. If paper copies are still required by FMS customers, the TOMA will continue to provide TO paper copies.

4.3.4 Processing Requisition Transactions Requiring Sponsor Approval. TOMAs will receive notification of One-Time Requisitions (OTR) needing sponsor approval through their ETIMS home page. The TOMA will obtain concurrence of the TCM/ES before approving the subscription/requisition. Approval/disapproval will be completed within 10 calendar days of submittal by TODO. Justification is not required for accounts already on subscription for the TO.

NOTE

Subsequent requisitions after an account has approved subscription will not require sponsor approval unless order quantity is in excess of the Maximum Issue Quantity (MIQ).

Table 4-3. Automatic Mandatory Sponsor Approvals

CLASSIFICATION	DISTRIBUTION STATEMENT	DEFENSE CATEGORY
Top Secret	All	All
Secret	All	All
Confidential	All	All
Unclassified	B, E, F, REL TO	All
	D	Direct Military Support
	C or D	Critical Technology
		Foreign Government Information
		Specific Authority
		Vulnerability Information
		Test and Evaluation
	B, C, D, E	CTI
		IA
		Export Controlled
	B, E	Patents and Inventions
		SBIR
<div>NOTE</div> <div>Nuclear categorized TOs will automatically set Sponsor Approval to Yes.</div>		

4.3.5 Manage ETIMS Index. The TOMA uses ETIMS Manage TOs screens to manage catalog entry data; Publication Type, Title, Pub Status, Sponsor Approval, Program Group/Name/Element Code, Lead Command, assigned management personnel, and to mark status; rescinded, superseded, renumbered or FMS Only. These screens are also used to add basics, changes, revisions, supplements, and to enter configuration and management information for these increments.

4.3.5.1 Correct TO Catalog and Management Information Errors. ETIMS users report errors in the accuracy or quality of ETIMS TO Catalog data using ETIMS DDRs. TOMAs must verify and correct ETIMS Catalog TO record errors within 7 calendar days after receiving notification of the error. All ETIMS users will correct errors in the data they are authorized to modify, or will contact the responsible data owner to make corrections.

4.3.5.2 Correct Printing and Distribution Errors. ETIMS users report all TO printing or distribution discrepancies by using the ETIMS Data Discrepancy Report (DDR) process. All TOMAs who receive issues from users with DSO discrepancies for printing, reproduction or distribution requirements will report the issues, including all supporting documentation to the FSA. If no resolution can be determined locally, the FSA will submit an incident ticket in DSO and track until resolution has been reached. The FSA will notify the user when the issue has been resolved. The FSA may also seek support from the AFTOFST by submitting a ticket via the Field Support Center (FSC) ticket tracking SharePoint application. If the AFTOFST cannot resolve the issue locally, the AFTOFST POC will submit an incident ticket in DSO and track until resolution has been reached. The AFTOFST POC will notify the FSA when the FSC ticket has been dispositioned.

4.3.6 Establish Shipping Priorities. Direct commercial printers to use classified mailing procedures (DoDM 5200.01V1_AFMAN 16-1404V1) when distributing classified TOs. Direct use of first-class mail for all emergency requisitions and for ID shipments of TOs and TCTOs to APO/FPO destinations. When using the DLA Data Management Services

for Initial Distribution (ID), local DLA facilities will distribute copies to subscribers in their service areas. FMS distribution will be handled by AFLCMC/LZPTC.

4.3.7 TCTO Rescission Review. TOMAs will use the ETIMS TCTO Rescission Report to generate a listing of assigned TCTOs approaching rescission dates and provide the listing to the TCM/ES. For those within 150 days of rescission, the TCM/ES will evaluate whether to extend the rescission dates or to rescind the TOs early or on the specified dates. TOMA will then update ETIMS with a new rescission date or rescind the TCTO.

4.3.8 Reports. ETIMS users can access numerous reports to assist with TO and TODO account management. These reports are available from the Manage TOs screen, such as Requisition Report, TO Number Request Report, Sponsor Approval Report, Master Address Report, TO Catalog Report, etc. Procedures for accessing the reports are in the ETIMS help screens and appropriate FUGs.

4.3.9 Renumbering Technical Orders. The TOMA will only request TO renumbering to correct serious numbering errors caused by erroneous or insufficient source data before the TO is published and distributed. Published TOs will only be renumbered when the assigned number prevents effective location or use of the TO, or the scope or range of the functionality covered by the TO changes significantly. TOs will not be renumbered to align with local sequence numbers or similar cross reference identifiers. The responsible TOMA will request renumbering assistance through the AFTOMS site office or AFTOFST. When renumbering a published TO, both the new and former TO numbers will appear in the upper right corner of the title page with the former number preceded by the word Formerly. Both numbers will remain on the title page until the next revision, at which time only the new number will appear. Only the new TO number will appear on the individual updated pages. Unchanged pages will continue to indicate the old TO number until they are changed for a reason other than simply renumbering, or until the next TO revision. Distribution media suffixes are not included as part of the TO number for the TO itself.

4.3.9.1 When AFLCMC/LZPTC approves a new number for unpublished TOs, the TO record is updated and subscriptions submitted against the original number are automatically changed to the new one.

4.3.9.2 When published TOs are renumbered, ETIMS will automatically convert all past revisions and changes to the new number.

4.3.9.3 At the next TO update, IETM TOs numbered as -WA-2 and indexed in ETIMS must be renumbered to -WA-1 and indexed for distribution through ETIMS. TOs distributed from sites other than the ETIMS repository are indicated by a -WA-2 media suffix, with the host site URL identified in the ETIMS TO details page in the -WA-2 Repository/System Name Block. The -WA-2 numbering is not to be used for PDF or IETMS TOs that are distributable through ETIMS. PDFs should be -WA-1 and distributed via ETIMS. An AFMC/A4F waiver is required for the use of the -WA-2 suffix.

4.3.9.4 The only procedural difference in indexing between the types of media is the suffix used to indicate media type. Media suffixes will only be used when indexing and subscribing to the digital versions of the TO, they will NOT appear on the TO title page.

4.4 INDEXING TOS BY MEDIA TYPES.

4.4.1 Media Type Definitions.

4.4.1.1 Physical Media: Paper and CD/DVD.

4.4.1.2 Electronic Media: Online Electronic TOs (-WA-1 and -WA-2 TOs).

4.4.1.3 The minimum acceptable digital format for Air Force TOs is Adobe Portable Document Format (PDF). When TOs will be distributed in two or more distribution media, each media version must be separately indexed in ETIMS. Each distributed media version will have its own TO Number consisting of the approved TO number plus the appropriate distribution media suffix code (see TO 00-5-18).

NOTE

TO Numbers assigned to CD or DVD disks used for the distribution of single or multiple digital TOs will reflect the TO number including the media suffix on the disk and case labels ([Figure 4-3](#)).

TO 00-5-3

4.4.2 Paper TOs. The paper media for a TO must be marked FMS Only in ETIMS if there are FMS subscribers, even if the US TODOs only subscribe to the electronic media. Contact the SATOP's Case Line Managers at AFLCMC.EZGTC.Workflow@us.af.mil to determine if there are FMS Subscribers. When only FMS subscribers to a TO remain, set the TO status to FMS Only.

4.4.3 CDs/DVDs. If a single TO or multiple TOs will be distributed on a CD or DVD, the TOMA must establish a specific TO Number for the CD ROM or DVD distributed. These actions will ensure that users will be able to subscribe to the CD/DVD TO or collection of TOs.

4.4.3.1 If a single TO distributed on CD/DVD will replace a single paper version (no paper distribution at all), the TOMA requests CD/DVD number and supersede the paper TO.

4.4.3.2 For a collection of TOs that are to be distributed on CD/DVD, TOMAs will add TO collection to CD/DVD on Manage TO Detail screen in ETIMS. See Index Physical Media FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). If the CD/DVD distribution will be for an IETM/S1000D based TO, a Catalog Note will be included listing the TO groups contained on the CD/DVD (IETM/S1000D) and indicate the viewing application or system required. The TO Number printed on the CD will be the same as the TO Index. Individual TOs contained in the collection that are not available for distribution separately as paper will be indexed as -WA-1, if available through ETIMS. TOMA will associate all TOs in collection on CD/DVD Manager Tech Order Detail page.

4.4.3.3 If TOs for multiple systems or commodities are included on the CD/DVD, use a disk TO number which will help identify all of the systems/commodities (see the instructions for establishing a TCTO Series Header Number in TO 00-5-18).

4.4.3.4 If multiple TO types are included (e.g., a disk containing operations, maintenance and inspection TOs), either use the lowest TO type dash (-) number contained on the disk or omit the TO type designator altogether in the CD/DVD TO number.

4.4.3.5 Numbering Multiple Disks in a Set. If a TO is published in volumes or a TO set is too large for a single disk, the 'n' will indicate the volume/disk number. If a TO Set has varying classifications, or a supplemental TO has been published, the 'n' can differentiate between differently classified disks. See examples, TO 00-5-18.

4.4.3.6 TO Distribution Media Suffix Codes. Media suffixes will only be used when indexing and subscribing to the different media types of the TO, they will NOT appear on the TO title page. TO Numbers assigned to CD or DVD disks used for the distribution of single or multiple digital TOs will reflect the TO number including the media suffix on the disk and case labels ([Paragraph 4.2.18.1](#)).

4.4.4 Electronic TOs. An electronic TO file available for distribution and viewing via ETIMS. eTOs in ETIMS are identified by a media distribution code suffix of -WA-n, where -1 indicates ETIMS distribution, and -2 indicates distribution through other electronic means. The TOMA will create a new index record in ETIMS. These actions will ensure that users are able to subscribe to the -WA-n TOs and one-time requisitions will not be processed. See Indexing FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.4.4.1 If the electronic media will immediately replace paper (i.e., no paper distribution at all), then the TOMA will request a new -WA-1 TO number and supersede the paper version. This will allow for a complete history of the paper TO, as well as a complete and continuing history for the -WA-1 TO.

NOTE

- The AFTOFST numbers, indexes, optimizes and uploads MAJCOM supplements to those Methods & Procedures Technical Orders (MPTOs) distributed exclusively as -WA-1 (Refer to TO 00-5-1). AFTOFST acts as a TOMA and TCM/ES in ETIMS for indexing purposes. TODOs are responsible for establishing subscription to the merged TO and MAJCOM supplement.
- Prior to replacing paper (no paper distribution at all), the TOMA will determine if there are FMS subscribers in SATODS.
- If there are FMS subscribers to the paper TO: Do not rescind a paper version of any TO with current FMS subscribers. Instead, set the paper TO version to **FMS Only** in ETIMS. Both paper and WA media will be updated concurrently until no FMS subscribers exist. See [Paragraph 4.5.3](#) for single media type rescission.
- If there are no FMS subscribers to the paper TO, rescind the paper version of the TO. Maintain only the -WA-1.

4.4.4.2 TOMAs must manually mark -WA-1 index records in ETIMS as Available for Index. Once the TO is uploaded, validated and deployed using ETIMS processes, ETIMS will then mark the TO Available For Distribution and distributed to authorized Master eTools for viewing. TOs shall not be uploaded, deployed or distributed prior to the publication date and must be distributed within 30 days after the publication date.

4.4.4.3 The AFTOFST has developed FUGs to assist with ETIMS indexing of both digital and physical TOs. The indexing FUGs are accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

NOTE

All digital file media (-WA-n), are indexed as revisions with a publication date matching the latest paper TO increment (Revision, Change, or Supplement). The entire index history for the paper version should not be duplicated for the eTO version.

4.4.5 **Numbering and Indexing Supplemental TO Manuals and Parent TOs.** When a Supplemental Manual (as described in TO 00-5-1) is published as a child to a parent TO, the following guidelines apply:

4.4.5.1 Title Page Requirements.

- Both the Supplemental Manual and the Parent TO must have a supplement notice on their title pages when one cannot be used without the other.
- The Supplemental Manual title page must include the statement: "INCOMPLETE WITHOUT TO XX-XX-XX" (where XX-XX-XX is the parent TO number).
- The Parent Manual title page must include the statement: "WHEN REQUIRED SEE TO SUPPLEMENTAL MANUAL XXX-XX-XX. (where XXX-XX-XX is the supplemental manual).

4.4.5.2 **ETIMS Catalog Notes.** The same statements listed on the Title Page will also be placed in the ETIMS Catalog Notes for both the parent and supplemental TOs. This ensures users are aware of the interdependence between the Supplemental Manual and the Parent TO.

4.4.6 **Distributing Marked-up Changes during System Modifications.** TOMAs issue a waiver, with the written agreement of the lead commands and MAJCOMs, to use verified preliminary changes (red-line, marked-up, or clean copies) for required modification programs such as data used to support maintenance on a TCTO-modified system until the related TO changes are formally published. Authorized use of red-lined or marked-up TOs will not exceed 180 days unless Lead Command authorization is updated. The authorization memorandum must accompany the data at all times.

4.4.6.1 For electronic distribution, the TOMA will transmit as identified in the Lead Command authorization letter and IAW [Paragraph 5.5](#).

4.4.6.2 For physical media distribution, the TOMA will arrange for distribution of limited quantities as described in the Lead Command authorization letter and IAW DAFI 63-101/20-101, this TO and TO 00-5-1. Procedures to manage and control preliminary changes will rest with the local using organization.

4.4.7 **Interim TOs (ITO).** Index ITOs using a PSN with media code P (Printed Copy). Interim TOs cannot be requisitioned and must be locally printed. TOMA will send notification using ETIMS when ITO is deployed with instruction to download.

4.4.8 **Numbering and Indexing Digital TCTOs (eTCTO).** When eTCTOs are distributed using ETIMS, the eTCTO/eTCTO supplement will be indexed using the -WA-1 media suffix code. Non-ETIMS eTCTOs will use the -WA-2 media suffix code.

NOTE

- Care must be exercised to correctly sequence the first eTCTO number assigned for the new eTCTO series, if a matching physical media version of the TCTO already exists (see [Paragraph 3.8.4](#)). For example, if the latest paper TCTO ended with 513, establish a corresponding -WA-1 eTCTO series header record and index the first eTCTO as eTCTO Series-WA-1-514. This will require an additional renumber action in ETIMS to change the ETIMS generated eTCTO Series-WA-1-501 to eTCTO Series-WA-1-514.
- If paper TCTOs continue to be issued in parallel, both must be indexed, i.e., TCTO Series-514 (paper) and eTCTO Series-WA-1-514. If paper TCTO files are distributed on CD/DVD, number and index the TCTO as TCTO Series-CD (or DV)-1-501 (or higher).

4.4.9 **Supplements.** Supplement sequence numbers are assigned automatically in ETIMS and restart at 1 (or C depending on type of supplement) after each TO revision. The new supplement is then distributed IAW TO 00-5-1 and this TO. See Indexing FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.4.9.1 If a supplement is indexed incorrectly, an FSC ticket will be required to delete the incorrect increment and the TOMA will then index the revision. FMP supplements have sequential supplement numbering for the life of the manual. ETIMS will continue the numbering process on FMP Supplements with any new revision.

4.4.10 **Supplements Affecting Digital TOs.** The formal supplements for PDF eTOs or CD/DVD TOs will be merged into the digital TO file prior to issue. The TO media (-WA-1, -CD-1, or -DV-1) will be indexed as a Revision and will be dated the same as the paper supplement. Do NOT index an eTO supplement as a stand-alone file with the -WA-1 media distribution code, as this will prevent loading either file to the ETIMS repository.

4.4.10.1 Interim supplements to digital PDF eTOs will be merged into (posted to) the digital eTO prior to uploading to ETIMS. See Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)), for specific details. The merged TO file will be indexed as a Revision with a publication date that matches the paper supplement date.

4.4.10.2 Supplements must be merged into digital PDF TO files and posted IAW TO 00-5-1 and fully linked and annotated by the TOMA before uploading to ETIMS for viewing and distribution. This includes a title page note referencing the supplement as well as hyperlinks to affected paragraphs. See Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

4.5 **TECHNICAL ORDER RESCISSIONS.**

Rescind TOs when all media types will be deleted without replacement. The TOMA must determine if FMS/SAP customers are on subscription for the TO and media type, see [Paragraph 4.5.4](#). Rescind TCTOs/eTCTOs when rescission dates are reached IAW TO 00-5-15, or the TCTOs/eTCTOs are no longer required. Extend rescission dates on TCTOs/eTCTOs when required IAW TO 00-5-15. Rescind TCTO/eTCTO series headers when all media types of TO series are deleted. For rescission of supplements to digital data, see [Paragraph 4.2.16.9.2](#).

NOTE

TOs and increments replaced by or combined into new TOs and TO updates will be superseded not rescinded.

4.5.1 **TCM/ES Responsibilities.** Upon determining a TO will be rescinded without a replacement, the TCM/ES will perform the following actions:

4.5.1.1 Notify the TOMA of any proposed TO rescission of digital/paper or both with the following information as a minimum: TO number, known operational systems, commodities and related TOs involved, part number, type/model and series of items, associated weapon system (and active/retired status).

4.5.1.2 As required, contact subscribers requesting retention identified by TOMA in [Paragraph 4.5.2.3](#) for additional information or clarification. Advise TOMA to retain or rescind the TO.

4.5.1.3 Ensure the system or commodities affected have been removed from operation and phased out of the inventory by checking the Standard Reporting Designator (SRD) through REMIS.

4.5.2 TOMA Responsibilities. The TOMA will perform the following actions prior to rescission of a TO:

4.5.2.1 Use the ETIMS Notify Subscribers Screen to advise all affected F*, E*, and/or N* TODO accounts of the proposed rescission. If the TO is joint-service, follow DAFI 20-118 procedures to notify other DoD activities. Include all of the information provided by the TCM/ES in the notification message. Request detailed justification be provided by any subscriber who opposes the rescission. Include a pending rescission date in the notification (not less than 30 days from the notification date).

4.5.2.2 If upon the pending rescission date, no subscribers have provided justification to retain the TO, the TOMA will use the ETIMS Manage TO screen to rescind the TO and update the ETIMS Catalog.

4.5.2.3 If detailed justification to retain the TO is received, provide the justification and subscriber's contact information to the TCM/ES for evaluation/resolution.

