TECHNICAL MANUAL

AEROSPACE EQUIPMENT MAINTENANCE INSPECTION, DOCUMENTATION, POLICIES, AND PROCEDURES

This manual supersedes TO 00-20-1, dated 21 June 2021.

FOR QUESTIONS CONCERNING TECHNICAL CONTENT OF THIS TECHNICAL MANUAL, CONTACT THE APPLICABLE TECHNICAL CONTENT MANAGER (TCM) LISTED IN THE ENHANCED TECHNICAL INFORMATION MANAGEMENT SYSTEM (ETIMS). HQ AFMC/A4FI, WPAFB, OH IS THE APPROVAL AND WAIVER AUTHORITY FOR THIS TECHNICAL MANUAL.

Published under authority of the Secretary of the Air Force

26 SEPTEMBER 2022

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by shaded or screened areas, or by miniature pointing hands.

Dates of issue for original and changed pages are:

Original. . . . . .0. . .26 September 2022

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 146, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	0				
A	0				
i - vii	0				
viii Blank	0				
1-1 - 1-2	0				
2-1 - 2-11	0				
2-12 Blank	0				
3-1 - 3-6	0				
4-1 - 4-6	0				
5-1 - 5-48	0				
6-1 - 6-5	0				
6-6 Blank	0				
7-1 - 7-14	0				
8-1 - 8-11	0				
8-12 Blank	0				
9-1 - 9-7	0				
9-8 Blank	0				
10-1 - 10-3	0				
10-4 Blank	0				
A-1 - A-2	0				
B-1 - B-3	0				
B-4 Blank	0				
Glossary 1 - Glossary 5	0				
Glossary 6 Blank	0				
Index 1 - Index 6	0				

* Zero in this column indicates an original page.

TABLE OF CONTENTS

TABLE OF CONTENTS - CONTINUED

TABLE OF CONTENTS - CONTINUED

TABLE OF CONTENTS - CONTINUED

TABLE OF CONTENTS - CONTINUED

LIST OF ILLUSTRATIONS

LIST OF TABLES

INTRODUCTION

1 PURPOSE.

This technical manual provides a description of the Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures. Instructions for safe and proper storage, handling, inspection, testing, maintenance, and preparation for use are also provided.

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. Abbreviations, phrases, and words which are on a decal, a placard or an engraving are set forth in the text exactly as they appear on the decal, the placard or the engraving.

3 DEFINITIONS.

The word SHALL is used to express a provision that is binding. The words SHOULD and MAY are used when it is necessary to express nonmandatory provisions. WILL may be used to express a mandatory declaration of purpose or when it is necessary to express a future event.

4 ABBREVIATIONS AND ACRONYMS.

All abbreviations used in this manual are in accordance with abbreviations per ASME Y14.38M, Abbreviations and Acronyms for use on drawings and related documents: Use acronym list from Appendix B.

NOTE

Acronyms used only once in the TO are not included in this list.

5 LIST OF RELATED PUBLICATIONS.

These publications contain information in support of this technical manual. Use List of Related Publications from Appendix A.

6 IMPROVEMENT REPORTS.

Recommended changes to this manual shall be submitted in accordance with TO 00-5-1.

CHAPTER 1
GENERAL

1.1 PURPOSE.

1.1.1 Technical Order 00-20-Series Processes. This Technical Order (TO) establishes the policies and procedures for use of 00-20-series TOs and provides weapon system and equipment maintenance inspection and documentation guidance. It also implements the policies of AFMCI 21-100 and AFI 11-301V1.

1.1.1.1 Unless otherwise specified, the term AEROSPACE EQUIPMENT in this technical order refers to weapon systems and equipment such as aerospace vehicles, equipment, missiles, nuclear weapons, Test Measurement and Diagnostic Equipment (TMDE), trainers, training equipment, engines, Flight Support Equipment (FSE), industrial plant equipment, and all related Support Equipment (SE). This TO is applicable to all organizations maintaining this equipment.

1.1.1.2 Two services exist in the Department of the Air Force (DAF), 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 that is applicable for its respective mission areas IAW the procedures outlined in TO 00-5-1.

1.1.1.3 MAJCOMs may supplement 00-20-series TOs as required. Refer to TO 00-5-1 for MAJCOM, Base, and Unit Supplement requirements. For the purpose of maintenance policy, the lead commands are Air Combat Command, Air Mobility Command, Air Force Special Operations Command, Air Education and Training Command, Air National Guard, Air Force Reserve Command, Air Force Space Command, Global Strike Command and Air Force Materiel Command.

1.1.1.4 Air Force agencies will not furnish maintenance data in any form to contractors unless granted by the applicable weapon system Controlling Distribution Office (CDO) in accordance with DoDI 5230.24, Distribution Statements on Technical Documents.

1.1.1.5 In 00-20-series TOs, the designation, GP/CC is used to represent the Maintenance Group Commander. At test sites or activities which do not have a GP/CC, it will be the responsibility of the Chief of Maintenance, Chief of Test Force Teams, Air Mobility Squadron Commander, Installation Team Chief or equivalent (as determined by the MAJCOM/A4) to ensure that the criteria of this TO is complied with.