4.5.3 Rescission of Single Media Type. This procedure is accomplished when only one media type requires rescission for USAF but is used by FMS/SAP. Prior to the rescission of one media, it must be determined if the TO is used by FMS/SAP. If the TO is used for FMS/SAP, set TO status in ETIMS to FMS Only.

4.5.4 FMS/SAP TO Retention. TOMAs use the SATODS Media search to determine if FMS/SAP customers are on subscription for the TO and media type. Based on results, use the procedures below:

4.5.4.1 If there are no FMS/SAP ID requirements, rescind the media types as prescribed in [Paragraph 4.5.2](#).

4.5.4.2 The following procedures will be used when a single media type (paper) is scheduled for rescission, FMS/SAP customers are on subscription, and the alternate media (-WA-1) remains active for USAF:

- a. The TOMA will mark the paper media as FMS Only in ETIMS using the Manager TO Detail screen.
- b. The TOMA will update both paper and -WA-1 media concurrently until no FMS ID requirement exists.
- c. When FMS ID requirement ends, rescind the single media type (paper).

4.5.4.3 The following procedures will be used when a single media type (-WA-1) is scheduled for rescission and FMS/SAP customers are on subscription:

- a. The TOMA will contact the SATOP workflow at AFLCMC.EZGTC.Workflow@us.af.mil to notify FMS/SAP subscribers of the rescission decision.
- b. Case Line Managers will contact each subscribed FMS/SAP customer to determine if there is still an ID requirement for the specific media type and notify TOMA of results:
 - (1) If there is no longer an ID requirement, the TOMA rescinds the TO media type.
 - (2) If there is still an ID requirement, the TOMA notifies USAF subscribers of rescission using [Paragraph 4.5.2.1](#).
 - (3) Remove all TODO accounts from subscription except F*19W5, this is the SATOP TODO account.
 - (4) Enter catalog note on the Manager TO Detail screen stating "TO rescinded for USAF, retained for SAP"
 - (5) Maintain Sponsor Approval status to manage subscription requests.
 - (6) Change Lead Command to AFMC on ETIMS Manager TO Detail screen.
 - (7) SATOP office notifies FMS customers of limited engineering support for rescinded USAF TO and establish a timeline for conversion to CSTO.
 - (8) TOMA rescinds TO once CSTO case line is established and CSTO is distributed.

4.6 TECHNICAL ORDER SUPERSEDESURES.

4.6.1 Definition. Superseded TOs and TO increments are defined as increments being replaced by a revision or a new increment in the same TO series, or when replaced by or incorporated into another TO in a different series. Supersede TCTOs when replaced by a new TCTO.

NOTE

Add a Catalog Note in ETIMS, to the record of any superseded TO that is replaced by a different TO, use the statement: Replaced by TO XXX-XXX-XX. Add a matching Catalog Note to the replacement TO record, use the statement: Formerly TO XXX-XXX-XX or Includes TOs XXX-XXX-XX.

4.6.2 Supersedure Notices. Unless otherwise specified, the supersedure notices will be placed on the title page when the manual/change/revision/RAC under preparation supersedes all or portions of other manuals/changes/revisions. When specified, the supersedure notice will include a list of all currently superseded supplements and RACs IAW MIL-STD-38784. No supersedure notice is required when PTOs are superseded. Provide any special instructions in the change package (e.g., the list of TO increments to be listed in the title page supersedure notice). **Examples:**

- When an ETIMS Generated Special Handling 252 is incorporated into a new increment, the ETIMS generated RC-Number (Block 5) and date must be listed on the title page supersedure notice of the new increment. Example: THIS PUBLICATION SUPERSEDES SPECIAL HANDLING 252 PROJECT NO. RC-XXXXXXXXXXXXXXX, DATED 20 JULY 2011.
- When an IOS/ISS is being incorporated into a change, the IOS must be listed on the title page supersedure notice of the new increment. Example: THIS PUBLICATION SUPERSEDES TO 00-5-3S-1, DATED 12 FEBRUARY 2010.

4.6.3 TO Disposition. The TOMA will supersede or rescind TOs when they have been replaced or are no longer required, IAW this TO. TOs are retained in the Archives until six years after the equipment supported leaves the inventory (reference [Paragraph 5.8](#)).

4.7 REACTIVATE TECHNICAL ORDERS.

TOMA must submit a Field Support Center (FSC) ticket to reactivate a rescinded TO. If reactivated within 365 days of rescission date, all IDs will be restored automatically. If reactivated outside of 365 days from the rescission date, TODOs must reestablish all IDs. All TOs that are reactivated will have the Available for Distribution status set to No and the digital TO file must be uploaded in ETIMS and DSO as applicable.

4.8 TRANSFER OF TECHNICAL ORDER MANAGEMENT RESPONSIBILITY.

4.8.1 Business Practices. Responsibility for TO program and content management transfers to the new ETIMS proponent if the system or equipment covered by the TOs is transferred. Both losing and gaining proponents must agree on the transfer and schedules before any actions can occur. Transfer should include all active and inactive TOs and all TO family increments in the affected TO series; i.e., all related basics, changes, supplements, source data, TCTOs and TCTO series headers. TOMA and TCM/ES responsibilities must also be transferred within the proponent when the assigned personnel transfer or otherwise become inactive.

4.8.2 Transfer Agreements. If gaining proponent does not agree with the transfer, the applicable TO Site Functional Office has the authority to intercede and assist with the transfer. This can only be accomplished once research of all legacy systems indicate the TOs belong to the gaining organization. If proponent transfer is still a dispute, AFMC/A4F will make the final determination.

4.8.3 Proponent Transfer Procedures. The losing TOMA will identify to the gaining TOMA, any TOs to be transferred on a Proponent Transfer Spreadsheet (see template on the AFTOFST Home SharePoint (reference [Paragraph 6](#))). The gaining TOMA will complete spreadsheet by adding the gaining proponent, TOMA, and TCM/ES for each TO on spreadsheet. The spreadsheet will then be submitted using an FSC ticket.

4.8.3.1 ETIMS Proponent Transfer. For locations without a local AFTOMS site office, the gaining TOMA will contact the Tinker AFB AFTOMS site office (see [Appendix A](#), Points of Contact) to submit a Field Support Center ticket to AFTOFST, with the spreadsheet attached.

Table 4-4. Technical Order Currency Review Guide

	ITEM	ACTION
1	Part Number in TO title	Review cataloging history for other part numbers that should appear on the cover of the manual
2	Distribution, disclosure, and export control	Verify distribution statement is correct. Update office symbol in distribution statement if required. Add disclosure notice, export control, and CUI markings, if required.
3	Table of Contents, List of Illustrations and List of Tables	Update to reflect changes made to the manual.
4	Symbols and abbreviations	Add separate tables defining both the symbols and abbreviations that are used throughout the manual
5	Glossary	Add a table explaining the terms used in the manual if necessary
6	Related Publications	Add a table of related publications identified throughout the TO and verify currency of referenced publications.
7	List of TCTOs	Identify any TCTOs that are currently in work. Remove TCTOs that have been rescinded.
8	TO Improvement	Add instructions for TO Improvement.
9	Safety Summary	Record warnings and cautions here that require emphasis.
10	Work cards	Review for reference to work cards. Verify work cards refer to part number and TO of the book you're reviewing.
11	Technical requests	Identify when a ETARS or MARS 107 or 202 is required and add supporting TO information.
12	Supplements	Update the manual to incorporate supplements
13	TCTOs	Verify changes identified in TCTOs are recorded in the TO
14	Inspections	Are intervals appropriate and procedures complete?
15	Warnings and cautions	Review for accuracy and clarity. Configure IAW MIL-STD-38784.
16	Source, Maintenance, and Recoverability codes	Verify SMR codes are accurate and up to date
17	Usable on codes	Verify completeness and accuracy
18	Part Numbers	Verify for currency. Identify replacements for obsolete part numbers.

CHAPTER 5

TECHNICAL ORDER DISTRIBUTION

5.1 DISTRIBUTION OVERVIEW.

The Air Force TO Vision: To provide user-friendly, technically accurate, secure and up-to-date digital technical data at the point of use that is acquired, sustained, distributed and available in digital format from a single point of access for all technical data users, all technical data media must be indexed in Enhanced Technical Information Management System (ETIMS). Media types are defined as digital and physical (see [Paragraph 4.4.1](#)). There are three conditions that determine the distribution of technical data, based on subscriptions, Initial Distribution (ID) and media type: Digital only, digital and physical, and physical. The following information will describe indexing of TOs, and how indexing establishes the appropriate distribution: Digital and/or Physical.

5.2 INDEXING TOS.

TOs must be accurately indexed in ETIMS to establish distribution to technical data users. This is accomplished through the use of media suffix codes ([Paragraph 4.4.3.6](#)). For physical media, use the base line TO number only for paper, or -CD-1, or -DVD-1 for other physical media. For electronic media, use -WA-1, or -WA-2. In some cases, TOs may also require distribution in more than one medium.

5.2.1 Configuration Control. When TOs are distributed in more than one medium (e.g., paper and -WA-1), information about the configuration of the TO (TO Catalog data) and all media formats must reflect the same content configuration. The -WA-1 version will be uploaded to ETIMS, and deployed when other media types are submitted to the Defense Logistics Agency (DLA) Data Management Services for reproduction. This ensures -WA-1 TOs are deployed at same time or before other media.

NOTE

EXCEPTION: Flight manual and/or checklist distribution of electronic media may be held to facilitate concurrent release with physical media. See AFI 11-215 for further guidance.

5.3 DIGITAL DISTRIBUTION.

The official method for distribution of AF TOs is ETIMS; use of any other method on a program-wide basis will require a written -WA-2 waiver IAW [Paragraph 4.3.9](#). The following paragraphs outline the authorized methods and procedures for disseminating Controlled Unclassified Information (CUI), applicable for any technical data (including Technical Orders, Technical Reports, Test Data, etc.) with STINFO distribution statements B through F. Reference publications include DoDI 5230.24 and DoDD 5230.25; DAFI 63-101/20-101, AFI 17-130, Air Force Systems Security Instruction (AFSSI) 8520, and DAFI 61-201.

5.3.1 WA-1 Media. The TOMA must mark the required increment as Available for Index, upload, validate and deploy using ETIMS. See Index Digital Media and Upload and Deploy FUGs, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)).

5.3.1.1 If Foreign Military Sales (FMS) customers are on subscription for WA-1 Only USAF TOs for the sole purpose of printing in-country, the USAF TOMA must accomplish the following:

- Notify editorial to select Paper Output in the source file tagging.
- Notify editorial to add a List of Changes to the paper output.

The resulting PDF may be loaded to ETIMS for -WA-1 distribution.

5.3.1.2 Supplements will be merged (posted) to the TO file IAW TO 00-5-1 and [Paragraph 4.4.10.2](#). See Merging Supplements FUG, accessible through the AFTOFST Home SharePoint (reference [Paragraph 6](#)). If Foreign Military Sales (FMS)

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customers are on subscription for-WA-1 Only USAF TOs solely for the purpose of printing locally in-county, the USAF TOMA must accomplish the following:

- Notify editorial to select Paper Output in the source file tagging.
- Notify editorial to add a List of Changes to the paper output.
- Load the resulting PDF to ETIMS for-WA-1 distribution.

This procedure ensures FMS customers, printing in-county from the-WA-1, are able to punch and bind the TOs.

5.3.1.3 When creating a new TCTO Series Header, the TOMA will initiate Subscription by Like Item procedures in ETIMS to ensure all accounts on subscription for the standard TO will automatically be subscribed to the new TCTO Series Header, and an automated notification will be sent to TODO through ETIMS.

NOTE

Failure to comply with the standard, static TO filename convention renders external links to other TOs inoperative. This forces TODO personnel and TO users to adopt labor-intensive workarounds to accomplish the mission.

5.3.1.4 When uploading PDF TO files, filenames will consist of the TO number with a PDF extension (e.g., TO 00-5-3-WA-1 would be 00-5-3.PDF). Once the TO update is uploaded and validated, the TOMA will deploy through the ETIMS TO Details screen. Once deployed, the eTO will be distributed to Master eTools and made available to view online in ETIMS.

5.3.1.5 Due to the excessive amount of time required to view or download a TO file through eTO Content Management (ECM), it is highly recommended to section larger TOs into two or more volumes. TOs may be broken out by chapters or other logical divisions as necessary, and each volume must have its own title page, TO number, LEP/LOC, and Table of Contents; title pages must have this statement: This TO is not complete without TO ####; and the volumes must be indexed in ETIMS as -WA-1 for upload to ETIMS. This requirement is in addition to the rules for multivolume manuals in MIL-STD-38784. See TO 00-5-18 for numbering rules.

5.3.2 WA-2 Media.

NOTE

A waiver is required for -WA-2 TO distribution outside of ETIMS to F* TODO accounts.

-WA-2 TOs are eTOs not accessible through ETIMS. The ETIMS TO Details screen indicates the location of the distributable TO file. Updates to -WA-2 TOs must be managed by TOMAs to ensure only current and complete TOs are available for distribution.

5.3.3 Other TO Distribution Systems. Consult local procedures for uploading non-AF HTML or PDF files with a -WA-2 suffix to other repositories for viewing and distribution operations. Access or distribution of TOs available or hosted by systems other than ETIMS is dependent upon each system's design. TODOs with subscriptions for these TOs must independently establish access to these systems.

5.3.3.1 Non-ETIMS Sites. Use of such sites instead of ETIMS requires a -WA-2 waiver from AFMC/A4F IAW [Paragraph 1.1.1](#) and TO 00-5-1. TO listings on host servers will include the TO Number, Date, Title, and Change Number/Date to allow users to verify configuration of downloaded copies without opening or downloading the file. Additional information, such as TOMA or TCM/ES information, is optional. Ensure the host server has appropriate access controls to protect limited distribution TOs and data (AFI 17-130).

5.3.3.2 AF SharePoint Folders. IAW AFI 11-215, under extenuating circumstances, FMMs may augment the dissemination of restricted distribution TOs via ETIMS through the use of AF approved secure websites or SharePoint. FMMs create restricted TO folders and provide advance access while authorized users set alerts to automatically receive an email when restricted TOs are uploaded. FMMs will set permissions to ensure SharePoint folders are clearly identified as restricted and access is limited to the current authorized subscribers list in ETIMS.

5.4 MIXED MEDIA DISTRIBUTION.

The minimum acceptable electronic format for Air Force TOs is Adobe Portable Document Format (PDF). When TOs will be distributed in two or more distribution media, each media version must be separately indexed in ETIMS for distribution. Each distributed media version will have its own TO Number consisting of the approved TO number plus the appropriate distribution media suffix code (see TO 00-5-18).

5.4.1 -WA-1 with Paper Media. If a PDF version of a TO will be distributed both in paper and digitally, the same PDF file will be used to support both distribution methods.

NOTE

EXCEPTION: When FMMs must distribute Flight Manual Checklists formatted for Electronic Flight Book (EFB) use, the resulting TO file may be distributed IAW [Paragraph 5.3.3.2](#). However, both the -WA-1 and paper distribution in ETIMS must adhere to the guidance above.

5.4.1.1 A copy of the PDF TO or TO update file will be indexed in ETIMS and uploaded to Document Services Online (DSO) for printing paper and Initial Distribution. The TO file and any update files will be merged to make a complete, current TO for follow-on print through DSO. Follow-on print functions are accomplished by One Time Requisition (OTR) requests through ETIMS and establishment of Not For Distribution (NFD) print ready files in DSO. An NFD consists of the most recent Basic or Revision and all subsequent changes, merged into a single reproducible copy of the distributed eTO (see [Paragraph 5.5.3](#)). NFD files are available in DSO until they are replaced by the next NFD requirement.

5.4.1.2 For distribution as a -WA-1, the merged PDF TO file will be indexed as a revision with the same date as the latest paper update. It will then be uploaded to ETIMS and deployed for distribution and viewing.

5.4.1.3 Interim TOs (local print) are not uploaded to DSO for Initial Distribution. However, the NFD file must be uploaded in DSO to facilitate OTR requirements (see [Paragraph 5.4.1.1](#), above). ETIMS supports TODO local print requirements using the distributed -WA-1 increment (see [Table 5-1](#)).

5.4.1.4 When USAF -WA-1 TOs are solely distributed through ETIMS and there is still FMS paper printing distribution requirements, the TOMA will upload the electronic file into DSO to support FMS printing and distribution. The TOMA will also need to send a request to SATODS Office workflow at AFLCMC.FM.SATOPSResourceAdvi@us.af.mil to request being added to the appropriate FMS funding document in DSO. A request is required when a new MIPR is uploaded, usually on an annual basis. For instructions see Tech Tip-Requesting FMS Funding Access, accessible through the AFTOMS SharePoint (reference [Paragraph 6](#)).

5.4.1.5 SATODS communicates FMS requirements to DSO for the printing and distribution of physical USAF TOs to responsible Freight Forwarder, Embassy, or other designated location based on approved subscriptions.

5.4.1.6 HTML/XML TOs can only be updated by revisions, changes or RACs. Supplements cannot be used with HTML/XML format. If paper is required, the same source SGML file that created the HTML/XML TO is used to create Adobe PDF file for DSO printing and ID. After ID is complete, the PDF TO file and any PDF update files will be merged into a complete current TO for follow-on OTRs. The HTML TO file is updated with all changes and regenerated from the source SGML for distribution to eTools through ETIMS sync and download only.

5.4.2 Transition to Electronic TOs. The AF CTOM/MAJCOM representative responsible for coordinating transition to digital only distribution will assess eTool deployment status at their operational locations to ensure effective eTool programs are in place. When the MAJCOM operational locations have effective eTool programs, they will notify their TODOs to remove paper ID. The TOMA will send an ETIMS notification (or email) to the TODOs 30 days prior to rescinding a paper TO, requesting a response from the TODO. If no response is received, the paper TO will be rescinded after 30 days. When a paper TO has been rescinded, the TODO receives a notification via ETIMS. TOMAs will not remove TODO IDs if a valid AF CTOM/MAJCOM waiver is received within 30 days. The TODO must notify their MAJCOMs and have their AF CTOM/MAJCOM representative provide justification to continue receiving paper TOs. When paper ID requirements no longer exist, the TOMA will rescind the paper version for Air Force use or make FMS Only in ETIMS if there are FMS customers. Verify FMS/SAP users prior to rescission of paper TOs.

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5.4.2.1 The USAF TODOs must provide their AF CTOM/MAJCOM representative justification to continue receiving paper TOs. The form required for justification can be found under Program Support on the AFTOMS SharePoint (reference [Paragraph 6](#)). SATOP office must receive paper retention justification email from FMS customers within 30 days of TOMA rescission notification.

5.4.2.2 The AF CTOM/MAJCOM representative or SATOP representative will send all approvals to the TODO and TOMA. The TOMA will continue to provide the TODO with paper TO media.

5.4.2.3 The TOMA and SATOP may remove paper ID subscriptions from TODOs who do not provide justification within 30 days.

5.4.2.4 TODO personnel are required to delete all paper media ID requirements outside TO 00-5-3, [Paragraph 5.4.3](#) exceptions, or submit justification to the AF CTOM/MAJCOM representative for reconsideration. The TOMA is required to send an ETIMS notification to the TODOs 30 days prior to rescinding paper media. If paper media is still required, the TOMA will then make the paper Sponsor Approval. The TODO must provide their AF CTOM/MAJCOM representative justification to continue receiving paper TOs (see [Paragraph 5.4.2.1](#)). Approved forms will be coordinated with the TOMA. TOMAs may send subsequent 30-day paper media rescission notification annually.

5.4.2.5 If paper TOs have FMS customers on ID, the TOMA will not mark the TO as sponsor approval. The TOMA will email the Security Assistance Technical Order Program (SATOP) office (AFLCMC.EZGTC.Workflow@us.af.mil) with the information and SATOP will contact the FMS customer within 30 days. If the TOMA does not receive a response from SATOP within 30 days, the TO will be marked as sponsor approval only. Once SATOP receives a reply, they will contact the TOMA. If paper copies are still required by FMS customers, the TOMA will continue to provide TO paper copies.

5.4.3 Paper Distribution Justifications. A justification is not required when distributing paper for the following reasons:

- Flight Manual Program TOs exempted from digital distribution and use by AFI 11-215.
- TOs which must be taken into and removed from areas where eTools are restricted.
- Active AF TOs used by FMS customers who require paper copies.
- TOs which are 100% foldout wiring diagrams.
- TOs which are 100% foldout schematics.
- TOs for which the contained wiring diagrams or schematics are unusable electronically in the intended workplace.

5.4.4 Technical Order Reproduction (Non-ETIMS). Programs that do not use ETIMS for TO management are unable to leverage the interface between ETIMS and the DSO Storefront for print and distribution. TOMAs for these programs must arrange for reproduction and distribution with DLA Data Management Services IAW DoDI 5330.03.

5.5 PHYSICAL DISTRIBUTION.

Print jobs submitted to DSO that require both modification and sustainment funding for distribution, must be ordered using split disbursement steps covered on the AFTOMS SharePoint site, Training Page. (Reference [Paragraph 6](#))

5.5.1 DSO Administration. Access the DSO AFMC Store Front (reference [Paragraph 6](#)) using the Google Chrome or Microsoft Edge browsers only.

5.5.1.1 TO Manager (TOMA). The TOMA must register for an Account in DSO and associate user's CAC with the DSO account. TOMAs are not required to submit a DD Form 2875. For instructions, see Help/User Guide for How to Create a DSO Storefront Account, accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).

5.5.1.2 Functional Site Administrator (FSA). FSAs require special group access beyond that of a TOMA, therefore are required to submit a DD Form 2875 through the AFTOMS office for approval and then submit to the DLA Data Production Operations Team. The special group access privileges provide the FSA with the capability to login as the DSO Buyer (TOMA) to view order history, order status, funding information, and assist with TOMA functions. The FSA can also access and download the AF specific OTR and TO CAFTOP Reports.

5.5.2 Funding for TOs and DSO Operations. The Funds Owner is the authorized user responsible for uploading and managing funding documents in DSO. If the Funds Owner is not the TOMA, they are required to register for an account in DSO and associate their CAC with the DSO account. Funds Owners are not required to submit a DD Form 2875.

5.5.2.1 The Funds Owner is required to create funding in DSO by uploading the PDF version of the Funding Document (i.e., DD Form 448 Military Interdepartmental Purchase Request (MIPR)). Once the funding document is successfully uploaded, required information filled in and saved, the Funds Owner must send an email to the DLA DSO MIPR CONTROL workflow at tdpgmiprcontrol@dla.mil and attach the PDF version of the Funding Document. In return, DLA will email the DD Form 448-2 acceptance to the Funds Owner.

5.5.2.2 The Funds Owner has the option to share the funding with other DSO users, as required. TO Managers who are not the Funds Owner but need access to a funding document must contact the Funds Owner and request for the funding to be shared in order to select a Funding Document when completing the DSO order process.

5.5.2.3 The Funds Owner has the option to specify any DSO user as an Approver for the funding of orders submitted for printing. If an Approver is added by the Funds Owner, then all orders will require disposition (approve or reject) by the designated Approver before the funding can be used. Before DLA can start processing an order.

5.5.2.4 A Funding Report in DSO is available for view and export as required. For instructions, see Tech Tip – Funds Owners, accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).

5.5.3 DSO Help Desk Procedure. TOMAs experiencing issues with DSO operations, printing, or distribution requirements, will report the issues to the FSA. If no resolution can be determined locally, the FSA will submit an incident ticket in DSO and track until resolution has been reached. The FSA will notify the user when the issue has been resolved. The FSA may also seek support from the AFTOFST by submitting a ticket via the Field Support Center (FSC) ticket tracking SharePoint application. If the AFTOFST cannot resolve the issue locally, the AFTOFST POC will submit an incident ticket in DSO and track until resolution has been reached. The AFTOFST POC will notify the FSA when the FSC ticket has been dispositioned.

5.5.4 Concurrent Release (CR). The release of TO updates that also requires changes in other TOs, i.e., a change to a Flight Manual that also affects the checklists, which must be distributed concurrently to users. When Flight Manuals, TO updates, and TCTOs, require distribution as a CR, the FMM/TOMA must document and submit a CR Scope Package to the DLA production site prior to the job being created in DSO. All ID and/or OTR Kits containing the TOs and shipping labels that are part of the CR are uploaded into a single Shopping Cart in DSO.

5.5.4.1 The CR Scope Package is a spreadsheet of print requirements and is available from the AFTOMS SharePoint (reference [Paragraph 6](#)). The CR Scope package must be submitted 10-15 days prior to creating a print job in DSO. CR Scope Packages are emailed to docsvcsTinkerOPS@dla.mil or docsvcsRobinsOPSSite@dla.mil with a courtesy copy to the DSO FSAs. For detailed steps on how to create a CR, reference the AFTOMS SharePoint Training page.

5.5.4.2 If projected submittal date is delayed, the FMM/TOMA shall notify DLA of new projected submittal date. Orders not submitted by the projected date, without DLA being notified of the delay, will result in DLA using the supplies for other jobs. If this happens, the FMM/TOMA may experience a delay in DLA's ability to complete the CR job due to reallocation of supplies and/or priority of other workloads.

5.5.5 Requirements for DSO Operations.

5.5.5.1 Initial Distribution (ID). All ID transactions are generated in ETIMS and sent directly to DSO via a messaging interface when new physical media increments are made **Available For Index**. The two systems communicate status while the TOMA loads files, set print specifications and completes the ID order. Use the following as an overview for unclassified and classified ID:

5.5.5.1.1 Unclassified ID. For detailed instructions and NFD twin requirements, see Help/User Guide for Physical Media Distribution accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).

- a. New physical media increments are made **Available For Index** in ETIMS.
- b. ETIMS provides DSO with TO increment metadata.
- c. DSO compiles metadata and adds a TO Product to the Product list.

- d. DSO sends a product email to the TOMA for required content.
- e. TOMAs must enter metadata in DSO as follows:
 - (1) Select TO Product from Product list.
 - (2) Upload print ready TO file.
 - (3) Set print specifications.
 - (4) Make the product **Ready for DSO Export**.
- f. DSO builds a Kit from the product export list and messages ETIMS to retrieve shipping label information.
- g. DSO sends an order email to the TOMA to place an order as follows:
 - (1) Select the product to customize labels and complete the Kit.
 - (2) Add Kit to the Shopping Cart.
 - (3) Select a due date, shipping service, and funding document to proceed to Checkout.
- h. Once the **Order Confirmation** is displayed, the DLA print, pack and ship process begins.

5.5.5.1.2 Classified ID. The following overview is for classified ID **only**.

- a. New physical media increments are made **Available For Index** in ETIMS.
- b. ETIMS provides DSO with TO increment metadata.
- c. DSO compiles metadata and adds a TO Product to the Product list.
- d. DSO sends a product email to the TOMA for required content.
- e. Classified content cannot be loaded to DSO, TOMAs must enter metadata in DSO as follows:
 - (1) Select TO Product from Product list.
 - (2) Set print specifications.
 - (3) Make the product **Ready for DSO Export**.
 - (4) Send the print ready classified copy to the Robins AFB DLA production facility:

DLA DOCUMENT SERVICES
255 Cochran Street
Bldg 301, West Wing, Bay C, Door C-12
Robins AFB, GA 31098

NOTE

For programs that cannot ship physical media, contact the Robins Secure TO Repository (STOR) for file transfer requirements (reference [Paragraph 5.8.2](#)).

- f. DSO builds a Kit from the product export list and messages ETIMS to retrieve shipping label information.
- g. DSO sends an order email to the TOMA to place an order as follows:

- (1) Select the product to customize labels and complete the Kit.
 - (2) Add Kit to the Shopping Cart.
 - (3) Select a due date, shipping service, and funding document to proceed to Checkout.
- h. Once the **Order Confirmation** is displayed, the DLA print, pack and ship process begins.

After production, DLA will destroy the TO file IAW destruction policy. The TOMA must coordinate with the Robins STOR to transfer the distributed print ready and NFD file for archive and future OTR requirements (reference [Paragraph 5.8.2](#)). For detailed instructions and NFD twin requirements, see Help/User Guide for Classified Print and Distribution accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).

5.5.5.2 One-Time Requisition (OTR). All OTR transactions generated in ETIMS are sent directly to DSO via a messaging interface. If the TO product is available in DSO, the TOMA will automatically receive a DSO Order email. If the requisitioned TO has not been loaded as a TO product in DSO, the TOMA will receive a recurring content email from DSO until the current version is loaded. The TOMA is responsible for sending metadata from ETIMS for the latest BASIC or REV, uploading the latest Merged NFD pdf and print specifications, and ensuring the product is in a Ready for DSO Export status. Use the following steps as an overview for unclassified and classified OTRs.

5.5.5.2.1 Unclassified OTR.

- a. An OTR requirement is generated in ETIMS.
- b. ETIMS messages DSO of the OTR requirements.
- c. DSO queries servers for product KIT.
 - (1) If available, the Product KIT, shipping labels and metadata are retrieved in DSO (go to step d.).
 - (2) If not available, the TOMA will receive a content email from DSO stating, Awaiting content to be loaded to DSO.
 - (a) TOMA must send metadata to DSO, see Tech Tip for Pending OTR Requirements in ETIMS and DSO, accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).
 - (b) TOMA must upload print ready file.
 - (c) Set print specifications.
 - (d) Make product Ready for DSO Export.
- d. DSO sends an order email for the TOMA, notifying them of a requirement awaiting action in DSO.
- e. The TOMA selects the product Kit to customize labels and complete the Kit.
- f. The Kit is then added to the Shopping Cart.
- g. The TOMA selects a due date, shipping service, and funding document to proceed to Checkout.
- h. Once the **Order Confirmation** is displayed, the DLA print, pack and ship process begins.

5.5.5.2.2 Classified OTRs. The following overview is for classified OTRs **only**.

- a. An OTR requirement is generated in ETIMS.
- b. ETIMS messages DSO of the OTR requirements.
- c. DSO queries servers for product KIT.

- (1) If available, the Product KIT, shipping labels and metadata are retrieved in DSO (proceed to step e.)
- (2) If not available, the TOMA will receive a content email from DSO stating, Awaiting content to be loaded to DSO.
 - (a) TOMA must send metadata to DSO (reference AFTOMS Tech Tip 22-001 on the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).
 - (b) Set print specifications.
 - (c) Make product Ready for DSO Export.
- d. DSO creates an order email notifying the TOMA of a requirement awaiting action in DSO.
- e. TOMA must accomplish one of the two following steps:
 - (1) **Coordinate retrieval of the print ready change or NFD (merged) copy from the Robins STOR Vault.** Contact Email: AFLCMC.LZPT.Class@us.af.mil
 - (2) TOMA sends print ready change or NFD copy to DLA production facility and waits for confirmation of receipt.
- f. DSO sends an order email to the TOMA to place an order as follows:
 - (1) Select the product to customize labels and complete the Kit.
 - (2) Add Kit to the Shopping Cart.
 - (3) Select a due date, shipping service, and funding document to proceed to Checkout.
- g. Once the **Order Confirmation** is displayed, the DLA print, pack and ship process begins.

After production, DLA will destroy the TO file IAW destruction policy. If step e(2). was used, the TOMA must coordinate with the Robins STOR to transfer the distributed print ready and NFD file for archive and future OTR requirements (reference [Paragraph 5.8.2](#)).

5.5.5.2.3 For instructions, see AFTOMS Tech Tip - Pending OTR requirements in ETIMS & DSO accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)). Contact your local FSA to have a KIT expedited to meet your OTR requirement.

5.5.6 One-Time Requisition (OTR). All OTR transactions generated in ETIMS are sent directly to DSO via a messaging interface. If the TO product is available in DSO, the TOMA will automatically receive a DSO Order email. The TOMA is required to place an order in DSO by buying the Product KIT listed on the email notification. The two systems communicate status while the TOMA completes the OTR order. An overview of the process is provided below:

1. An OTR requirement is generated in ETIMS.
2. ETIMS messages DSO of the OTR requirements.
3. DSO queries servers for loaded increments.
4. If found, the product, shipping labels and metadata are retrieved.
5. DSO creates an order email notifying the TOMA of an order awaiting action in DSO.
6. The TOMA selects the product (TO file) and customizes the labels to complete the **Kit**.
7. The order is then added to the **Shopping Cart**.
8. The TOMA selects a due date, shipping service, and funding document to proceed to **Checkout**.

9. Once the **Order Confirmation** is displayed, the DLA print and ship process begins.

5.5.6.1 If the requisitioned TO has not been loaded as a TO product in DSO or if the current version of the requisitioned TO is not loaded the TOMA will receive a recurring email from DSO until the current version is loaded. The TOMA is responsible for sending meta data from ETIMS for the latest BASIC or REV, upload the latest Merged NFD pdf and print specifications, and ensure the product is in a Ready for DSO status. Contact your local FSA to have a KIT expedited to meet your OTR requirement. Once the content has been loaded and the KIT has been created, a DSO Order email is received. The TOMA process in DSO continues as described.

5.5.6.2 For instructions, see Tech Tip - Pending OTR Requirements in ETIMS & DSO, accessible through the AFTOMS SharePoint Training page (reference [Paragraph 6](#)).

5.5.7 CD/DVD Media Distribution.

5.5.7.1 CD/DVD Contents. The TOMA for the CD/DVD is responsible for CD/DVD format, numbering, labeling, publication, packaging and distribution. The content of TOs on a CD/DVD must be identical to that of the individual (stand-alone) paper TOs. The TCM/ES for the CD/DVD, in coordination with the TOMA and MAJCOM, is responsible for determining which TO files will be included on the CD/DVD ([Paragraph 4.2.18](#)). Classified and unclassified TOs will not be mixed on a single CD. The TOMA will determine routine update intervals, in conjunction with the Lead Command, and the TCMs/ESs of the TOs included on the CD/DVD.

5.5.7.2 Grouping TOs on CD/DVD Media. Groupings will be made logically (e.g., by TO category, series, subsystem, subject, distribution limitation, classification, etc.) by the TCM/ES, with the concurrence of the Using/Lead Command. The TCM/ES must revise the CD/DVD whenever any TOs on the disk are updated, and must re-associate the included TOs with the CD/DVD TO number.

5.5.8 Merged Master File. The merged master file will consist of the basic TO and all active changes and supplements. The following statement is required on the title page of merged master files for all TOs when incorporating previous increments: "BASIC AND ALL UPDATES HAVE BEEN MERGED TO MAKE THIS A COMPLETE PUBLICATION." For reprints and OTR support, the master file is required to be uploaded to DSO.

5.5.9 Mandatory Uploads of Complete Merged TOs and TCTOs.

NOTE

Both the ID and merged jobs have to be in "Estimated" status in DSO before ETIMS will set the Available for Distribution flags to yes and generate ID labels.

5.5.9.1 Complete, merged TOs consist of the basic TO with all TO changes merged, all supplements including active formally distributed and interim supplements, which must be appended to the complete merged TO.

5.5.9.2 Complete, merged TCTOs consist of the basic TCTO and all supplements, including all active formally distributed and interim supplements which must be appended to the basic TCTO. For instructions, see Help/User Guide for Physical Media Distribution accessible through the AFTOMS SharePoint Training Page (reference [Paragraph 6](#)).

5.5.9.3 Technical Order Page Supplements (TOPS). Per [Paragraph 4.2.17.6](#), TOPS are no longer authorized for use and shall not be uploaded for printing through DSO.

5.5.10 Loading ID Increments.

5.5.10.1 The user must upload the reproduction TO file as a print ready PDF (paper distribution) or Zip file (CD/DVD distribution) in DSO. The CD/DVD may be hand-delivered to the local print shop instead of uploading a Zip file.

5.5.10.2 An AFTO Form 30, Reproduction Assembly, is required and shall be uploaded into DSO when the TOMA has must specify special printing instructions. For instructions, see Help/User Guide for Physical Media Distribution, accessible through the AFTOMS SharePoint Training Page (reference [Paragraph 6](#)). Special printing requirements (i.e., foldouts, color pages, bleed border, etc.) will be shipped at the end of the TO and may require collating during TO posting.