1.1.1.6 Forward requests for waivers to this TO through MAJCOM maintenance policy to HQ AFMC/A4FI.

1.2 CONTRACTOR MAINTENANCE.

1.2.1 Operations Instructions. The contractor will provide the Air Force contract administration office with a list of personnel who are authorized to certify that Aerospace Equipment is safe for flight or use. This certification list should be kept to a minimum to meet mission requirements. Any changes to the list will be immediately forwarded to the contract administration office. The listing will specifically identify the personnel who are authorized to:

a. Sign exceptional releases.

b. Downgrade Red X or Red W conditions.

c. Sign off Red X or Red W symbol.

d. Certify operational capability (i.e. Safe-For-Flight Release).

e. Perform functional check flights (if applicable).

f. Update weight and balance records in accordance with TO 1-1B-50.

1.2.1.1 The contractor will develop and maintain a program to ensure that personnel are trained in the areas specified in the contract. The program will have provisions for contractor certification/recertification of personnel authorized to perform the specific functions or to operate various support equipment in accordance with DAFI 21-101 and other applicable directives.

1.2.1.2 The contract administration office will ensure that the contractor performs the maintenance management and documentation requirements prescribed in applicable TOs. In addition, the contract administration office will ensure that the applicable TOs are referenced as provisions in the contract.

1.3 TRANSIENT AIRCRAFT (TA) SECTION.

The TA Section recovers, services, inspects, maintains, and launches transient aircraft. Transient aircraft are those aircraft not assigned to a base that are en route from one location to another that may require routine servicing. Aircraft are not considered transient aircraft when deploying to, or staging from, any location for the purpose of flying sorties or conducting training, either with or without the necessary maintenance support from the aircraft's home base. The Maintenance Operations Center (MOC) coordinates specialist support for transient aircraft through appropriate squadrons. The TA Section NCOIC/Chief will complete reimbursement documentation for documenting maintenance servicing requirement and necessary billing information by completing an AFTO Form 726, *Transient Aircraft Service Record* (formerly AF Form 726). Additional TA Section NCOIC/Chief responsibilities are outlined in DAFI 21-101.

CHAPTER 2
AEROSPACE VEHICLE INSPECTIONS

2.1 GENERAL.

2.1.1 Inspection Intervals. Intervals required for Air Force aerospace vehicle inspections are prescribed in applicable Mission Design Series (MDS) specific -6 TO maintenance manuals, item technical orders, inspection workcards, checklists, commercial manuals or depot engineering data. All requirements pertaining to inspections will normally be accomplished concurrently to avoid complications in scheduling and controlling the required maintenance. The inspection concepts for aerospace vehicles are periodic, phase, isochronal, Programmed Depot Maintenance (PDM), and aerospace vehicle manufacturer maintenance. The GP/CC establishes necessary controls to ensure that the periodic, phase or isochronal inspections are accomplished at or near the scheduled due time as authorized in applicable TOs or approved waivers. GP/CC may increase the frequency or scope of scheduled inspections or individual inspection requirements, when required for temporary situations. Scheduling deviations of periodic, phase or isochronal inspections beyond what is authorized in aerospace vehicle specific technical manuals, must be approved through the Program Manager (PM) in coordination with the owning MAJCOM. Scheduling deviations that effect PDM or aerospace vehicle manufacturer maintenance, must be approved through the PM, Lead Command, and owning MAJCOM.

2.1.1.1 When new inspection requirements are levied and the age or accrued time of the aerospace vehicles, systems, and components is less than the specified inspection interval, begin accomplishment of the new requirements at the prescribed interval. If the age or time is beyond the specified interval, accomplish initial inspections as soon as practical and regulate subsequent inspections accordingly. When requirements are added or changed for accessory items, determine operating time in accordance with Chapter 6.

2.2 INSPECTION REQUIREMENTS.

2.2.1 Recurring Maintenance. Each PM determines the inspection concept, establishes a recurring maintenance cycle and ensures adequate scheduling flexibility to bundle/align recurring maintenance requirements to the maintenance cycle.

2.2.1.1 Recurring maintenance requirements are published in MDS specific -6 TOs and/or inspection workcard decks, (e.g., pre-flight, basic post-flight, thru-flight, etc.). If specified by the acquiring activity, workcards may be developed as self-contained documents and only need to be referenced in the -6 inspection manual.

2.2.2 Inspection Concepts. The basic sub-elements for the periodic, phase, isochronal, PDM, and aerospace vehicle manufacturer inspection concepts are as follows (Table 2-1, Table 2-2, Table 2-3, Table 2-4, Table 2-5):

Table 2-1. Periodic Concept

Pre-flight (PR)	Basic Post-Flight (BPO)
Pre-Launch Inspection (PLI) or Walk-Around (WAI)	Combined Pre-Flight/BPO (PR/BPO)
End-of-Runway (EOR)	Hourly Post-Flight (HPO)
Thru-Flight (TH)	Periodic (PE)
Quick Turn (QT)	Pre-Departure Service Check (PDSC)

Table 2-2. Phase Concept

PR	BPO
PLI or WAI	PR/BPO
EOR	HPO
TH	Phase (PH)
QT	

Table 2-3. Isochronal Concept

PR	PR/BPO
EOR	HPO
TH	Home Station Check (HSC)
QT	Minor (Min)
BPO	Major (Maj)

Table 2-4. Programmed Depot Maintenance (PDM)

12 Month	48 Month
24 Month	54 Month
36 Month	60 Month

Table 2-5. Aerospace Vehicle Manufacturer Inspection Concept

A Check	C Check
B Check	D Check

2.2.3 Inspection Cycle. Lead commands may authorize aerospace vehicles to use a modified inspection workcard deck during contingencies, and increased readiness conditions. The PM designates and publishes workcards in conjunction with the Lead Command for use during these periods. Construct contingency decks to ensure all items impacting aerospace vehicle safety and reducing aerospace vehicle reliability are inspected. Accomplish the normal inspection workcard deck upon termination of this period.