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5.5.10.3 Indiscriminate marking of jobs as emergency/urgent causes delays in true emergency/urgent processing as well as routine processing. Use of Emergency and Urgent submission of ID jobs shall be limited to when the following applies:

- Emergency print requests support TO requirements that WOULD result in a fatality or serious injury to personnel, extensive damage or destruction of equipment or property and must be processed within 48 to 72 hours.
- Urgent print requests support TO requirements that COULD cause one or more of the following: personnel injury, damage to equipment or property, reduce operation efficiency and/or jeopardize the safety or success of mission accomplishment. Urgent must be published and distributed within 40 calendar days.

NOTE

If the Emergency block is checked when the TOMA is entering the print specifications in DSO, detailed justification and rationale must be documented in the Additional Instructions block.

Table 5-1. Print Job Requirements

Increment Type	PSN Type	ID Job	Merged Job
Basic	Paper	YES	NO
Revision	Paper	YES	NO
Change	Paper	YES	YES
Change/RAC	Local Print	NO	YES
Supplement	Paper	YES	YES
Supplement	Local Print	NO	YES
TCTO Basic	Paper*	YES	NO
TCTO Supp	Paper*	YES	YES**
TCTO Local Print Jobs have no inputs into DSO except for NFD requirements needed to fulfill OTRs. Ref Paragraph 5.4.2.1 .			
*TCTO Merge Copy is accomplished IAW Paragraph 5.5.8			

5.6 TECHNICAL ORDER DISTRIBUTION PRACTICES.

5.6.1 **Preliminary TOs (PTO).** PTOs are distributed by a contractor or other developing activity to support IPRs, verification, and prepublication reviews IAW the tables in Section 2 of the TMCR. Distribution is limited to the acquisition/review participants. Distribution of PTOs for Test and Evaluation (T&E) or operational use is controlled by the PM IAW DAFI 63-101/20-101. PTOs may be distributed via ETIMS for viewing, see Preliminary TO Distribution Report FUG, accessible through the AFTOMS SharePoint Training Page (reference [Paragraph 6](#)).

5.6.2 **Operational Use PTOs.** Using organizations may use preliminary data for hands-on training, operations, or maintenance when verified and authorized by the PM or representative along with concurrence from the Lead Command or Depot. Authorization for the use of preliminary data will not exceed 180 days unless readdressed. The authorization memorandum must accompany the data at all times. The TOMA will arrange for printing, storage and distribution of PTOs approved for use in the operational environment IAW this TO. For major acquisition or modification programs, the prime contract may cover PTO storage and issue.

5.6.3 **Formal TOs.** Formal paper and CD/DVD TOs are distributed IAW TO 00-5-1 and [Paragraph 5.5.7](#). Formal -WA-1 TOs are distributed via ETIMS ([Paragraph 5.3](#)) unless a program has an HQ AFMC/A4 approved waiver.

5.6.4 **Restrictions.** Distribution of both formal and preliminary TOs may be restricted to government agencies, government contractors, or as otherwise specified by the TOMA and TCM/ES ([Chapter 3](#)).

5.6.5 **Manage Outside Agency Requests for Air Force TOs.** Process requisitions from other U.S. government agencies, contractors and civilians IAW TO 00-5-1 and DAFI 20-118. Process Freedom of Information Act (FOIA) requests for TO data strictly IAW DoDM 5400.07, DoDD 5230.25, this TO and TO 00-5-1.

5.6.5.1 TOs with distribution statements B through F may be exempt from release under FOIA, IAW DoDD 5230.25, DoDM 5400.07, and DAFI 61-201.

5.6.5.2 Requests for TOs from activities or individuals outside the limitations specified by the assigned distribution statement must be approved by the DoD Controlling Office (responsible TOMA and TCM/ES). If the responsible office cannot be identified, refer requests for TO release to HQ AFMC/A4F, email: afmc.a4.af.topp@us.af.mil, to determine the proper release authority.

5.6.5.3 If the TO or other technical data is not marked, it will be handled as STINFO distribution statement E, and will be referred to the responsible TCM/ES for assignment of an appropriate distribution statement prior to being issued.

5.6.6 Secondary Distribution Methods. There are several other methods, both electronic and physical, for distributing controlled, unclassified data.

5.6.6.1 A secure alternative to email for distribution is the DoD Secure Access File Exchange (SAFE) web application: <https://safe.apps.mil/> (reference [Paragraph 6](#)).

5.6.6.2 Physical distribution via USPS mail or U.S. package delivery service is authorized. The data may be printed and mailed using the same delivery methods as physical media or paper TOs (references: DoDM 5200.01_(D)AFMAN 16-1404 Vol 1-3, TOs 00-5-1, and 00-5-19).

5.6.6.3 In all cases, the sender must verify the address by checking the Master Address Report (MAD) in ETIMS and ensure the recipient is authorized access to the data being sent. The authorizations must be reverified as often as practical but at least annually.

5.7 ERRATA SHEETS.

Errata cover sheets are used to transmit TO pages either omitted from or misprinted in distributed TO increments. The errata sheets will list the pages included and the actions to be taken to post them to the affected TO. The TOMA will follow the errata process in DSO for reproduction and distribution. For instructions, see Help/User Guide for DSO Errata Process accessible through the AFTOMS SharePoint Training Page (reference [Paragraph 6](#)).

5.7.1 SAP/FMS Customers for TOs in DSO. If FMS customers are on ID, TOMAs will notify the SATOP office when an errata is to be distributed so that the errata can be distributed to FMS customers.

5.8 OFFICIAL AIR FORCE TECHNICAL ORDER ARCHIVES.

One copy of every published TO and TCTO increment (basic, revision, change, and supplement) must be preserved in an official Air Force TO Archive to comply with provisions of the Federal Records Act. Archived files will only be the digital or printing source file (PDF). TOs are held for six years after they are rescinded, contracts are closed and the supported equipment is dropped from AF inventory, according to the Records Disposition Schedule (RDS) on the AF Records Information Management System (AFRIMS), Table 33-40 Rule 03.00 (reference [Paragraph 6](#)). Program office TOMAs will establish a TO archive with the official AF archival system/repository. All programs will document archive processes within the applicable TO Life Cycle Management Plan (TOLCMP).

5.8.1 Unclassified Archive. For TOs distributed after 1 March 2019, ETIMS is the official digital AF TO Archive.

5.8.1.1 ETIMS automatically archives eTOs through the supersedure process and stores them in the eTO Content Management system.

5.8.2 Classified Archive. The official classified AF TO archive is the Secure TO Repository (STOR) at Robins AFB. Transfer classified TOs to the STOR as follows:

5.8.2.1 TOMAs must coordinate with the Robins STOR via unclassified email: AFLCMC.LZPTD.DistributionTeam@us.af.mil to transfer distributed print ready and Not For Distribution (NFD) files. For archive and future OTR requirements, send print ready ID and NFD files to:

AFLCMC/LZPT Robins STOR Vault
285 Cochran Street
Bldg 301, West Wing, Bay D, Door D-31
Robins AFB, GA 31098

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5.8.3 Archive Requests. All requests for archival USAF TOs will be performed IAW TO 00-5-1. All FMS requests for archival TOs will be performed IAW 00-5-19.

5.8.4 Legacy Archive. The official archive for all TOs distributed prior to 1 March 2019 is the Centralized TO Repository (CTOR).

CHAPTER 6

ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH

6.1 TO SAFETY REQUIREMENTS.

Safety and environment hazard information and precautions must be included in TOs and technical data for operation, maintenance, modification and disposal of systems and commodities, IAW MIL-STD-38784. TOs must identify any hazards that exist and must not create hazardous situations. Everyone involved with the TO System must assist in evaluating, identifying, and correcting safety and health hazards.

6.1.1 Safety Offices. The appropriate office should be involved from the start of TO development, beginning with the TO Planning Requirements Conference (TOP/RC). Safety will provide guidance on the placement, wording and application of warnings, IAW MIL-STD-38784.

6.1.2 Commercial Manuals. Commercial manuals may require supplementing to add warnings, cautions, and notes due to the Air Force environment or application. Any conflict in the use or wording of warnings will be resolved by HQ AFMC/SE.

6.2 TOMA RESPONSIBILITIES.

The TOMA (agency) should establish points of contact with Engineering, Safety, Bio-environmental Engineering (or equivalent) and Environmental Management (EM) offices to resolve Environment, Safety, and Occupational Health issues.

6.3 ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH (ESOH) REQUIREMENTS.

Engineers or TCMs/ESs responsible for TO content will coordinate any new or revised procedures in non-exempt TOs (see [Table 6-1](#) and [Table 6-2](#)) that might affect the environment and/or safety and health of personnel, cause damage or destruction of equipment, or affect TO warnings or cautions, with the appropriate ESOH activities (Appropriate Safety, Bioenvironmental Engineering, and Environment Management).

6.3.1 Safety Review. Appropriate Safety offices must approve new or revised technical procedures affecting the safe operation and maintenance of systems and equipment (DAFI 91-202). This requirement applies to Ground, Flight, Missile and Explosives safety for Nuclear Surety, see [Paragraph 6.7](#).

6.3.2 Health Review. Appropriate Bio-Environment Engineering (BEE) offices must approve new and changed technical procedures affecting personnel health (involving noise, heat, air contaminants, chemicals, radiation, lasers, thermal stresses, biological and ergonomic hazards, etc.).

6.3.3 Exemptions. The following types of TO/TO updates are exempt from ESOH review:

Table 6-1. Exempted TO Types

Series or Category	Type
-01 Series	List of Applicable Publications
-06 Series	Work Unit Code Manuals
-8 Series	Tape and Tape Manuals
-4 Series	Illustrated Parts Breakdown
Category 1, -1 Series	Flight Manuals
1-1C-1 Series Category 1	Air Refueling Procedures Manuals
-5 Series Category 1	Basic Weight Checklist and Loading Data Manuals
-6CF-1 Series Category 1	Acceptance and Functional Check Flight Manuals
-34 Series (Various)	Conventional Munitions Delivery Manuals
	In-Flight Maintenance Manuals
Category 60	Explosive Ordnance Disposal (EOD)

Table 6-2. Exempted Update Types

Series or Category	Update Types
All	Extension of TCTO Rescission Dates
	Part Number Changes
	Source Maintenance and Recoverability (SMR) Coding
	Changes
	Editorial Changes
	Numerical Changes
	Art/Illustration changes not involving personnel protective devices or equipment

6.3.4 Special Review Lists. The Safety Office will coordinate with local program TCM/ES to identify additional TOs (over and above the ones listed below in [Table 6-3](#)) requiring special environmental, safety or health reviews before printing and distribution. Additionally, changes to the following TOs will be sent to the indicated office within the U.S. Air Force School of Aerospace Medicine 711th HPW/OEH, Building 840, Wright-Patterson AFB, OH 45433 for review and coordination:

Table 6-3. Special Review Lists

TO Number	Title	Office
1-1-3	Inspection and Repair of Aircraft Integral Tanks and Fuel Cells (Health related issues only)	AFIOH/RS
1-1-8	Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment	AFIOH/RS
1-1-17	Storage of Aircraft and Missile Systems	AFIOH/RS
1-1-686	Desert Storage, Preservation and Process Manual for Aircraft, Aircraft Engines, and Aircraft Auxiliary Power Unit Engines	AFIOH/RS
1-1-689-5	Cleaning and Corrosion Control, Volume V, Consumable Materials and Equipment for Avionics	AFIOH/RS
1-1-691	Aircraft Weapon Systems - Cleaning and Corrosion Control and Control Aerospace and Non-Aerospace	AFIOH/RS
33B-1-1, Section 9	Non-Destructive Inspection Methods, Radiation Protection	AFIOH/SDR

6.4 OCCUPATIONAL SAFETY.

Safety Offices, in conjunction with BEE, Fire Department and Environment Management (EM) Offices, are tasked to periodically review design handbooks, TOs, MIL-PRFs, MIL-DTLs, MIL-STDs, and Table of Allowances to ensure safety and health criteria and procedures (to include fire safety and environment concerns) in those documents comply with Occupational Safety and Health guidance (DAFI 91-202 and DAFMAN 91-203).

6.4.1 TO Safety Reviews. The acquisition agency System Safety or Occupational Safety (SEG), BEE (or equivalent), Fire Safety and Environmental Management (or equivalent) Offices are responsible for supporting TO reviews during the acquisition process. System Safety and/or SEG personnel are the SMEs for electrical, mechanical, chemical, radiation, and laser hazards. BEE and EM personnel review TOs for personnel hazards and hazardous material (HAZMAT)/Ozone Depleting Substance (ODS) usage and hazardous waste risk. The Fire Safety Office will review any procedures involving fire protection matters such as exposure to heat and fire.

6.4.2 TO Procedures. TO procedures will be developed to protect equipment from abuse, inadvertent operation, or any condition which could cause damage or degradation. However, the TO must not become a work-around for hazardous equipment design.

6.4.3 Electrostatic Discharge Sensitive (ESDS) Devices. ESDS devices within most modern electronic equipment require special protection and handling procedures. The guidance contained in TO 00-25-234 and MIL-STD-1686, may be provided to the contractor as source data and references.

6.5 HAZARDOUS MATERIAL RISK MANAGEMENT.

Managing HAZMAT risk and preventing pollution requires a proactive and dynamic management approach because prevention achieves environment standards through source reduction rather than after-the-fact correction.

6.5.1 Reduced Use of HAZMAT and ODS. TO procedures will be developed to reduce the use of hazardous materials in all phases of weapon system development from concept through production, deployment and ultimate disposal. TCM/ES must ensure compliance with Air Force 32-70 series instructions.

6.5.2 Establishing POCs. Points of contact should be established with engineering, safety, environmental management, Appropriate BEE, and Research and Development (R&D) offices to address HAZMAT risks and resolve pollution prevention requirements.

6.5.3 Waivers to Use ODS. If Class I ODS must be used, the PM must obtain a waiver from HQ USAF for ODS use. By international agreement, all Class I ODS production effectively ended on 31 December 1995 and Class II ODS production will incrementally decrease and cease by 2030. Dependence on Class II ODS usage beyond the year 2015 will create potentially increasing risks to Air Force mission capability and costs.

6.6 WEAPON AND FLIGHT SAFETY.

Weapon and flight safety programs are managed at several levels. DAFI 91-202 lists OPRs and procedures for specific types of TOs. These OPRs will identify the appropriate safety offices. Flight Safety and three major areas of weapon safety (explosive, nuclear and missile) must be addressed for any military system.

6.6.1 Flight Safety. Flight safety reviews for FMP TOs are the responsibility of the FMM. The FMM is responsible for ensuring contractor compliance with direction. Cargo aircraft loading manuals which deal with explosives or nuclear weapons and weapon loading and delivery manuals must receive required explosive and/or nuclear safety reviews as well as flight safety reviews.

6.6.2 Explosive Safety Requirements. Basic TOs and all updates containing procedures on the operation, maintenance, inspection, modification, disposal, etc. of aircraft systems, ammunition, missiles (strategic or tactical), missile motors, explosives, egress systems, armament items (such as guns, launchers, dispensers, pods, etc.), and handling, support or test equipment peculiar to these items must receive a weapons safety review by the Appropriate Weapons Safety Office. All TO procedures involving explosives must comply with Defense Explosives Safety Regulation (DESR) 6055.09_AFMAN 91-201.

NOTE

EXCEPTIONS: The GACP, AFLCMC/EBHMA, has safety review responsibility for TOs managed at Hill AFB. The Naval Surface Warfare Center Indian Head Division Explosive Ordnance Disposal Technology Center (NSWC IHD EODTECHCEN) performs an internal explosives safety review on all Category 60 EOD TOs.

6.7 PROCEDURES FOR NON-WEAPON NUCLEAR MATERIALS.

Coordinate any procedural changes involving other radioactive materials (e.g., depleted uranium counterweights, luminous exit markers, optical lens coatings containing thorium, or nucleonic fuel indicators), with the AF Radioisotope Committee Secretariat, IAW AFI 40-201.

CHAPTER 7

AIR FORCE NUCLEAR WEAPON TECHNICAL ORDER PROCEDURES

7.1 TO MANAGEMENT.

This chapter outlines procedures for acquisition and sustainment of AF nuclear weapons TOs and nuclear related EOD TOs listed in the ETIMS N* catalog. Procedures in previous chapters will be used unless specifically addressed in this chapter.

7.2 AFNWC SURETY REQUIREMENTS.

7.2.1 Technical Evaluation. TO procedures involving nuclear weapons, nuclear combat or non-combat delivery systems, or support equipment certified and approved for use with nuclear weapons (see Master Nuclear Certification List, <https://login.lcmp.af.mil/logincore/MNCL/request-account> (reference [Paragraph 6](#))) must receive a technical evaluation for nuclear surety (DAFI 63-125). DAFI 63-125 requires nuclear certification of TO procedures involved in a weapon system's nuclear mission operations, maintenance, troubleshooting, OPCERT, DECERT, nuclear compatibility, handling, movement, restraint configuration, loading, unloading, delivery, and testing. Nuclear Safety Certification is required to ensure compliance with nuclear Weapon System Safety Rules (WSSR); requirements in 91-100 series Safety AFIs, nuclear safety, and design safety features. The technical evaluation for nuclear surety is a continuing process applicable to system or commodity operational usage changes, modification procedural changes, and changes to individual nuclear WSSRs.

7.2.2 Documentation and Marking. The TCMs/ESs and responsible engineers for nuclear weapon TOs will accomplish and document technical evaluations on all change packages against assigned TOs. Mark applicable procedures in the TOs with HCP or NSP (Hardness Critical Procedure or Nuclear Surety Procedure) as appropriate per MIL-STD-38784. Review safety rules and record/review accomplishment as required by AFI 91-102. Ensure TOs used with or in support of nuclear weapons specify use of nuclear surety certified equipment only (DAFI 91-101).

7.3 ACQUISITION/MODIFICATION PROCEDURES.

Nuclear technical orders are an integral part of the Nuclear Certification Process. Certification requirements must be identified early to ensure the program is properly funded for TO development/changes and TO requirements do not negatively impact the program's overall schedule.

- The PM will submit a Nuclear Certification Impact Statement (NCIS) for a new acquisition or system modification as early as possible so the certification process can begin. Include any impacts to nuclear weapon TOs in the NCIS (Refer to DAFI 63-125).

7.4 REPOSITORY.

AF Nuclear TOs will be archived by the TOMA. Joint Nuclear Weapons Publications are archived by DTRA Albuquerque NM Office (AO).

7.5 SECURITY ASSISTANCE TECHNICAL ORDER PROGRAM.

FMS related nuclear TOs are not covered under TO 00-5-19, SATOP but are managed by AFNWC through the AFNWC/OS NATO Control Officer. These types of TOs should be identified during the NCIS process or early in the Program planning.

7.6 SOURCE DATA.

7.6.1 Nuclear Weapons Delivery Source Data - Weapons Delivery Source Data Package (Aircraft -25, -30 Series Technical Orders).

7.6.1.1 Content. Weapons delivery source data consists of a section for nuclear data and sections of aircraft-specific data for each aircraft that will employ the nuclear munitions. The content is described in MIL-DTL-7700. For verification program outline, see [Paragraph 2.1.4.14](#).

7.6.1.2 Development. Delivery envelopes for nuclear weapons are developed by the Air Force SEEK EAGLE Office (AFSEO) in coordination with information provided by AFNWC and the Program Office (Reference DAFI 63-101/20-101). For verification program outline, see [Paragraph 2.1.4.14](#).

7.6.1.3 Procedures and Responsibilities. Nuclear procedures will be developed by the program office in coordination with AFNWC/NT to ensure nuclear surety and safety is met.

7.6.1.3.1 Flight Manuals will be developed by the contractor or organic agency as described in MIL-DTL-7700 and are part of the nuclear certification process.

7.6.1.3.2 The lead MAJCOM is responsible for providing a Flight Manual verification team manager, a qualified aircrew member, and in coordination with the Program Office all equipment to support the verification effort.

7.6.1.3.3 The TOMA/FMM is responsible for conducting the verification to formally verify the flight manual procedures.

7.6.2 Nuclear Munitions Loading Source Data - Source Data Package (Aircraft -16 Series Technical Orders).

7.6.2.1 Requirements. A Source data package containing nuclear munitions loading source data is required during the development and testing of new nuclear munitions items or systems, for integration of existing munitions with new aircraft, for integration of new munitions with new aircraft, and for major modifications to existing aircraft/munitions configurations.

7.6.2.2 Development. The source data package is maintained by the Program Office and is provided to aircraft contractors/organic agencies for development of aircraft -16 series TOs and checklists. It is important to note when developing procedures to integrate conventional defensive weapons with nuclear weapons, the entire process must be evaluated as a nuclear load. Nonnuclear conventional loading procedures may not meet nuclear surety and must be verified as part of the nuclear certification process when integrated. This is done using a nuclear/conventional integrated loading checklist.

7.6.2.3 Nuclear Munitions Loading TOs. The -16 series TOs and checklists contain descriptive data and procedures for loading nuclear munitions on or into Air Force and NATO aircraft. Participants: Source data package acquisition participants include the TOMA, MAJCOM(s), aircraft PMs, AFNWC, the RTO, and AFSEO.

7.6.2.4 Procedures for New/Modified Munitions and Systems. The Program Office will submit an NCIS as outlined in DAFI 63-125.

7.6.2.4.1 For new/modified systems the TOMA/TCM/ES will coordinate with the Program Office and lead MAJCOM to develop a plan to identify source data requirements, verification plan, and schedule to field nuclear certified TOs.

7.6.2.4.2 Verification is essential to the nuclear certification process and will be in compliance with the TO Life Cycle Verification Plan (TOLCVP).

7.6.2.4.3 Verification participants will include representatives from each aircraft PM involved, affected MAJCOMs, and the OT&E manager.

7.6.2.4.4 The lead MAJCOM will provide the Verification Team Manager (VTM) and a certified weapons load team as requested by the TOMA/TCM/ES.

7.6.2.4.5 The lead MAJCOM and/or PM, as applicable, will provide all necessary aircraft and support equipment for the verification effort.

7.6.2.4.6 All changes identified during the verification effort will be done by the contractor or organic agency to meet fielding requirements.

7.6.3 Depot Level ICBM Operation and Maintenance Control Manuals. The following applies to ICBM Control Manuals and associated Contractor Data Manuals (CDM), which consist of Utility Technical Manuals, D2s, Performance Criteria Documents, test equipment instruction manuals, etc.

7.6.3.1 Description. Control manuals and associated CDMs are acquired to support Minuteman III missiles using Boeing Space Division (BSD) Exhibit 64-29. Control manuals are numbered as USAF TOs and list applicable CDMs under the contractor-assigned numbers. Specific operation and maintenance procedures are included in the CDMs.

7.6.3.2 Deficiency Reporting. Deficiencies in CDMs are reported by AFTO Form 22 against the control manual TO number. Block 19 of the AFTO Form 22 will list the CDM number as well as the deficiency noted and recommended corrective action.

7.6.3.2.1 Control manual or CDM RCs are issued against the control manual TO number. When applicable, the CDM number is shown in the Deficiency field of the RC, and the other entries relate to the control manual. CDM change pages are provided with the control manual change.

7.6.3.2.2 The RC Local Control Number will be listed in the rescission notice of the control manual and CDM changes incorporating it.

7.6.3.3 Implementation. The depot level maintenance activity posts a printout of an SH252 with the control manual and CDM to which it applies. The printout will be retained until the TO RC is listed in the rescission notice of a permanent change to the control manual.

CHAPTER 8

SCIENTIFIC AND TECHNICAL INFORMATION (STINFO), DATA RIGHTS, AND TECHNICAL ORDER SECURITY

SECTION I. STINFO

8.1 STINFO OVERVIEW.

STINFO is defined as DoD technical data (classified or unclassified) for use in military and space applications, a more detailed definition can be found in DAFI 61-201. However, in the context of this TO, STINFO rules apply to all products containing technical data as they pertain to AF TO Life Cycle Management. STINFO data may include, but is not limited to; contract documents, briefings, internal dialogue records, emails, conference and symposium papers, training, reports, and any other type of data with STINFO markings. STINFO data distribution must be strictly limited to the Controlling DoD Office (CDO) intended audience to protect the government's interests. The intended audience is specified by the STINFO distribution marking reason.

8.2 STINFO RESPONSIBILITIES AND DISTRIBUTION AUTHORITY.

The CDO is either the DoD activity that sponsored and produced the technical data or the office designated to receive such data on behalf of a Government agency. For Tech data, the authority of the Controlling office resides with the person(s) who have the authority to make decisions regarding the technical information and have an understanding of the level of STINFO protection required for the technical data. The CDO has the responsibility for distributing the data to eligible recipients. Additionally, the CDO is tasked with determining the appropriate STINFO distribution markings for data they distribute; these marking dictate how the data will be managed, marked, handled, distributed, and eventually destroyed. The CDO hold the authority for primary distribution of this data, and this authority cannot be transferred or delegated to others. Secondary Distribution authorities make management decisions for technical data and determine the widest possible distribution audience following STINFO distribution marking from the CDO/primary distribution. Secondary Distributors will ensure all recipients are eligible to receive the data following STINFO policies and procedures. Specific responsibilities for each office are listed below:

8.2.1 TCM/ES STINFO Responsibilities. The TCM/ES must choose and apply one distribution statement, Alpha Code (B, C, D, E, or F) and all applicable defense category for restriction (see [Paragraph 8.4.1](#)), IAW DoDI 5230.24. The TCM/ES may use as many applicable categories for restriction as necessary, listing the most important first.

8.2.1.1 Determine if the content must be export controlled. Use the Commerce Control List (CCL) and the International Traffic in Arms Regulation (ITAR) to evaluate the data IAW DoDD 5230.25, and mark it accordingly.

8.2.1.2 The TCM/ES acts as the CDO Point of Contact (POC) for receipt and review of one-time technical data requests (i.e. Public Sales or Freedom of Information Act (FOIA)) for release or denial. The TCM/ES also ensures recipients are eligible to receive the data within the STINFO distribution markings.

8.2.1.3 The TCM/ES will request assistance with determining STINFO markings from the local STINFO liaison if there is any doubt as to the applicability of the markings. For additional training on the STINFO program, contact your local STINFO Liaison or Center STINFO Officer.

8.2.2 TOMA STINFO Responsibilities.

8.2.2.1 Confirm distribution statements, defense categories, audience, date of determination, and the CDO are accurate and current.

8.2.2.2 Ensure TO title pages contain complete and accurate STINFO distribution markings to satisfy CDO data assessment and marking requirements.

8.2.2.2.1 Ensure the distribution code and category are accurately reflected in the ETIMS index record.

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8.2.2.3 Perform primary distribution to eligible recipients through the Enhanced Technical Information Management System (ETIMS).

8.2.2.4 Use ETIMS' Sponsor Approval to manage case-by-case Primary Distribution requests, and evaluate if requesters are within the authorized audience for each TO.

8.2.2.5 Grant one-time distribution to eligible recipients based on TCM/ES approval.

8.2.2.6 Ensure all restricted technical data is properly stored, archived, and destroyed.

8.2.2.7 Include an Export Control Warning Label Statement IAW MIL-STD-38784 and DoDI 5230.24, when data is determined to be covered under export control restrictions by the TCM/ES.

8.2.2.8 Ensure distribution A (Public Release) data is cleared through the local STINFO Public Affairs (PA) release process and receipt of an official PA release letter is obtained prior to release ([Paragraph 8.4.1.5](#)).

8.2.2.9 Ensure restricted data is properly protected. Encryption must be used in all email or electronic transmissions.

8.2.3 TODO STINFO Responsibilities. TODOs are CDO authorized distribution agents. They oversee organizational TO requirements, distribution operations, establish and maintain TO Distribution Accounts (TODA) and sub-accounts for digital and physical media, and maintain records of TOs required and on hand in organization physical media TO libraries. Responsibilities include the following:

8.2.3.1 Facilitate Primary Distribution for users based on subscription requests approved by the TCM/ES or TOMA, or CDO established ID requirements.

8.2.3.2 Ensure users' access to TO accounts and sub-accounts do not violate STINFO policy for controlled TOs.

8.2.3.3 Coordinate with the CDO prior to distribution outside the secondary distribution audience.

8.2.4 Government Owned Contractor Operated (GOCO) TODO. GOCOs operate under contract within a government-owned facility and do not represent the government. Therefore, when the CDO distributes controlled unclassified data to a GOCO facility, the CDO must ensure:

8.2.4.1 GOCO parent company and the local division, hold a current, certified DD Form 2345 to receive export controlled technical data ([Paragraph 8.12](#)).

NOTE

The CDO only releases the data to the GOCO's data Custodian in block three (3) of the certified DD Form 2345.

8.2.4.2 GOCO personnel have a current signed Non-Disclosure Agreement (NDA) on file with their company. NDAs obligate the contractor to properly protect and manage export-controlled technical data in lieu of a DD Form 2345. An NDA prohibits release of unclassified information to the public without approval of the contracting activity.

8.2.5 Technical Data Users. Individual users are defined as the CDO intended audience for the technical data and are responsible for protection of said data commensurate with the STINFO distribution and marking restrictions on the Title page ([Paragraph 8.4](#)).

8.3 PRIMARY AND SECONDARY DISTRIBUTION.

Distribution of technical data to intended audiences falls into two categories: Primary and Secondary.

8.3.1 Primary Distribution. Primary Distribution refers to the initial and targeted dissemination or access to STINFO products, as authorized by the CDO. The CDO is the group/organization/office who created the STINFO product or for whom the STINFO product was created. The responsibility for Primary Distribution lies solely with the CDO and cannot be delegated to others. The CDO holds the authority to determine the eligibility of recipients and to distribute the information to those deemed to have a need-to-know.

8.3.2 Secondary Distribution. Secondary Distribution is the release of technical documents provided after the initial targeted distribution, and includes release of technical documents by other than the CDO, or without additional authorizations by the CDO.

8.4 DISTRIBUTION OF TECHNICAL DATA.

All Air Force offices who generate and are responsible for management and distribution of STINFO will determine a distribution statement and Export Control Warning Label Statement and will mark the Title page appropriately before primary distribution, IAW DAFI 61-201 and MIL-STD-38784. These three components are described below:

8.4.1 Distribution Statement. The CDO will mark interim and formal TOs, TCTOs, PTOs, TO updates, source data, and other technical data with the appropriate distribution statement, justified by document content. Verbiage for distribution statements and reasons may NOT be modified. A distribution statement defines the secondary distribution audience. Requests for technical data or access by parties or entities not included in the distribution stated audience must be reviewed by the CDO for consideration of release or denial. distribution statements specified in DoDI 5230.24, consist of the following elements:

8.4.1.1 Distribution Alpha Codes. The Alpha Code describes who can receive the technical data. Alpha Codes are used to identify secondary distribution audiences, see [Table 8-1](#).

Table 8-1. Alpha Codes and Distribution Statements

DISTRIBUTION STATEMENT A. Approved for public release: Distribution is unlimited.
DISTRIBUTION STATEMENT B. Distribution authorized to U.S. Government agencies (category) (date of determination). Other requests for this document will be referred to (controlling DoD office).
DISTRIBUTION STATEMENT C. Distribution authorized to U.S. Government agencies and their contractors (category) (date of determination). Other requests for this document will be referred to (controlling DoD office).
DISTRIBUTION STATEMENT D. Distribution authorized to Department of Defense and U.S. DoD contractors only (category) (date of determination). Other requests for this document will be referred to (controlling DoD office).
DISTRIBUTION STATEMENT E. Distribution authorized to DoD Components only (category) (date of determination). Other requests for this document will be referred to (controlling DoD office).
DISTRIBUTION STATEMENT F. Further distribution only as directed by (controlling DoD office) (date of determination) or higher DoD authority.
REL TO. Information has been predetermined by the DoD controlling agency, in accordance with established foreign disclosure policies, to be releasable through established foreign disclosure procedures and channels, to the foreign country and international organization indicated.

8.4.1.2 Distribution Defense Categories. The categories establish why there is a distribution restriction. [Table 8-2](#) provides reasons from DoDI 5230.24 that correspond with the selected Alpha Code.

Table 8-2. Defense Categories and Corresponding Alpha Codes

Defense Categories	Alpha Codes				
	A	B	C	D	E
PUBLIC RELEASE	X				
CTI		X	X	X	X
CONTRACTOR PERFORMANCE EVALUATION		X			X
CRITICAL TECHNOLOGY		X	X	X	X
DIRECT MILITARY SUPPORT					X
EXPORT CONTROLLED (see Paragraph 8.2.1.1)		X	X	X	X
FOREIGN GOVERNMENT INFORMATION		X	X	X	X
IAs		X	X	X	X
OPERATIONS SECURITY		X			X
PATENTS AND INVENTIONS		X			X
PROPRIETARY BUSINESS INFORMATION		X			X

Table 8-2. Defense Categories and Corresponding Alpha Codes - Continued

Defense Categories	Alpha Codes				
	A	B	C	D	E
SIBR		X			X
SOFTWARE DOCUMENTATION		X	X	X	X
TEST AND EVALUATION		X			X
VULNERABILITY INFORMATION		X	X	X	X
Note: Detailed descriptions for each reason can be found in DoDI 5230.24, Enclosure 4, Table 5					

8.4.1.3 Date of Determination. This is the date when the technical data distribution restrictions were established or altered to meet different requirements. The date should reflect any change to a distribution statement.

8.4.1.4 Controlling DoD Office. The CDO contact information will be provided to facilitate requests for technical data from outside the intended audience.

8.4.1.5 Distribution Statement A (Public Release). The local Public Affairs (PA) office must review, clear for release and assign a Case Number to all public release TOs (AFI 35-101). Ensure other required title page statements and warnings are applied IAW DAFI 61-201 and MIL-STD-38784. Add the following statement immediately below the distribution statement wording: Public Affairs (PA) Case Number. Submit recommended changes (or problems) with this TO to the TOMA's office listed in the AF TO Catalog. The exact wording is not critical.

8.4.1.6 Proprietary Data. If the distribution statement reason is Proprietary Data (distribution statements B or E only), add a TO title page statement of government rights to disseminate, use, copy, etc., the data, IAW DoDI 5230.24, Enclosure 5.

8.4.1.7 Supplements and Derived Data. Publish supplements using the distribution statement applicable to supplement contents, not necessarily the parent TO's distribution statement. If derived documents are generated from the parent technical data, apply the parent document distribution control markings to the derived documents, unless the purpose was to publish unrestricted data in an unrestricted document.

8.4.1.8 COTS Manuals. Distribution Statements must be assigned to COTS manuals when they are adopted as TOs. In cases where the Air Force has unlimited rights, this may be Distribution A, because these manuals are publicly available (a PA release certificate is still required). In some cases, the vendor may have copyrighted the manuals, and if the Air Force does not have a copyright release (usually marked on the title page), the distribution statement should be C or D. In rare cases, non-commercial contractor manuals may contain proprietary data in order to be considered proprietary; they must be marked by the vendor/contractor as shown in [Paragraph 8.4.1.6](#), and will carry distribution statements B or E. Distribution statements and other title page notices and warnings listed below will be placed on an Identifying Technical Publication Sheet (ITPS) cover page, filed in front of the COTS manual title page.

8.4.2 Export Control Warning Label Statement. Technical documents, physical and digital media, that are determined to contain export-controlled technical data will be marked with an Export Control Warning Label Statement. Example:

Export Control Warning Label

WARNING - This document contains technical data whose export is restricted by the Arms Export Control Act (Section 2751 of Title 22, United States Code) or the Export Control Reform Act of 2018 (Chapter 58 Sections 4801-4852 of Title 50, United States Code). Violations of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DoD Directive 5230.25 and DoD Instruction 2040.02.

8.4.2.1 Export Controlled Requirement. Any TO marked with an Export Control Warning Label Statement must include "Export Controlled" in addition to all other established reasons, in the distribution statement.

8.4.2.2 Abbreviated Export Control Warning. When it is technically infeasible to use the entire statement, an abbreviated marking may be used, "Export Control Warning." A copy of the full statement must then be added to the Notice To Accompany dissemination of Export-Controlled Data required by DoDD 5230.25, Enclosure 5.