2.2.3.1 Periodic, isochronal, phase, HSCs, HPOs, and commercial equivalent inspections are scheduled at equal intervals throughout the total inspection cycle, regardless of when inspections were actually completed. Do not exceed inspection intervals unless authorized by the MDS specific -6 TO or approved by the Lead Command and PM to meet mission essential requirements. If the interval is exceeded, use the appropriate Red symbol (specific exceptions will be in the appropriate TOs). Inspection interval extensions must be annotated using the Red Dash unless authorized for service tests and special projects by the PM and the Lead Command. Changes to prescribed inspection intervals, concepts or requirements will be made by the PM only after thorough analysis of data obtained from the Maintenance Information System (MIS) and from appropriate Reliability Centered Maintenance Analysis (RCMA).

2.2.3.2 Scheduled inspection requirements specified in publications other than MDS specific -6 TO are not applicable to components in an installed status. Inspection requirements for components not installed are contained in commodity and equipment manuals. If inspection requirements for installed items are listed in publications other than -6 (or -2 for missiles) TO, bring them to the attention of the PM, who will take action to integrate them into the applicable -6 (or -2) scheduled inspection and maintenance manuals. Aircrew Flight Equipment (AFE) not in an installed status and therefore not listed in MDS specific -6 TO, as defined in the Glossary, are exempt from these requirements.

2.3 SPECIFIED FLYING PERIOD.

The specified flying period begins with the first flight and continues for a period of hours as specified by the MAJCOM not to exceed 72 hours, unless authorization is granted by the PM and MDS specific -6 TO.

2.4 INSPECTION TYPES.

2.4.1 Pre-Flight Inspections. The PR is a flight preparedness inspection done in accordance with the MDS specific -6 TO or maintenance requirements manual (as applicable). The inspection includes visually examining the aerospace vehicle and operationally checking certain systems and components to ensure there are no serious defects or malfunctions.

2.4.1.1 A PR will be required prior to the first flight of the flying period or when the PR validity period has expired.

2.4.1.2 If not already specified in the MDS specific -6 TO, MAJCOMs may select a 24-, 48- or 72-hour PR validity period. Owning MAJCOMs may follow existing lead MAJCOM supplemental guidance.

2.4.1.3 The pre-flight validity period ends when the selected time period in Paragraph 2.4.1.2 has expired or when the specified flying period expires, whichever occurs first. MAJCOMs or MDS specific technical orders may be more restrictive.

2.4.1.4 When an aerospace vehicle is mobilizing for contingency operations, units are authorized to place the aerospace vehicle on alert status. It must be prepared in accordance with established TOs, accepted by an aircrew, sealed (if not conflicting with TO guidance), remain under the control of operations and be monitored by maintenance.

2.4.1.4.1 Accomplish a complete PR prior to sealing the aircraft.

2.4.1.4.2 A new PR is not required during the alert period or as long as the aircraft is launched directly from alert status regardless of the PR validity period.

2.4.1.4.3 Upon termination of alert status, accomplish a new PR if the validity period has expired.

2.4.1.5 Pre-Launch Inspection or Walk-Around Inspection. The PLI and WAI are abbreviated pre-flight inspections and will be accomplished as required by the MDS specific -6 TO and/or MAJCOM supplement to this TO.

2.4.2 End-of-Runway Inspection. The EOR inspection is a final visual and/or operational check of the aerospace vehicle. The PM in coordination with the Lead Command will list minimum inspection requirements in the applicable -6 TO and publish in an existing workcard deck.

NOTE

Aerospace vehicles that do not have a PM directed -6 EOR inspection requirement do not require this inspection.

2.4.2.1 The EOR is performed immediately prior to take-off at a designated location.

2.4.2.2 The purpose of the inspection is to detect critical defects that may have developed or have become apparent during ground operation of the aerospace vehicle.

2.4.2.3 Aerospace vehicles launched from alert status do not require this inspection. Alert Force Evaluations will not require an EOR and will be treated as Active Air Defense scrambles. However, alert aircraft launched for training missions from alert status will require an EOR inspection.

2.4.3 Thru-Flight Inspection. The TH is a between flights inspection and will be accomplished after each flight, when a turnaround sortie or a continuation flight is scheduled and a BPO inspection is not required. A TH is not required when aircraft are hot-pitted and immediately accomplish a turnaround or continuation sortie. This inspection is applicable when prescribed by applicable MDS specific -6 TO or maintenance manual. The TH consists of checking the aerospace vehicle for flight continuance suitability by performing visual examination and/or operational checks of certain components, areas or systems, according to established TOs to ensure no defects exist which would be detrimental to further flight.

2.4.3.1 Certain aerospace vehicles have TH requirements identified by special characters in applicable workcards. Other aerospace vehicles have separately published TH inspection workcards.