8.4.2.3 Notice to Accompany the Dissemination of Export-Controlled Technical Data. A copy of the Notice (DoDD 5230.25 Enclosure 5) must accompany every shipment of Export-Controlled TOs. The Notice must be included with all E*

accounts and U.S./Canadian DoD contractors. Do NOT include the Notice with F* accounts. The Notice must be included with all types of media, paper, digital, electronic, etc. Digital files (.PDF, .TIFF, .JPEG, .WAV, .AVI, etc.) Distribution via digital storage media (CD/DVD), must include a digital README file of the Notice. Electronic/WA files housed in ETIMS or other electronic repository must include a digital copy of the Notice (.PDF) attached to beginning of the digital TO file or as an additional digital file. Distribution via electronic/digital means (emails, etc.), must be encrypted through all email transmissions and must include a digital (.PDF) copy of the Notice.

8.4.3 Disclosure Notice. If a disclosure notice is required (MIL-STD-38784), apply to classified and unclassified TOs, approved for release to a foreign government, except those assigned distribution statement A. On CD/DVD, the Disclosure Notice will go in the content.txt file, as well as on the opening screen of each TO on the disk.

SECTION II. RIGHTS IN TECHNICAL DATA

8.5 TECHNICAL DATA.

Recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation).

8.6 NON-TECHNICAL DATA.

Data describing the contractor itself, or information incident to performance of contract (corporate information such as G&A, overheads, salaries, etc.). Oral communications or information never recorded. Physical manifestations of technical data, such as the very product whose design is described in the data (i.e., hardware).

8.7 RIGHTS IN TECHNICAL DATA - NON-COMMERCIAL ITEMS (DFARS 252.227-7013).

TOs, commercial manuals, and contractor data may be limited government user rights, such as "Proprietary," and in addition, may contain copyrighted data. TOs and non-commercial contractor data are procured with Unlimited Rights, Government Purpose Rights, Limited Rights, or Specifically Negotiated License Rights (see below) using Defense Federal Acquisition Regulation Supplement (DFARS) clauses at 252.227-7013. Commercial manuals are procured with the same types of rights using DFARS clauses at 252.227-7015. Unless otherwise agreed between the parties, if the manuals were prepared for or acquired by the government pursuant to the contract, the contractor should grant the government a license allowing reproduction, distribution, use and development of derivative works, or to have others do so for the government. (Derivative works are publications such as checklists and work cards developed from one or more basic manuals.) The distribution of the manuals outside the government shall be done strictly IAW the contract and applicable regulations (DFARS part 227.7103-5, etc.). The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data.

8.7.1 Unlimited. The Government shall have unlimited rights in technical data that are data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds; studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance; created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes; form, fit, and function data; necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data); corrections or changes to technical data furnished to the Contractor by the Government; otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party; data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or data furnished to the Government, under this or any other Government contract or subcontract thereunder, with Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

8.7.2 Government Purpose. The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data that pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data IAW DFARS; or created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that

required development of the items, components, or processes or creation of the data described IAW DFARS. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data. The Government shall not release or disclose technical data in which it has government purpose rights unless prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or the recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed IAW DFARS.

8.7.3 Limited. Except as noted in DFARS, the Government shall have limited rights in technical data pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed IAW DFARS; or created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed. The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data. The Contractor acknowledges that Limited rights data are authorized to be released or disclosed to covered Government support contractors; the Contractor will be notified of such release or disclosure; the Contractor (or the party asserting restrictions as identified in the limited rights legend) may require each such covered Government support contractor to enter into a non-disclosure agreement directly with the Contractor (or the party asserting restrictions) regarding the covered Government support contractor's use of such data, or alternatively, that the Contractor (or party asserting restrictions) may waive in writing the requirement for a non-disclosure agreement; and any such non-disclosure agreement shall address the restrictions on the covered Government support contractor's use of the limited rights data as set forth in the clause at 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The non-disclosure agreement shall not include any additional terms and conditions unless mutually agreed to by the parties to the non-disclosure agreement.

8.7.4 Specifically Negotiated License. The standard license rights granted to the Government, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated. Any rights so negotiated shall be identified in a license agreement made part of this contract.

8.7.5 Prior Government. Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless the parties have agreed otherwise; or any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

8.7.6 Release From Liability. The Contractor agrees to release the Government from liability for any release or disclosure of technical data made IAW DFARS, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

8.8 CONTRACTING FOR GREATER DATA RIGHTS.

If the government needs technical data pertaining to items developed at private expense to establish alternative sources it may, under certain circumstances, acquire greater rights in data. DFARS sets forth the procedures to acquire greater rights, but requires the acquisition of greater rights be stated as a separate CLIN.

8.9 RIGHTS IN TECHNICAL DATA - COMMERCIAL ITEMS (DFARS 252.227.7015).

This DFARS clause provides the government specific license rights in technical data pertaining to commercial items or processes. DoD may use, modify, reproduce, release, perform, display, or disclose data only within the government. The data may not be used to manufacture additional quantities of the commercial items and, except for emergency repair or overhaul, may not be released or disclosed to, or used by, third parties without the contractor's written permission.

SECTION III. TECHNICAL ORDER SECURITY

8.10 TO SECURITY REQUIREMENTS.

8.10.1 TO Classification. TOs can contain classified data up to and including Secret Restricted Data. The following procedures apply to classified and unclassified TOs containing data whose distribution must be controlled. TOMAs, FMMs, and TCMs/ESs will:

8.10.1.1 Verify TO data classification using the applicable Security Classification Guide (SCG). For contractors, the applicable SCG may be listed in the DD Form 254. Ensure the TO title page and each page and paragraph in a classified TO is marked IAW DoDM 5200.01V1_AFMAN 16-1404V1.

8.10.1.2 Issue classified technical data in supplemental TOs to the maximum extent possible to keep the majority of TOs unclassified (TO 00-5-1). TO titles will be unclassified to the maximum extent possible.

8.10.1.3 Use the applicable SCG as authority to classify TO data needing security protection. Review contractor-prepared classified PTOs to ensure they have the proper security markings annotated IAW DoDM 5200.01V1_AFMAN 16-1404V1. Advise the contractor of any required revisions to the PTOs or DD Form 254.

8.10.1.4 Review classified technical data during every TO update action or at least annually for possible classification downgrading according to the applicable SCG or DoDM 5200.01V1_AFMAN 16-1404V1. TCM/ESs must ensure their TOs are reviewed in a timely manner. The task schedule should be set for less than one year to allow time to complete the review within the required one-year period. Initial data for overdue currency review tracking may be obtained from HQ AFMC/A4F.

8.10.1.5 TO classification changes are disseminated via a TO change or revision and listed in the Search New, Updated and Inactive TOs function of the AF TO Catalog.

8.10.1.6 Issue unclassified updates to Classified TOs whenever possible.

8.10.1.7 Do not use the Not for Foreign Release (NOFORN) marking on TOs. IAW DoDM 5200.01V1_AFMAN 16-1404V1, this code is only authorized for U.S. intelligence information.

8.10.2 Classification Changes. Changes to classifications of already distributed TOs must be coordinated with the following authorities using applicable classified communications (if the TO was too widely distributed, reclassification may not be possible). Contact HQ AFMC/A2S (AFMC.A2S.Workflow@us.af.mil, (937) 257-6902) if Sensitive Compartmented Information (SCI) is to be added or deleted. Contact HQ AFMC/IP (AFMCIPWorkflowMailbox@us.af.mil, DSN 787-8394) for collateral classification changes (Top Secret, Secret, and Confidential). Include the new level of security classification, the classification authority, the number of copies issued, the length of time the information has existed at a lower classification and if the information is available from unclassified sources.

8.10.2.1 The TCM/ES prepares an Emergency Interim Operational Supplement (IOS) or RAC IAW [Chapter 4](#), to upgrade the affected TO, and notifies the responsible TOMA to update the TO index entry.

8.10.3 Classification Downgrade/Declassification. The TOMA will issue an update directing the appropriate downgrade or declassification actions IAW DoDM 5200.01V1_AFMAN 16-1404V1.

NOTE

Downgrade of a small amount of material that does not change the overall classification of the TO should not be the sole justification for issuing a TO update. However, notification of the downgrading action and the data involved must be provided to users of the TO.

8.10.4 Controlled Unclassified Information (CUI). IAW DoDI 5200.48, technical data/information must be reviewed by the owner of the information to determine if it meets CUI requirements. Legacy information, either marked or unmarked, does not automatically become CUI. It must also be reviewed to determine if it meets CUI requirements. The new CUI marking requirements do not affect the STINFO or Export Control marking requirements IAW DoDI 5200.48, and DoDI 5230.24. The following paragraphs provide guidance on when to review technical data/information and when to apply CUI markings:

8.10.4.1 New TOs, written to the most current detail specification, will be reviewed to determine if the information meets CUI requirements. Identified pages or portions will be marked IAW DoDI 5200.48 and MIL-STD-38784.

NOTE

If the most current Document Type Definition (DTD) does not support CUI markings, follow the guidance in [Paragraph 8.10.4.2](#) below for when to apply CUI markings.

8.10.4.2 Legacy TOs will be reviewed during the next complete revision (reference MIL-STD-38784) for CUI requirements. Identified pages or portions will be marked IAW DoDI 5200.48 and MIL-STD-38784.

8.10.4.2.1 Because update revisions (TO changes) must be prepared in the style and format of the basic manual, IAW MIL-STD-38784, CUI markings of pages and portions are not required if the basic manual was written to a previous detail specification.

8.10.4.3 Unclassified Controlled Nuclear Information (UCNI) is a registered category of information. To be considered for protection as DoD UCNI, the information must be unclassified, pertain to security measures, including plans, procedures, and equipment, for the physical protection of DoD Special Nuclear Material (SNM), equipment, or facilities, meet the adverse effects test; i.e., that the unauthorized dissemination of such information could reasonably be expected to have an adverse effect on the health and safety of the public or the common defense and security by increasing significantly the likelihood of the illegal production of nuclear weapons or the theft, diversion, or sabotage of DoD SNM, equipment, or facilities. (Ref DoDI 5210.83).

8.11 DIGITAL TO SECURITY.

Security issues and procedures are covered in DoDM 5200.01V1_AFMAN 16-1404V1, AFGM2018-17-02, AFI 17-130, Air Force Systems Security Instruction (AFSSI) 8520, and DAFI 61-201 among others. User access to and distribution methods for digital TO files must provide adequate security for classified and limited-distribution TO data files ([Paragraph 5.3](#)). Classified TO files must be encrypted using a National Security Agency (NSA) approved encryption algorithm, while limited-distribution files require a National Institute of Standards and Technology (NIST) approved encryption system prior to being hosted on servers. Except for distribution statement A documents, TO files must be encrypted and hosted on a secure Internet server (https) with Public Key Infrastructure (PKI) certificate or user name and password access control.

8.11.1 Encryption. NIST has approved use of strong encryption technology (128-bit capable/export controlled) provided by the Secure Socket Layer (SSL) protocol for use with unclassified, limited distribution technical data. Each organization planning to provide access to TO/TO updates via the Internet must establish a secure server with the SSL protocol installed. Access to the server must be controlled by the use of PKI certificates or user names and passwords. In some cases, domain restrictions (.mil, .gov) might be used for DoD and/or government agency access, combined with user name and password access for authorized contractors. Additional information and assistance should be obtained from the local Communications (Comm) Squadron.

8.11.2 Password Protection.



Exercise extreme care when manipulating digital TO files as technical content must not be altered unless authorized in writing by the Chief Engineer ([Paragraph 2.1.3](#)).

All secure servers must be protected by PKI certificates or user name/password access controls. The System Administrator (SA) is responsible for assigning user names and passwords for protection of a secure server. When necessary, the user name and password will be provided in a secure email message to TODOs requiring access to RACs and new baseline TO files. The SA is also responsible for periodically changing passwords to help prevent unauthorized access and protect the information on the site. TOMAs who choose to password protect digital TO files may be required to provide the password to select subscribers using an authorized, secure method. This will enable subscribers to manipulate digital TO files in support of their unique requirements.

8.12 CONTROLLING DISTRIBUTION OF TECHNICAL ORDERS.

TOMAs must manage distribution of TOs to eligible recipients IAW DoDM 5200.01V1_AFMAN 16-1404V1, DAFI 61-201, and for reasons specified in this TO. For Air Force TO System implementation of STINFO policy, TODOs complete the primary distribution on behalf of the Controlling DoD Offices (CDO), based on ID and subscription requirements. In addition, TODOs are responsible for secondary distribution to the audience established in the Distribution Statement. Any requests for access form outside the secondary distribution audience, require CDO approval. If proprietary TOs must be distributed to Government-Owned, Contractor-Operated (GOCO) Accounts, the contractor personnel must have signed non-disclosure agreements on file with their company.

8.12.1 Export Controlled TOs. The TOMA, in conjunction with the TCM/ES, will determine if any TOs containing export controlled data (DoDI 5230.24 and DAFI 61-201) require sponsor approval to satisfy the distribution control requirements of DAFI 61-201. In general, export controlled TOs may be released to all F*xxxx and E*xxxx accounts. FMS (D*xxxx) accounts must request TOs through the Security Assistance Technical Order Data System (SATODS) and have Foreign Disclosure Office (FDO) (IAW DAFMAN 16-201) approval prior to release for initial subscription or requisition. AFMC Centers will document local procedures for controlling the distribution of export controlled data in a supplement to this TO. Exception: Nuclear Weapons TOs are managed at the AF Nuclear Weapons Center (AFNWC) and are not to be placed in SATODS.

8.12.2 Proprietary and Copyrighted Data. When a program acquires limited government use rights data, the Air Force must receive at least limited rights allowing reproduction and distribution of the data for government purposes, IAW Defense Federal Acquisition Regulations Supplement (DFARS) clauses. Unlimited rights are recommended and acquired whenever possible. Proprietary data must be marked IAW [Paragraph 8.4.1.6](#), and distribution limited to government personnel, unless specifically released by the owner of the data. Copyright by itself does not limit the government's use rights. Copyright must be associated with one of the four DFARS use rights clauses to limit the government's use rights IAW [Paragraph 8.7.4](#).

8.12.3 Linking to Other TOs or Web Sites. When a TO references other TOs or documents, hot links may only be used when the referenced TO or other data is of the same or lower restriction/classification. References may be made to other TOs or other data which have a higher restriction/classification, but not linked. The same rule applies to unclassified/unrestricted Internet sites: these can only hot link to other unclassified/unrestricted sites, although it can list the URLs of restricted sites.

8.13 ELECTRONIC DISTRIBUTION.

The methods specified in [Paragraph 5.3](#) will be used for secure electronic distribution of digital Controlled Unclassified Information (CUI). CUI includes technical data and TOs, engineering data, and other information listed in DoDI 5230.24 and DAFI 61-201, and assigned distribution codes B through F.

8.14 RELEASE OF RESTRICTED TOS AND DATA.

TOMAs and FMMs are responsible for distributing TOs to authorized users. In some cases, this could include determining (in conjunction with the TCM/ES) whether to release or withhold TOs requested by individuals or companies through the Freedom of Information Act (FOIA) process. FOIA requests for TOs marked D, E or F for Administrative or Operational Use, Proprietary Data or Direct Military Support will be refused using Exemption Number 3 (DoDM 5400.07). For determining whether it is appropriate to release a TO, it is USAF interpretation of DoD policy that Air Force Technical Orders are solely intended for direct support of military and weapon systems. As such, release will only be authorized to US DoD contractors as defined in DoDI 3200.14 and DoDI 5230.24. Other requests for Air Force TOs will be referred to the Controlling DoD Office (CDO, generally the TCM/ES or FMM). Example: although the CDO may make exceptions, others cannot; and may share Distribution Statement D TOs only with DoD units or with DoD contractors with active contracts for the weapon system covered by the TOs in question. The FMM is the responsible release authority for Accident Investigation Boards (AIB) requests; with regard to any possible public domain release of flight manual data. Contractors responding to Requests for Proposal (RFP), when qualified, may access relevant weapon system TOs in a Bidders Library or electronic file maintained by the RFP-issuing program office or contracting office.

8.14.1 For Official Use Only (FOUO). FOUO is a protective marking no longer used but may be present on legacy unclassified information and handled in the same manner as Distribution E documents until removed and updated by the CDO. FOUO was used when disclosure to the public of that particular record, or portion thereof, would reasonably be expected to cause a foreseeable harm to an interest protected by one or more provisions of FOIA Exemptions (DoDM 5400.07). FOUO marking requirements were replaced by DoDI 5200.48 Controlled Unclassified Information (CUI) marking requirements. Technical documents that require distribution statement restricting disclosure and/or export control warning notice pursuant to DoDI 5230.24 and /or were previously marked with FOUO, may (or may not) require CUI markings IAW

TO 00-5-3

DoDI 5200.48 and the CUI Registry (see [Paragraph 8.10.4](#)). Unclassified technical data pertaining to Communications-Computer Systems Security, Communications Security (COMSEC), and any system referencing cryptographic device operations will be marked CUI IAW DoDI 5200.48.

APPENDIX A

POINTS OF CONTACT

A.1 LIST OF POINTS OF CONTACT.