2.4.4 Quick Turn Inspection. The QT is an abbreviated thru-flight inspections authorized by MDS specific -6 TOs.

2.4.4.1 MAJCOMs may authorize QT inspections for aerospace vehicles resuming alert after flight or placing aerospace vehicles on alert at alert site locations. Owning MAJCOMs may follow existing lead MAJCOM supplemental guidance.

2.4.5 Basic Post-Flight Inspection. The BPO is a more thorough check than the PR or the TH inspections and is accomplished in accordance with the MDS specific -6 TO or maintenance manual for the aerospace vehicle.

2.4.5.1 The BPO will consist of checking the aerospace vehicle condition by performing visual examination or operational checks of certain components, areas or systems to assure that no defects exist that would be detrimental to flight.

2.4.5.2 Maintenance personnel will perform a BPO after the last flight of a specified flying period.

2.4.6 Combined Pre-Flight/Basic Post-Flight Inspection. The PR/BPO consolidates the requirements of the PR and BPO inspections into a single inspection accomplished at the end of the specified flying period or prior to the first flight of the next specified flying period. It has the same validity period as the PR.

2.4.7 Hourly Post-Flight Inspection. The HPO is accomplished at equally spaced intervals as specified in the applicable MDS specific -6 TO.

2.4.7.1 Determine the due time for all HPO inspections at the completion of each Periodic/Phase inspection. Reference applicable -6 TO for impact of early/late completion of HPO.

2.4.8 Periodic Inspection. The PE is due upon accrual of the number of flying hours, operating hours or at the expiration of a calendar period specified in the applicable MDS specific -6 TO. The periodic inspection is more extensive in scope than the HPO or BPO inspections as the PE inspection is a thorough inspection of the entire aerospace vehicle.

2.4.9 Phase Inspections. For the purpose of this section, the term phase refers to both Periodic and Phase inspections. These inspections are cumulative for the life of an aerospace vehicle. The number of the next due PE inspection should be the same as the number obtained by dividing the aerospace vehicle hours at which the next PH is due by the hourly inspection interval. The number obtained may vary from the actual PH number due because of transfers and premature or overdue flying hour inspections.

2.4.9.1 Accomplish PH upon accrual of the number of flying hours specified in the applicable MDS specific -6 TO and maintenance manual. The PH concept involves consolidation of the BPO, periodic inspection and/or HPO requirements into work deck(s) having approximately the same work content and approximately the same number of clock hours for accomplishment. The primary objective of the PH concept is to minimize the length of time that an aerospace vehicle is out-of-commission for any given scheduled inspection. The PH concept does not apply to those aerospace vehicle types for which the inspection requirements cannot be divided into reasonably equal work decks.

2.4.9.2 Schedule PH at equal intervals throughout the total inspection cycle regardless of when the inspections are actually accomplished.

2.4.9.3 When aerospace vehicles under the phase concept are required for extended missions, Phases may be accomplished in advance to cover the period of the extended mission, when authorized by the MAJCOM and PM. Upon completion of the extended mission, normal scheduling of the PH packages will be resumed.

2.4.10 Isochronal Inspection. The ISO concept translates flying hour utilization rates into calendar periods, usually expressed in days. The PM ensures the calendar period is properly established to meet maintenance and engineering requirements. In the event programmed flying hours are changed, adjust inspection interval as specified in the MDS specific -6 TO. The PM, in conjunction with the Lead Command, determines necessary adjustments. The Lead Command will notify owning MAJCOMs of adjustments.

2.4.10.1 To manage the ISO concept properly, schedule inspections as far in advance as possible for each aerospace vehicle.

2.4.10.2 The interval time frame is from the completion of the post-dock from the last ISO to the start of the next ISO. The ISO concept allows for the time an aerospace vehicle is programmed to be in an inspection status.

2.4.10.3 MAJCOMs, with PM concurrence, approve deviations to schedules when ISO cannot be met. Criteria for deviations should be, but are not limited to, aerospace vehicles removed from service for extended periods of time (e.g., depot level maintenance in accordance with TO 00-25-107), extended fuel repair and Time Compliance Technical Order (TCTO) kit verification. The GP/CC establishes procedures to ensure these aircraft are placed in storage in accordance with TO 1-1-17, when required.

2.4.10.3.1 Send requests for ISO schedule deviations to the MAJCOM functional manager. Units will not request an ISO deviation unless the deviation exceeds the overfly authorized by the MDS specific -6 TO (if applicable). Provide the following information when requesting ISO deviations:

a. MDS

b. Serial Number

c. Reason for Request

d. Type of Inspection (e.g., #4 Major, #1 Minor)

e. Actual Inspection Due Date

f. Requested Inspection Date

g. Completion Date of the post-dock for the last Isochronal Inspection

h. Number of PDM Days Since Last Inspection

i. Total days in Unscheduled Depot Level Maintenance (UDLM)

j. Special Inspections Due

k. Time Change Items Due (Item, Date Due/Time Remaining)

l. Outstanding TCTOs (only those affected by the extension)

m. Airframe Hours Since Last Inspection

n. Flying hours since last major (i.e. ISO) inspection

2.4.10.4 Aerospace vehicles in Purpose Identifier Code DJ, DK, DM, DO (AFI 21-103), awaiting depot input or undergoing UDLM, do not accrue -6 inspection days. Refer to the MDS specific -6 TO (if applicable) for stipulations as to when the ISO clock stops.

2.4.10.5 Isochronal inspections for Intercontinental Ballistic Missiles (ICBMs), their trainers, and their SE will be due at equal intervals throughout the total inspection cycle, regardless of when the inspections were actually accomplished. Isochronal inspections are based on calendar intervals using the following due periods:

TYPE	INTERVAL	DUE PERIOD
Major	Semi-annual or greater	Within due month
Minor	Semi-monthly, bi-monthly, Quarterly	Within due week
Minor	Weekly	Due date ± one work day
Minor	Daily	On due date
Minor	Semi-monthly, monthly, bi-monthly, Quarterly	Within due week

Note: Weekly intervals will begin on Sunday and semi-monthly intervals will begin on the first and sixteenth of each month.

2.4.11 Minor ISO Inspection. The MIN consists of checking certain components, areas or systems of the aerospace vehicle to determine if conditions exist, if uncorrected, could result in failure or malfunction of a component prior to the next scheduled inspection.

2.4.11.1 The MIN inspection is due upon accrual of the number of calendar days established as the inspection interval in the MDS specific -6 TO.

2.4.11.2 Compute this date from the post dock of the last isochronal inspection.

2.4.12 Major ISO Inspection. The MAJ inspection is a thorough inspection of the entire aerospace vehicle, and individual requirements may be more extensive in scope than previous inspection items.

2.4.12.1 The MAJ inspection is due upon accrual of the number of calendar days established as the inspection interval in the MDS specific -6 TO.

2.4.12.2 Compute this date from the post dock of the last isochronal inspection.

2.4.13 Home Station Check Inspection. The HSC is arranged and designed for accomplishment upon expiration of a specified short-term calendar interval. This inspection is due at the calendar interval specified in the MDS specific -6 TO. Send HSC schedule deviation requests to the MAJCOM functional manager. Units will not request an HSC deviation unless the deviation exceeds the overfly authorized by the MDS specific -6 TO (if applicable). Refer to Paragraph 2.4.10.3.1 for submittal requirements. Since the HSC is an integral part of the isochronal concept, compute this date from the completion of the last isochronal inspection.

2.4.14 Programmed Depot Maintenance. PDM is an inspection requiring skills, equipment, and/or facilities not normally possessed by operating locations. Individual areas, components and systems are inspected to MDS specific -6 TO requirements. Field level tasks may be accomplished at PDM if their accomplishment is economically feasible. The PM will, in coordination with the using agency, schedule the PDM at or prior to, the scheduled due date.

2.4.14.1 Aerospace vehicles under the isochronal concept do not accrue MDS specific -6 TO inspection days towards the next ISO during PDM. This includes aerospace vehicle input to a depot for an Analytical Condition Inspection (ACI). When an aerospace vehicle exceeds the PDM cycle, annotate a Red Dash on the prescribed forms. If an aerospace vehicle exceeds the PDM cycle by 90 days, the Red Dash will be upgraded to a Red X unless the PM grants an extension. (See TO 00-25-4).

2.4.15 Aerospace Vehicle Manufacturer Inspections. Letter checks consist of A through D. A/B checks are considered minor inspections and are usually performed at home station. C/D checks are considered major inspections and are usually performed at a Depot facility.

2.4.15.1 The letter check concept is specified in either flying hours or calendar days. The PM ensures the inspection period is properly established to meet maintenance and engineering requirements.

2.4.15.2 MAJCOMs, with PM concurrence, approve deviations to schedules if letter check inspections cannot be met in accordance with MDS specific -6 TO requirements. Coordinate with Lead Command on letter check schedule deviations that affect Depot input.

2.4.15.3 Accrual of inspection days, while an aerospace vehicle is in DJ status awaiting depot input or undergoing UDLM, is dependent on the MDS specific -6 TO or maintenance planning document criteria for the specified airframe.

2.4.16 No-Fly Calendar Inspections. These can be either 30-day or 90-day inspections, required when aerospace vehicles do not fly for a consecutive number of days.

2.4.16.1 30-Day Inspection. When an aerospace vehicle does not fly for more than 30 consecutive days, it requires a BPO before the aerospace vehicle is returned to operational status in addition to any -6 or -2 TO requirements that exist. This paragraph does not apply to aerospace vehicles that are on alert where recurring visual inspections and operational checks are accomplished.

2.4.16.1.1 If no BPO exists, perform a PR or equivalent inspection. This will be construed as a minimum 30-day calendar inspection and the GP/CC will determine whether additional inspection or maintenance work is required.

2.4.16.1.2 Aerospace vehicles that have completed a PH or ISO inspection during the 30-day period will use the PH/ISO post-dock date to start the 30-day no-fly clock.

2.4.16.2 90-Day Inspection. When an aerospace vehicle does not fly for 90 consecutive days (does not apply to ground training and alert/immediate response aerospace vehicles where recurring visual inspections and operational checks are accomplished), if no -6 or -2 TO requirements exist, accomplish the following before the aerospace vehicle is returned to operational status:

a. Perform a BPO or equivalent inspection.

b. Perform an operational check of all functional aerospace vehicle systems except landing gear retraction, unless specified in the MDS specific -6 or -2 TO.

c. Accomplish all lubrication requirements.

d. Perform any additional inspection or maintenance requirements determined by the GP/CC.