Agency Organization/Address	Function/Responsibility
<u>HQ USAF</u>	
SAF/AQ 1030 Air Force Pentagon Washington, DC 20330-1030 DSN: 227-8247 E-mail: usaf.pentagon.af-a4-7.mbx.workflow@mail.mil	<ul style="list-style-type: none"> Air Force TO Policy and Procedures
<u>HQ Air Force Materiel Command (AFMC):</u>	
HQ AFMC/A4F 4375 Chidlaw Rd, Ste 6 Wright-Patterson AFB, OH 45433-5006 DSN: 787-5667 Email: afmc.a4.af.topp@us.af.mil	<ul style="list-style-type: none"> AF TO System Functional Manager HQ AFMC TO Policy and Procedures TCM/ES for TOs 00-5-1, 00-5-3, 00-5-15 and AFMC 21-3 PR for TO Forms Single Point for all TO issues End-user devices (i.e., eTools)
HQ AFMC/A3V 508 W Choctawhatchee Ave, Ste 4, Bldg 35 Eglin AFB, FL 32542-5713 DSN: 872-7887 Email: afmc.a3v@us.af.mil	<ul style="list-style-type: none"> Flight Manuals Program (FMP) Publications Policy and Procedures - AFI 11-215
HQ AFMC/IP 4375 Chidlaw Rd, Ste 6 Wright-Patterson AFB, OH 45433-5006 937-944-1070	<ul style="list-style-type: none"> STINFO policy
HQ AFMC/A6O 4227 Logistics Ave, Ste 6 Wright-Patterson AFB, OH 45433-5745 DSN: 787-1904	<ul style="list-style-type: none"> Cybersecurity FOIA requests
HQ AFMC/SE 4375 Chidlaw Rd, Ste 6 Wright-Patterson AFB, OH 45433-5006 DSN: 787-1531	<ul style="list-style-type: none"> Safety Policy and Procedures Make-Safe Procedures for Public Display Wright Combat Sortie Generation TOs and Procedures

Agency Organization/Address	Function/Responsibility
HQ AFMC/A4RC 4375 Chidlaw Road, Suite 6 Wright-Patterson AFB, OH 45433-5006 DSN: 787-8185	<ul style="list-style-type: none"> • Aircraft Battle Damage (Assessment and) Repair (ABDR) TOs and Procedures
88 CG/SCQIP 2275 D Street, Room 90 Wright-Patterson AFB, OH 45433-7220 DSN: 787-7924	<ul style="list-style-type: none"> • AFTO Forms Development • AFMC Publications Manager
<u>Air Force Life Cycle Management Center:</u>	
AFLCMC/LZPTP-HILL 6032 Fir Avenue, Bldg 1237 Hill AFB, UT 84056-5820 DSN: 586-9177 Email: aflcmc/ezgtp.tohomeof@us.af.mil	<ul style="list-style-type: none"> • Hill AFB AFTOMS site office • TO System and Program support
AFLCMC/LZPT-TINKER 3001 Staff Dr Tinker AFB, OK 73145-9160 DSN: 336-3829 Email: AFLCMC.LZPTP.AFTOMSTinker@us.af.mil	<ul style="list-style-type: none"> • Tinker AFB AFTOMS site office • TO System support, Program support • TO Numbering support • AFTO Form 43 processing • SATODS
AFLCMC/LZPTP-ROBINS 285 Cochran Street Robins AFB, GA 31098-1669 DSN: 468-6910 Email: AFLCMC.LZPTP.RobinsAFTOMS@us.af.mil	<ul style="list-style-type: none"> • Robins AFB AFTOMS site office • TO System and Program support • Local CTOR
AFLCMC/LZPP-ROBINS 285 Cochran Street Robins AFB, GA 31098-1669 Email: aflcmc.pdss.toapsupport@us.af.mil	<ul style="list-style-type: none"> • CTOR • TOAP • STOR

Agency Organization/Address	Function/Responsibility
AFLCMC/WF 4375 Chidlaw Road, Bldg 262 Wright-Patterson AFB, OH 45433-5006 DSN: 787-4258	<ul style="list-style-type: none"> • AF Security Assistance and Cooperation Directorate • Security Assistance TO Program (SATOP) Policy and Procedures
AFLCMC/GBS 4170 Hebble Creek Road, Door 15 Wright-Patterson AFB, OH 45433-5653	<ul style="list-style-type: none"> • AF TMSS Preparing Activity • Legacy Data Conversion • Air Force Standard TO Management System Program Office
AFLCMC/EZPT-NDIO 5295 Warehouse Road Tinker AFB, OK 73145-3317 DSN: 339-4931	<ul style="list-style-type: none"> • Non-Destructive Inspection (NDI) Program and TOs
AFLCMC/EZPT-CPCO 325 Richard Ray Blvd, Bldg 165 Robins AFB, GA 31098-1639 DSN: 468-3284	<ul style="list-style-type: none"> • Corrosion Prevention and Control Policies
AFLCMC/EBHM 6043 Elm Lane (Bldg 1246) Hill AFB, UT 84056-5838 DSN: 777-2666 Email: AFLCMC.EBHMA.GACPAMMO@us.af.mil	<ul style="list-style-type: none"> • Global Ammunition Control Point (GACP) - all • Conventional Munitions and Explosives except Tactical Missiles, (Does Not Include Maverick) •
AFLCMC/EBHMA 6043 Elm Lane (Bldg 1246) Hill AFB, UT 84056-5838 DSN: 777-4590/775-3078 Email: AFLCMC.EBHMA.StdDataPkgs@us.af.mil	<ul style="list-style-type: none"> • Publish/Manage all Munitions LSDPs • Performs Certification/Verification of all Munitions Loading procedures before TO inclusion
AFLCMC/LZPTC-TINKER 3001 Staff Drive Tinker AFB, OK 73145-9160 DSN: 334-2058 Email: AFLCMC.EZGTC.Workflow@us.af.mil	<ul style="list-style-type: none"> • Security Assistance TO Program (SATOP)
AFLCMC/EBWM 460 Richard Ray Blvd, Suite 19A Robins AFB, GA 31098-1670 DSN: 497-4371 Email: 575cbss.gacp.mw@us.af.mil	<ul style="list-style-type: none"> • Air Superiority Cell (ASC) • Global Ammunitions Control Point (GACP) (all Tactical Missiles except Maverick)

Agency Organization/Address	Function/Responsibility
AFLCMC/WNM 813 Irving-Wick Drive West, Suite 4M Heath, OH 43056-6116 DSN: 366-5174	<ul style="list-style-type: none"> AFMETCAL Calibration TOs and Procedures
<u>Air Force Nuclear Weapons Center:</u>	
AFNWC/LG 1553 Wyoming Blvd. SE Kirtland AFB, NM 87117-5617 Email: AFNWC.TO.HomeOffice@us.af.mil	<ul style="list-style-type: none"> AFNWC TO Home Office AFNWC TO Policy
AFNWC/NDNT 1553 Wyoming Blvd SE Kirtland AFB, NM 87117-5617 DSN: 263-3610 Email: afnwc.ndet.todata@us.af.mil	<ul style="list-style-type: none"> Sustainment of Nuclear aircraft loading technical manuals and delivery flight manuals
<u>Other Agencies:</u>	
AFCEC/CXR 139 Barnes Drive, Suite 1 Tyndall AFB, FL 32403-5319 DSN: 523-6114	<ul style="list-style-type: none"> Disaster Preparedness TOs and Procedures
AFCEC/CXF 139 Barnes Drive, Suite 1 Tyndall AFB, FL 32403-5319 DSN: 523-6150 Email: afcec.cxf.workflow@us.af.mil	<ul style="list-style-type: none"> Aircraft Emergency Rescue Information (TO 00-105E-9) DoD Firefighter Certification site (reference Paragraph 6)
AFCEC/CXE - Nonnuclear EOD 6013 Howard Road, Rm 202 Indian Head, MD 20640-4622 DSN: 354-5954 Email: afcec.cxe@us.navy.mil	<ul style="list-style-type: none"> Nonnuclear Explosive Ordnance Disposal (EOD) Render Safe Procedure (RSP) TOs for all new or modified Aircraft, Munitions, Delivery Systems and Ordnance Items
HQ CCC/NTV 203 W. Losey Street Scott AFB, IL 62225-5222 DSN: 779-6667 Email: AF.COMSEC.Field.Support@us.af.mil	<ul style="list-style-type: none"> Communications Security (COMSEC) Policy and Procedures

Agency Organization/Address	Function/Responsibility
HQ CCC/NIX 203 W. Losey Street Scott AFB, IL 62225-5222 DSN: 779-6281	<ul style="list-style-type: none"> • Communications Activity Management and Communication Systems/ Equipment Management Policy and Procedures (as defined in TO 00-33A-1001 • General Cyberspace Support Activities)
SMC/AXLM 160 Skynet, Suite 1070B LA AFB, CA 90245-4069 DSN: 833-6424	<ul style="list-style-type: none"> • Space Command Site Functional Office
AFGSC/A4Z 2000 Wyoming Blvd. SE Kirtland AFB, NM 87117-5617 DSN: 246-8850 Email: A47.A4ZS.Workflow@us.af.mil	<ul style="list-style-type: none"> • AF Joint Nuclear Weapons Publication System Executive Agent

APPENDIX B

DATABASE MANAGEMENT

B.1 INTRODUCTION.

B.1.1 General. The information in this Appendix identifies the key requirements for a program Database (DB) Management as well as job responsibilities.

NOTE

Depending on program implementation of the S1000D environment, the responsibilities may be filled or satisfied by a mixture of program office personnel, contractor, and/or system support.

B.1.2 Requirements. The key requirements for a DB Management is to be knowledgeable of TO 00-5-3, ASD-S1000D Specification (International Specification for Technical Publications Utilizing a Common Source Database), MIL-STD 3048, associated Business Rules (BRs) or Project Decisions (PD) requirements, and applicable USAF directives/specifications. Knowledge of Standard Generalized Markup Language (SGML) and eXtensible Markup Language (XML) tagging schemas, scripting language used for style and format of the IETM, and of software certification and licensing requirements. Ability to clearly communicate orally and in writing, and knowledge of computer security policies and practices. Ability to interpret and follow written technical instructions and procedures.

B.1.3 Responsibilities. Personnel responsible for database management should be knowledgeable in all aspects of the Common Source Database (CSDB) that contains the Interactive Electronic Technical Manual (IETM) and conventional Technical Order (TO) digital files. This includes server operation and maintenance, currency of required system operating software, status of text SGML and XML and graphic files, data publishing modules, and ensuring all files are correct before updating the CSDB. The DB Manager will work under the direction of the program Technical Order Management Agent/Agency (TOMA) and ensure compliance with the Technical Manual Contract Requirements (TMCR) as well as all applicable US Air Force (USAF) and Department of Defense (DoD) directives.

GLOSSARY

IAW MIL-STD-38784, the Glossary will contain only those items not adequately explained in the text of the TO.

A

AF Technical Order Catalog — The ETIMS function which provides information and current status of TOs currently active in the TO system. The catalog is used for management of TO libraries, developing requirements and preparing orders.

B

Baseline — A configuration identification document or set of documents formally designated and fixed at a specific time during a configuration item life cycle. Baselines, plus approved changes from baselines, constitute the current configuration identification.

Bidder's Library — TOs that are not releasable but are available for review by bidders at the buying location.

C

Certification — Contractor written assurance that manuals and source data are current, adequate, accurate, and conform to contract requirements.

Commerce Control List — The list of items in the Export Administration Regulations at 15 CFR 399. Licenses from the Department of Commerce are required to export such items and the technical data relating to them.

Commercial Derivative Aircraft (CDA) — Any fixed or rotary-wing aircraft procured as a commercial Type Certified off-the-shelf aircraft, and whose serial number is listed on an FAA-approved Type Certified Data Sheet.

Commodity — A designated item, subsystem, or system which is not identified as a weapon or military system. Commodities which possess similar characteristics and applications benefiting from similar developmental, acquisition, and logistics support management processes are aggregated into Product Groups.

Configuration — The functional and/or physical characteristics of hardware and software as set forth in technical documentation and achieved in a product.

Configuration Changes — Alteration of the form, fit or function of a configuration item.

Configuration Control — The systematic evaluation, coordination, and approval or disapproval of all proposed changes in the configuration of a baseline CI, and implementation of approved changes.

Configuration Control Board (CCB) — A board composed of representatives from program or project functional areas such as engineering, configuration management, procurement, production, test, logistic support, training activities and using and supporting organizations. The board approves or disapproves Engineering Change Proposals (ECP), approves conversion of ECPs to TCTOs if applicable, and issues implementation instructions.

Configuration Item (CI) — An aggregation of hardware and/or software, or any portion thereof that satisfies a function and is designated for configuration control. Items that reflect the current approved configuration of military systems and/or commodities currently in the Air Force operational inventory. CIs require the use of the latest TO information listed in the appropriate TO Index.

TO 00-5-3

Contract Maintenance — The maintenance of systems or commodities performed by commercial organizations (including prime contractors) under contract on a one-time or continuing basis without distinction as to level of maintenance accomplished.

Contractor Personnel — Technical writers and/or engineering personnel assigned from the applicable contractor to provide on-site assistance to the TOCU and to function as members of the TORB.

Controlled Unclassified Information (CUI) — Unclassified information, including technical data to which access or distribution limitations have been applied IAW US laws, policies, and regulations. (DAFMAN 16-201) Examples include:

- Unclassified STINFO
- Unclassified export controlled information
- Unclassified proprietary data (intellectual property)
- Information exempted from public release by the Freedom of Information Act
- Competition Sensitive, Source Selection Information
- Controlled Unclassified Military Information (CUMI)

Controlling DoD Office — DoD activity that sponsored the work that generated the technical data or the office that receives the data on behalf of a Government agency and has the responsibility for distributing the data to eligible recipients.

Copyright — A copyright is a form of intellectual property that grants its holder the sole legal right to copy their works of original expression, such as a literary work, movie, musical work or sound recording, painting, computer program, or industrial design, for a defined period of time.

D

Data Discrepancy Report (DDR) — ETIMS function which allows users to report TO Catalog data errors and printing/reproduction/distribution errors with received TOs.

Document Services Online (DSO) — DSO is the AF-directed system used for all printing of physical media TOs (paper, CD/DVD). DSO is the commercial-off-the-shelf online application used by Defense Logistics Agency (DLA) Document Services to provide printing/shipping services to the AF.

Days — Days imply calendar days, unless otherwise stated.

Depot-Level Maintenance — The level of maintenance consisting of those on- and off-equipment tasks performed using highly specialized skills, sophisticated shop equipment, or special facilities of an ALC, centralized repair activity, contractor facility, or, in some cases, by field teams at an operating location. Maintenance performed at a depot also includes those organizational and intermediate-level tasks required to prepare for depot maintenance, and, if negotiated between the depot and the operating command, scheduled field-level inspections, preventative maintenance or TCTOs which come due while equipment is at the ALC.

Derived Documents — Documents such as checklists, work cards, and local tech data extracted from a TO, or compiled from several formal TOs

Digital Format — The software program and/or coding used to present technical data in a standardized electronic format that is cost-effective to acquire, author, distribute, use and sustain IAW Air Force Tech Manual Specs & Standards (TMSS). These formats must be accessed through common viewing applications such as web browsers and low cost vendor readers.

Digital Support Suite (DSS) — The set of files used to develop, deliver, reproduce and display SGML-tagged instances. A DSS includes the DTD and TDT (see definitions).

Digital TO — A digital TO file distributed either on physical media (e.g., CD/DVD) or via electronic means (i.e., eTO).

Distribution Statement — A statement used in marking a technical document, regardless of publication media or form, to denote the extent of its availability for distribution, release, and disclosure without additional approvals and authorizations from the controlling DoD office. See DoDI 5230.24 and DAFI 61-201.

Document Type Definition (DTD) — A DTD clearly defines the structural components (SGML tags) of a TO in terms of elements, attributes and entities; for titles, paragraphs, tables, graphics, footnotes, etc. A specific DTD defines the structure of a TO type based on the governing specification. An SGML TO document (instance) is produced by inserting SGML tags into the document unformatted text, following the constructs (rules) of the specific TMSS DTD.

E

Electronic Technical Manual (ETM) — Technical Manual authored in a linear fashion for the purpose of page or in-line presentation. ETMs may have a wide range of functionality ranging from indexed raster, hypertext linking, multimedia, interactivity between the data and the user, procedural guidance, navigational directions, and supplemental information. ETMs may also contain logistic-support functions supplemental to maintenance actions and are displayed IAW TMSS specifications.

Electronic (e)TO — digital TO file available for viewing and distribution via electronic means. eTO files are identified by a media distribution code suffix of -WA-n, where -1 indicates ETIMS distribution, and -2 indicates distribution through other electronic means.

Electronic (e)Tool — Electronic Tools (eTools) are Portable Electronic Devices (PEDs) defined in DoDD 8100.02, Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG). eTools are required to optimize critical Mission Generation and Support warfighting functions at the point of use across Civil Engineering, Security Forces, Logistics Readiness, Aircraft and Munitions Maintenance functions. eTools do not include electronic devices and test equipment issued and configuration managed by a system Program Manager (PM). eTools are Standard Desk-top Configuration (SDC)-based devices that are permitted to connect directly to the Air Force Network and may include several pieces of additional software added to view and manage TOs, transact bar codes and perform other mission related activities. Unless specifically authorized by the appropriate Authorizing Official (AO), eTools devices are not authorized to connect to any weapon system.

Engineering Change Proposal (ECP) — A proposed engineering change and the documentation that describes and suggests the change. ECPs are submitted by contractors or from internal Air Force sources to the PM CCB for approval.

Equipment Specialist (ES) — The individual or position responsible for assisting the acquisition team during the development/production phase and for technical management of a system, subsystem or commodity during the sustainment phase of a program.

Errata Sheets — Cover sheets used to transmit TO pages either omitted from or misprinted in distributed TO increments. The errata sheets will list the pages included and the actions to be taken to post them to the affected TO.

ETIMS eTO — A digital TO in AF HTML or PDF format that is uploaded to and distributed or viewed using ETIMS. These eTOs will be numbered with a -WA-1 TO number suffix. Both AF HTML and PDF TO files will be indexed as merged basics with the date of the latest TO increment. AF Portal users/eTools associated with TO Accounts on subscription for eTOs will always have access to most current and complete TO data available.

ETIMS Subject Matter Expert (SME) — An individual selected by the MAJCOM or base to receive intensive training on the use of ETIMS in the operating environment. The SME provides help and training to other base/unit ETIMS users.

ETIMS Version Date — ETIMS uniquely identifies every TO and TO increment by TO Number and Version date. The version date for any TO is the publication date of the most recent active TO increment (TO Revision, Change or TO Supplement).

F

Field-Level Maintenance — On- or Off-Equipment maintenance performed at an operating location. Field maintenance includes the traditional Organizational-level and portions of Intermediate level maintenance under the Two-level maintenance concept (the rest of intermediate-level maintenance is covered under depot level maintenance).

Field Support Center — Application developed in SharePoint that provides support center incident reporting and tracking of TO customer support requests made to the AFTOFST.

Form, Fit, and Function — The physical and functional characteristics of an end item, but not the characteristics of any of the item components.

Formalization — The process of reviewing a TO for completion of the acquisition process. Verification should have been completed to the maximum extent possible, all corrections must have been made, and an AFTO Form 27 recommending formalization must be completed and signed by the TORB.

Format — *n.*

1. The shape, size, binding, typeface, paper and general makeup or arrangement of a publication, as determined by military or commercial specifications and standards.
2. Digital files developed to a particular computer application, such as Microsoft Word, Adobe Portable Document Format (PDF), or Standard Generalized Markup Language (SGML).
3. Publication medium, such as paper versus digital.
- v. To arrange a document or publication IAW a specific format.