2.4.17 Transfer Inspections. See Chapter 8.

2.4.18 Acceptance Inspections. An Acceptance Inspection (AI) will be performed on new, newly assigned or transferred, and post organic or contract depot repaired aerospace vehicles, engines and Aerospace Ground Equipment (AGE) prior to being placed in service. The inspection is accomplished to determine the serviceability of the item to perform its designed function. The scope of the inspection will be consistent with MDS specific -6 TO, and may be performed at the manufacturer, alternate location or home station. Types of AIs are:

- New Aerospace Vehicle Inspection. Performed on aerospace vehicles received from manufacturer to verify the quality of work and serviceability.

- Newly Assigned or Transferred Aerospace Vehicle Inspection. Performed on aerospace vehicles that have been newly assigned or transferred to determine the serviceability of the item to perform its designed function.

- Post Depot Repair Aerospace Vehicle Inspection. Performed on organic/contract depot repaired vehicles/engines and equipment to verify the quality of depot work performed. This inspection is accomplished to determine the serviceability of the item to perform its designed function.

NOTE

To determine the scope of the AI, source data may include a Preparation for Use in accordance with end-item TO, if referenced, a Service Inspection (SI) in accordance with applicable workcards or an Operational Check in accordance with end-item TO.

2.4.18.1 Acceptance Inspections Application/Scope. If not directed by MDS-specific -6 TO, equipment TO or equivalent, the MAJCOM or Lead Command will determine the inspection requirements, the scope of the inspection or defer the option to possessing units. Inspection requirements will be included in MAJCOM or local supplements based on MAJCOM/Unit Specified criteria.

2.4.18.2 Acceptance Inspection Deficiency Report. If a deficiency(s) is identified during an acceptance inspection, an Acceptance Inspection Deficiency Report (AIDR) will be completed in the Joint Deficiency Reporting System (JDRS) no later than 30 calendar days after receipt of the systems or assets in accordance with TO 00-35D-54.

2.4.19 One Time Inspections (OTIs). OTIs are used to verify the existence of suspected equipment conditions or malfunctions. All TCTOs directing an OTI must indicate whether previous inspections satisfy the one-time requirement.

2.4.19.1 When an unsafe condition or material failure is discovered on aerospace equipment and there is the potential the condition may exist on other aerospace equipment the following action will be taken by the GP/CC or higher authority, which includes the appropriate weapon system PM.:

a. Immediately inspect a representative number of systems or units of the same mission and design to determine if the condition exists on other aerospace equipment.

b. Restrict similar systems or units from further flight or use if warranted, and submit a Deficiency Report (DR) in accordance with TO 00-35D-54. When units restrict usage of similar systems, initiate a local OTI and report findings to MAJCOM for determination of MAJCOM-wide OTI requirements.

2.4.19.2 Process and manage MAJCOM or local OTIs with the same procedures as a TCTO with the following exception: OTIs will not be loaded in REMIS. OTIs are issued with a data code consisting of a unique alpha prefix and a six character sequence number. MAJCOM OTI data codes shall begin with the second character of their command sequence code in TO

00-20-2, Appendix B (e.g., C for ACC, V for AFSOC, AMC will use Y since their second character command code is L, AFMC will use T to deconflict with AFRC). For MAJCOM OTIs, the six remaining characters identify the year, month and a sequence number. For example, C100901: is the first ACC OTI issued during September 2010.

NOTE

Process and manage weapon system Program Office OTIs as MAJCOM OTIs with the following exception; the unique alpha prefix should be the Program Office office symbol.

2.4.19.3 Process and manage local OTIs in the following manner, seven characters will identify the data code for the OTI: L for local code, originating wing, year issued and a sequence number (e.g., LXXXY01: L for local, XXX for unit designation, Y for last digit of the year, and 01 for the sequence number, in this example the first OTI of the year). Units with a four digit unit designation will follow their MAJCOM specific guidance. In IMDS, the TCTO Number (Ident Number) will contain the originating unit and data code (i.e. 002 - L002503 for the third OTI issued in 2015 for the second BW).

2.4.19.3.1 The TCTO Number (referred to as Ident Number in IMDS) for local OTI TCTOs will be comprised of the originating organization number, followed by the local data code assigned, i.e. 379-L120101, indicating L120101 was issued by the 379th ECS.

2.4.19.4 OTI Contents. Minimum contents include statements of:

- Title.
- Applicable Equipment.
- Date OTI was issued.
- Compliance period/Type or category (i.e., Immediate, Urgent, Routine).
- Remove from service date.
- Rescission date.
- By whom to be accomplished (Air Force Specialty Code (AFSC) and man-hours required).
- Tools required.
- How work is to be accomplished (give detailed and specific step-by-step instructions).
- Operational checks (if required to verify operational status, list TO references).
- Record actions.
- Compliance reporting (MAJCOMs may require periodic status).
- OPR (the OTI's drafter; include name and telephone number).
- OTI Distribution. OTIs are sent to all applicable organizations.

2.4.20 In Process Inspection (IPI). An IPI is an additional inspection or verification step at a critical point in the installation, assembly or reassembly of a system, subsystem or component. These inspections are either TO, MAJCOM or locally directed and are accomplished by IPI certified personnel. For specific procedures on how to document and clear an IPI, see Paragraph 5.7.1.3.11.6.1.

2.4.20.1 An IPI is accomplished and documented by an authorized IPI inspector other than the technician performing the specific step of a task that requires the IPI. The technician performing the task notifies an IPI inspector at the appropriate step. The technician who ultimately clears the original discrepancy will ensure all applicable IPIs were completed.

2.4.20.2 Some digital TOs include IPIs displayed as a step in the task. The IPI executes as a process within the TO. Once executed, a Work Center Event/Work Event Separator (WCE/WES) is automatically created in the digital aircraft forms detailing the IPI task description. In this case, the IPI requirement is fulfilled and the following procedures do not apply.

2.4.20.3 IPI for off-equipment will be accomplished as follows:

a. Document in the same manner as on-equipment IPIs, utilizing the AFTO Form 350.

b. Document engine off-equipment IPIs in the engine work folder. IPI documentation in the MIS is not required for off-equipment engine work.

2.5 AEROSPACE VEHICLES IN STORAGE.

Storage time will be accrued in accordance with TO 1-1-17 and applicable MDS specific TOs. For aerospace vehicles in storage exceeding 15 calendar days, time in storage is not charged against the calendar time for the next scheduled home station check, minor or major inspection. However, the calendar days prior to storage are included in accrued inspection time after release from storage.

2.6 INSPECTION WORKCARDS.

2.6.1 Requirements. Inspection workcards outline the minimum inspection requirements and provide each technician with a standardized inspection guide. They list the requirements to be performed and reflect the most logical sequence for accomplishment. Each workcard also contains pertinent information to suggest when the work is scheduled, estimated time for accomplishment, identification of the work area, the recommended type of technician required, and electrical power requirements. Cards are grouped by the recommended type of technician required to accomplish the inspection so that all requirements listed on any particular card can normally be accomplished by one individual. This arrangement of the workcards permits the supervisor to assign a technician to a certain work area to do a specific task or series of tasks. The PM, in collaboration with Lead Commands, will prepare and update inspection workcards. MDS specific -6 TO inspection workcards may include varying calendar inspection periods (7-day, 15-day, etc.) as determined by the weapon system SM and Lead Command.

2.6.1.1 When the arrangement of published workcards is not entirely compatible with the technician manning or scheduled sequence preferred, the using activities may transfer individual inspection requirements from one card to another with GP/CC approval. Do not make minor changes of this nature if specifically prohibited by MAJCOM directives.

2.6.1.2 When inspection requirements pertain to systems or components that are not installed on locally maintained equipment, GP/CC may authorize Quality Assurance (QA) to line out non-applicable requirements and enter “NA” in the margin.

2.6.2 AFTO Form 26. (See Figure 2-1 for example.) The AFTO Form 26 permits local preparation of replacement workcards for those that become unserviceable. Local reproduction of the forms is authorized. These forms are also provided to permit the preparation of additional workcards for special installed equipment and covered by the published card set. These forms also aid in preparation for complete inspection workcard sets for equipment of nonstandard configuration or which are in service in limited quantities, and do not have published inspection workcard sets. Activities possessing equipment or the categories mentioned above must contact the PM to determine whether published workcard sets will or will not be provided before any action is taken to prepare complete inspection workcard sets locally.

NOTE

Most current version of AFTO Form 26 must be obtained through Air Force E-Publishing website.

2.7 INSPECTION RESPONSIBILITIES.

2.7.1 Depot or Contractor Field Teams (DFT/CFT). When modifications are accomplished on aerospace equipment by depot or contractor field teams, the following policies apply to inspection of work accomplished:

2.7.1.1 The specific performing depot is responsible for inspecting the work of their DFT/CFT. If depot QA personnel do not accompany DFT/CFT, negotiations with the MAJCOM to perform the QA inspections will be included in the workload agreement.

2.7.1.2 Acceptance of DFT/CFT work by base maintenance personnel is in accordance with agreements made during the pre-contract conference. (AFMCI 21-100).

2.8 SERVICE LIFE EXTENSION PROGRAM (SLEP).

2.8.1 SLEP Defined. A SLEP is a modification to extend the existing service life limit of a system. As a secondary impact, the SLEP will often reduce the inspection burden.

2.8.1.1 More information is available in DAFI 63-140, MIL-STD-1530, MIL-HDBK-516, and JSSG-2006.

2.8.1.2 The service life extension modification can include fleet-wide repairs, modifications (e.g., doublers, cold-worked holes), and/or part or component replacements. It could require full-scale durability testing to validate analysis and demonstrate capability.

AIRCRAFT INSPECTION WORK DOCUMENT				ELECTRICAL PWR	SERVICE	CARD NO.
WORK AREA	TYPE MECH RQR	MECH NO	CARD TIME	PUBLICATION NUMBER AND DATE		CHANGE NO

MAN MIN	WORK AREA	WORK UNIT CODE FOR DISCREPANCY		INSPECTION REQUIREMENTS
		SYS	SUB-SYS AND COMP	

CARD NO	WORK AREA	TYPE MECH RQR	MECH NO	CARD TIME	PUBLICATION NUMBER AND DATE	CHANGE NO

AFTO FORM 26, 20191001 PREVIOUS EDITION IS OBSOLETE

AIRCRAFT INSPECTION WORK DOCUMENT				ELECTRICAL PWR	SERVICE	CARD NO.
WORK AREA	TYPE MECH RQR	MECH NO	CARD TIME	PUBLICATION NUMBER AND DATE		CHANGE NO