Formatting Output Specification Instance (FOSI) — The FOSI specifies the layout for each page (page set), frame, or screen IAW the applicable specification and standard. The FOSI reads an SGML-tagged file and produces an output formatted for the specified presentation method (printer, computer screen, etc.) A separate FOSI is required for each document type and each output medium. Only print FOSIs are provided for ETIMS publishing using the Data-Logics (DL) Composer.

Functional User Guide (FUG) — Detailed, procedural documents on the Air Force Technical Order Managers SharePoint Site which are to be used in the management of fielded TOs.

H

Hardness Critical Item (HCI) — A hardware item at any indenture level that is mission critical and which could degrade system survivability in a nuclear or nonnuclear operational environment if special procedures are not used in the design, repair, manufacture, installation, or maintenance of the item.

Hardness Critical Procedure (HCP) — Procedures which could adversely affect the nuclear hardness of a system or equipment item, or compromise the safety and reliability of a nuclear weapon system.

I

Integrated Master Plan (IMP) — An event-driven document provided by a contractor as part of the proposal, covering the critical events leading to successful contract completion. Events will be listed with entry and exit criteria (what must happen before the process leading to the event can start, and what must be completed before the event is complete). For example, the event 'Deliver TOs' could have an entry criterion of 'Complete In Process Reviews', and an exit criterion of 'Perform included procedures successfully as written'.

Integrated Master Schedule (IMS) — The IMS is a CDRL deliverable, updated as required during contract performance, used for managing and tracking completion of program events.

Integrated Product Team (IPT) — A team formed to manage and execute an acquisition program, composed of personnel from all activities affected by the product. The TO IPT should consist of the TOMA, other affected AFMC managers, using command and other support agency representatives, and contractor personnel involved in the development and delivery of TOs.

Intellectual Property — Intellectual property is a form of legal entitlement which allows its holder to control the use of certain intangible ideas and expressions. The term reflects the idea that once established, such entitlements are generally treated by courts as if they were tangible property. The most common forms of intellectual property include patents, copyrights, trademarks, and trade secrets.

Interactive Electronic Technical Manual (IETM) — Technical Manual authored in a nonlinear fashion for the purpose of non-linear display. IETM organization facilitates easy user access to technical information while the display device provides interactive procedural guidance, navigational directions, and supplemental information. An IETM facilitates the interchange of maintenance manual information with logistic support data supplemental to maintenance, such as maintenance data collection, training documentation, supply interface and data presentation control.

Item Unique Identification (IUID) — Labeling which allows the automatic scanning of data matrices on parts to improve the reliability and usability of the Air Force's future Information Technology systems.

K

Kit — A product that consists of other products packaged together. In DSO, kits are created to support the packaging together of all print products related to a specific print job.

L

Lead Command — The Air Force assigns responsibility for overall management of each system to a lead command to ensure that all requirements associated with every system receive comprehensive and equitable consideration. This lead command provides a primary input into the process of developing and maintaining a force structure with a balance of complementary capabilities, and it establishes a basis for rational allocation of scarce resources among competing requirements. When only one command uses a weapon or equipment system, it is automatically assigned Lead Command. See AFPD 10-9 for aircraft/missile systems, and AFI 10-901 for communications and information systems assignments.

Life Cycle Sustainment Plan (LCSP) — A program's product support execution plan for ensuring the system's product support achieves and maintains the sustainment Key Performance Parameters/Key System Attributes (KPPs/KSAs).

M

Major Command (MAJCOM) — The activity at the higher echelon responsible for management and command control of systems or commodities. As used in this TO, MAJCOM includes Field Operating Agencies (FOA) and Direct Reporting Units (DRU).

Militarily Critical Technology List (MCTL) — Issued by DoD under authority of the Export Administration Act of 1979 as amended and Executive Order 12730. It provides descriptions of technologies that DoD assesses to be critical to the development, production, and use of military capabilities of significant value to potential adversaries.

Military System — A discrete stand-alone collection of systems and related resources which, in conjunction with user support and operation, provides a capability to accomplish a specific military mission. The generic phrase used to describe the systems developed and supported by AFMC.

Modification — Any change, either retrofit or update, to the configuration of a CI.

N

Non-Configured Equipment — Equipment that is representative of but does not reflect the current configuration of vehicles or systems in the Air Force operational inventory (e.g., a prototype of a new aircraft which will not be updated to the final approved configuration, or a test-bed aircraft used to flight test and evaluate aeronautical commodities and subsystems.) The latest issues of the TO information compatible with the specific items of equipment are mandatory for use with this equipment, but might not be listed as active in the TO Catalog.

Non-ETIMS eTO — Electronically accessed, distributed and used digital TOs which are not available in ETIMS for various reasons. These eTOs will be numbered with a -WA-2 TO number suffix to differentiate them from ETIMS eTOs. TODOs must independently establish access to these eTOs IAW procedures provided by the TOMA on TO Details page in ETIMS.

Non-Government Specifications (NGS) — Specifications and standards developed and maintained by commercial interests. NGS may be cited on contracts when there are no government performance specifications (MIL-PRF). Any NGS proposed for development of TOs must be approved by AFLCMC/GBS.

Nuclear Surety Procedure (NSP) — Procedures which could adversely affect the nuclear hardness of a system or equipment item, or compromise the safety and reliability of a nuclear weapon system.

O

Organic Maintenance — Maintenance performed by the government under military control, using government-owned or controlled facilities, tools, test equipment, spares, repair parts, and military or civilian personnel.

Operating Location — Generally, a physical location where military systems or commodities are assigned, operated, and maintained.

Optimization — To optimize a PDF file for web viewing. With the PDF document open, perform a Save As. When this is accomplished, Adobe Acrobat Pro will restructure the document for a page-at-a-time downloading from web servers.

P

Performance Specification — Specifications limited to defining Form, Fit, Function and Interface (F3I), without defining or limiting processes, procedures and methods used to achieve the end result.

Portable Document Format (PDF) eTO — An Adobe® PDF TO file (updated using any update format), merged and indexed as a revision, uploaded ETIMS (-WA-1) or other sources (-WA-2) for distribution and viewing.

Preliminary Technical Orders (PTOs) — PTOs are in-work drafts of TOs from initial assignment of TO numbers until formalization. PTOs are assigned a TO number and are identified by a warning and the word PRELIMINARY on the title page; PTOs will contain a Verification Status Page (VSP) (MIL-STD-38784).

Preparing Activity — The organization or activity responsible for developing and maintaining specifications, standards and DIDs IAW DoDM 4120.24, Defense Standardization Program Procedures. The preparing activity for most AF TMSS is AFLCMC/GBS. Two TMSS are managed by USSF for space and missile TOs. One specification is managed by AFMETCAL for calibration TOs.

Pre-Publication Review — A final review of a preliminary TO, prior to formalization and distribution, to ensure that all verification comments are included and the TO conforms to all specification and contract requirements. The TOMA and designated representatives from the using and supporting commands, verification team, and contractor will comprise the review team. Members should have technical background and familiarity with the specific hardware covered by the manual(s) under review.

Product Group — Aggregations of multiple products in all life cycle phases characterized by an ongoing development requirement as well as a much larger cumulative sustainment requirement. A Product Group consists of commodities which can benefit from common management practices.

Product Group Manager (PGM) — The program manager for a Product Group. PGMs fulfill the same responsibilities for their assigned products as a Program Manager for the assigned system. The PGM products are usually in direct support of one or more program offices.

Product Support Manager (PSM) — The PSM takes direction from the PM and is accountable for all product support matters regarding program cost, schedule, performance and supportability.

Production Equipment — Equipment manufactured or procured and deployed to the field for operational use.

Product Group Manager (PGM) — The program manager for a Product Group. PGMs fulfill the same responsibilities for their assigned products as a Program Manager for the assigned product. The PGM products are usually in direct support of one or more PMs.

Program Manager (PM) — The PM is the designated individual, with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM is accountable for credible cost, schedule, and performance reporting to the milestone decision authority. Applies collectively to system program directors, product group managers, single managers, acquisition program managers, and weapon system managers. The PM has total life cycle system management authority.

Program Management Directive (PMD) — The PMD is the official Air Force document used to direct program responsibilities to the appropriate MAJCOMs, Program Executive Officer (PEO), Center Commander (CC), or appropriate organization for a specific system/subsystem development, modification, acquisition or directed procurement effort.

Program Office — The integrated AFMC organization responsible for cradle-to-grave management of a military system.

Program Objective Memorandum — A document submitted annually to forecast program's financial requirements.

Programmed Depot (Equipment) Maintenance (PDM/PDEM) — PDM and PDEM requirements as identified by the using command and system engineers are compiled as work specifications in a Statement of Work (SOW). Requirements may include programmed upgrades, analytical condition inspections, and scheduled preventive maintenance. Aircraft MDS, equipment Type, Model, Series (TMS), and system age determine PDM requirements.

Proprietary Data — Proprietary data is technical data submitted to the sponsor under a contract and subject to protection by the contractor. Proprietary information is confidential information that constitutes a trade secret and/or information that is commercial or financial and confidential and privileged. Something proprietary is something exclusively owned by someone, often with connotations that it is exclusive and cannot be used by other parties without negotiations. It may specifically mean that something is covered by one or more patents.

Prototype — A model or preliminary design of a system or commodity suitable for evaluation of design, performance, and production potential.

Publication Date — The TO title page date established by the TOMA; the date the reproduction copy is accepted by the Air Force, or the date after which no further changes to the contents are allowed (copy freeze date). This date will be adjusted due to publication delays, issuance of Supplements or receipt of urgent changes, and should be IAW MIL-STD-38784. In all cases this date will be later than all previously released increments (Basic, Revisions, Changes, and Supplements).

Q

Quality Assurance (QA) — QA is the process by which the contractor and government ensure TOs and source data are technically accurate, adequate, safe and readily understandable. The contractor QA program will be specified in the Integrated Master Plan. The primary government QA process is verification ([Chapter 3](#)). QA may include process controls which include actual task performance, simulation (when performance could cause hazards to personnel or equipment) or Desk-Top analysis (for non-procedural data).

R

Rapid Action Changes (RAC) — Emergency or Urgent TO Changes distributed electronically to correct safety hazards or prevent mission degradation and work stoppages. RACs are formatted like routine TO Changes using the digital TO file composition software to allow seamless merging with the basic TO file. If the RAC is not composed for seamless merging, regardless of presentation format (page- or non-page-oriented), the data must be directly accessible via hyperlink to and from the affected location in the TO.

Recommended Changes (RC) — Recommendations submitted in ETIMS or on AFTO Form 22, 27, 158 or 252 for correction or improvement of TOs or PTOs. RCs for flight manual publications are submitted in ETIMS or on DAF Form 847 and AFTO Form 252. RCs are divided into the three categories of Emergency, Urgent, and Routine as specified in [Chapter 4](#).

S

Scientific and Technical Information (STINFO) — Information relating to research, development, engineering, testing, evaluation, production, operation, use, and maintenance for military products, services, and equipment for military systems. This includes production, engineering, and logistics information (DAFI 61-201).

Shopping Cart — The virtual shopping basket to which users add items to buy. In DSO users upload customized print jobs to the DSO Shopping Cart to complete the checkout/ordering process. All print jobs in the Shopping Cart are part of the same order.

Single Point of Access — A single program and web site which allows a user to access all active digital TOs, no matter where stored, required to perform mission requirements.

Standard Generalized Markup Language (SGML-MIL-PRF-28001) — SGML is a computer-processable syntax for describing the logical and content structures of a document. Using an SGML document type definition (DTD), a specification can rigorously and strictly define the structure of a class of documents such as job guides, flight manuals, fault isolation procedures, etc. SGML describes the format and structure of the text in a document, not how the document will appear as an output. A Formatted Output Specification Instance (FOSI) is required to build an output presentation for a particular SGML document. Perhaps the most attractive feature is that documents coded with SGML can be output in many different ways without conversion or manual intervention with the copy. Additionally, MIL-PRF-28001C, dated 2 May 1997 is inactive for new design and will no longer be used as a guidance reference for new designs. (See NOTICE 1 attachment, dated 22 April 2010)

Static Filename — When uploading PDF eTO files to the ETIMS repository, the naming convention is the paper TO number with a PDF extension using all capital lettering (e.g., eTO 00-5-3-WA-1 would be 00-5-3.PDF). This filename remains static in support of external linking to eTOs within and outside of their management control.

Supply Chain Management — Meeting customer-driven materiel requirements through the acquisition, maintenance, transportation, storage, and delivery of materiel to customers, and managing materiel returns, movement of reparable materiel to and from maintenance facilities, and ensuring the exchange of information among customers, maintainers, supply chain managers, and suppliers.

System — A final combination of equipment items, technical data, supply support, transportation, policies and procedures which make up a self-sufficient entity designed to perform a specific mission.

System Maturity — System maturity occurs during the Production and Deployment phase when the system design is stable and management emphasis changes from the acquisition to the sustainment function.

T

Technical Content Manager (TCM) — The individual, usually an Equipment Specialist (see definition) or Engineer, responsible for maintaining the accuracy, adequacy, modification, classification, review and currency of the technical content of TOs and TCTOs supporting assigned systems, commodities or processes. In sustainment, the TCM is identified in the ETIMS record for his/her assigned TOs. TCMs are not generally responsible for style and format or other non-technical aspects of manuals.

Technical Data —

1. (FAR definition) Technical data is defined in the Federal Acquisition Regulations (FAR) as: Recorded information (regardless of the form or method of recording) of a scientific or technical nature (including software documentation) relating to supplies procured by an agency. Technical data does not include computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration. This definition includes engineering data, source data and TO data (for example, schematic diagrams, flow diagrams, manufacturer handbooks, manuscripts of O&M instructions, PTOs, commercial TMs, Research and Development (R&D) TMs, and other system or equipment O&M procedures developed under AFMC or other acquisition agency directions during the system acquisition phase). Avoid use of this term when referring to specific types of data.

2. (DoDD 2040.2, International Transfers of Technology, Goods, Services, and Munitions, definition) - Classified or unclassified information of any kind that can be used, or adapted for use, in the design, production, manufacture, repair, overhaul, processing, engineering, development, operation, maintenance, or reconstruction of goods or munitions; or any technology that advances the state of the art or establishes a new art in an area of significant military applicability in the United States. The data may be tangible, such as a model, prototype, blueprint, or an operating manual, or may be intangible, such as a technical service or oral or visual interactions.

Technical Manual Contract Requirement (TMCR) Document, TM 86-01 — The document approved for use by the Department of the Air Force to acquire TOs. It fully describes statement of work criteria for contractor program management, TO Quality Assurance, TO development and update, TCTOs, delivery instructions, and generic tailoring of the approved standards and specifications.

Technical Order (TO) — TMs developed to MIL-SPECs or commercial manuals reviewed and approved IAW MIL-PRF-32216, managed in the Air Force TO System, and meeting the criteria for TMs listed above. The term Technical Order is equivalent to the DoD term Technical Manual.

Technology — The technical information and know-how that can be used to design, produce, manufacture, use, or reconstruct goods, including technical data and computer software. The term does not include the goods themselves.

TO Management Agent/TO Management Agency (TOMA) — The individual or organization responsible for managing TOs related to systems and commodities. Management encompasses all activities (except content management) from acquisition through disposal of TOs after the systems or commodities supported leave the Air Force inventory. TOMAs are generally responsible for style, format and other non-technical aspects of manuals.

TO Life Cycle Management Plan (TOLCMP) — The government plan for management of all facts of a major acquisition TO program. Less-than-major programs may not require a TOLCMP.

TO Life Cycle Verification Plan (TOLCVP) — The government plan for management of TO Verification throughout the life of the program.

TO Review Board (TORB)/Flight TORB (FTORB) — The review boards responsible for evaluation and approval of suggested changes to TOs and flight manuals. The boards may be formal panels or a loosely structured group of qualified individuals, but must be instituted and empowered by PM letters of appointment.

TO 00-5-3

TO System — The Air Force specialized publication system for the acquisition, management, publication, filing and use of technical manuals. The TO System includes the hardware and software for the standard TO management system, personnel and facilities, and all manuals developed or acquired for organic operation, maintenance, inspection, modification, or management of centrally-acquired and managed Air Force military programs and end items. This includes paper and digital copies of manuals developed IAW Technical Manual Specifications & Standards, non-embedded personal computer software which automates the function directed by a TO, contractor-developed manuals adopted for Air Force use, and approved Commercial Off-The-Shelf (COTS) manuals.

U

Updates — Any changes to TOs or PTOs based on approved RCs. Updates are distributed to users in TO changes, revisions, and supplements IAW TO 00-5-1.

User Friendly — Clear and concise instructions, easily found and accessed, reliable with standard processes for operating the eTool while navigating through the file and standard formats linking related sections of the file to provide a high quality and time saving experience during TO use. This implies user friendly tech data, user friendly eTO applications, and user friendly equipment to view them on.

US Munitions List — This list designates defense articles and defense services that are subject to the International Traffic in Arms Regulations.

V

Verification — Verification is the process through which Air Force personnel evaluate and prove TOs, TO updates and TCTOs are accurate, adequate, safe, and usable to support the using command operational and maintenance concepts.

Verification Status Page (VSP) — A VSP will be included in preliminary TOs to list all procedures requiring verification, and will conform to the requirements of MIL-STD-38784. On PTOs that are 100% verified, the VSP may be blank, but will indicate the current date of the TO and any changes. The VSP will also be included in formal TOs containing unverified procedures.

Verification Team — Personnel assigned from various participating commands to verify procedures and to participate in the TORB/FTORB when required. Team members should include personnel of the lowest skill level planned to perform the procedures in the operational units.

Verification Team Manager — The individual assigned the task of managing a verification effort, responsible for the verification of assigned system TOs as chartered by the TOMA.

W

Work Stoppage — Work stoppage refers to the inability to proceed with production on a repair or modification of an end item or commodity, or where a given process stops due to nonconforming material, inadequate technical data, or lack of proper parts, materials, components, tooling or facilities. Halted production of a component or part that prevents the repair or continued scheduled production flow of an end item constitutes a work stoppage.

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