MAN MIN	WORK AREA	WORK UNIT CODE FOR DISCREPANCY		INSPECTION REQUIREMENTS
		SYS	SUB-SYS AND COMP	

CARD NO	WORK AREA	TYPE MECH RQR	MECH NO	CARD TIME	PUBLICATION NUMBER AND DATE	CHANGE NO

AFTO FORM 26, 20191001 PREVIOUS EDITION IS OBSOLETE

G1603865

Figure 2-1. AFTO FORM 26, AIRCRAFT INSPECTION WORK DOCUMENT

CHAPTER 3
AEROSPACE EQUIPMENT FORMS DOCUMENTATION

3.1 GENERAL.

This chapter prescribes general requirements for aerospace equipment forms. It specifies filing, disposition, and general maintenance of forms. For the purposes of the 00-20-series TOs, the term "Documentation" may refer to hard copy forms, computer produced hard copy or Air Force approved electronic databases.

3.1.1 Aerospace Equipment Forms. The following is a brief list of commonly used aerospace equipment forms:

- AFTO FORM 46, PREPOSITIONED AIRCREW FLIGHT EQUIPMENT (computer generated authorized)
- AFTO FORM 95, SIGNIFICANT HISTORICAL DATA
- AFTO FORM 244/245, INDUSTRIAL SUPPORT EQUIPMENT RECORD
- AFTO FORM 427, AIRCRAFT INTEGRAL FUEL TANK REPAIR HISTORICAL RECORD
- AFTO FORM 428, B-1B AIRCRAFT INTEGRAL FUEL TANK REPAIR HISTORY RECORD
- AFTO FORM 781, ARMS AIRCREW/MISSION FLIGHT DATA DOCUMENT
- AFTO FORM 781A, MAINTENANCE DISCREPANCY AND WORK DOCUMENT
- AFTO FORM 781B, COMMUNICATION SECURITY EQUIPMENT RECORD
- AFTO FORM 781C, AVIONICS CONFIGURATION AND LOAD STATUS DOCUMENT
- AFTO FORM 781E, ACCESSORY REPLACEMENT DOCUMENT
- AFTO FORM 781F, AEROSPACE VEHICLE IDENTIFICATION DOCUMENT
- AFTO FORM 781G, GENERAL MISSION CLASSIFICATIONS-MISSION SYMBOLS
- AFTO FORM 781H, AEROSPACE VEHICLE FLIGHT STATUS AND MAINTENANCE
- AFTO FORM 781J, AEROSPACE VEHICLE-ENGINE FLIGHT DOCUMENT
- AFTO FORM 781K, AEROSPACE VEHICLE INSPECTION, ENGINE DATA, CALENDAR INSPECTION, AND DELAYED DISCREPANCY DOCUMENT
- AFTO FORM 781P, SUPPORT GENERAL DOCUMENTATION RECORD
- DD FORM 1896, DOD JET FUEL IDENTAPLATE
- DD FORM 2026, OIL ANALYSIS RECORD

3.2 MAINTENANCE INFORMATION SYSTEMS (MIS).

MIS refers to automated maintenance information systems that support and enable maintenance business processes. MIS is used to document maintenance actions and track fleet health. MIS includes Integrated Maintenance Data Systems (IMDS), Reliability and Maintainability Information System (REMIS), G081/Mobility Air Force Logistic Command Control (G081/MAF LOG C2), Comprehensive Engine Management System (CEMS), Precision Measurement Equipment Laboratory (PMEL) Automated Management System (PAMS), Flight Equipment Records Management System (FERMS), Defense

Property Accountability System (DPAS), Defense Repair Information Logistics System (DRILS), and Reliability, Availability, Maintainability Logistics Support System for Pods (RAMPOD). These systems have been developed and now require maintenance, i.e. updating, to incorporate enhancements and ever-changing security protocols. Use of systems other than those listed above require MAJCOM/Lead Command and AF/A4F and/or A4N approval. REMIS is the system of record for all maintenance data documentation.

NOTE

EXCEPTION: F-22 Integrated Maintenance Information System (IMIS) and F-35 Autonomic Logistics Information System (ALIS) will utilize embedded electronic forms capabilities in accordance with applicable TOs. Embedded electronic form entries shall contain all required form entries in accordance with the latest version on the AF Publishing website. F-22 IMIS is the MIS of entry, IMDS facilitates all scheduling functionality. F-22 IMIS users and managers will ensure IMDS accurately reflects documentation in F-22 IMIS.

3.3 AUTOMATED FORMS.

When MISs are available, automated forms will be used, ensuring latest version of form is utilized via e-Publishing website. The e-Publishing website serves as the official repository for departmental, command, and field publications and forms. As a minimum, AFTO Forms 781A, 781J, 781K, and 95s generated by the MIS will constitute fully automated forms. Manual forms produced by a computer program do not meet the intent of automated forms. Use of computer generated AFTO Form 46 is authorized. Other automated products may be used for process controls and/or AFTO Form 244/245 documentation (e.g., Process Control Automated Management System (PCAMS)). Permanently grounded Ground Instructional Training Aircraft (GITA) are not required to use automated forms.

NOTE

EXCEPTION: F-22 IMIS and F-35 ALIS utilize embedded forms capabilities. Embedded electronic form entries shall contain all original form entries in accordance with the latest version on the AF Publishing website.

3.4 PAPER FORMS ENTRIES.

Entries on maintenance documents will be printed except when a written minimum signature is required. Documentation will be legible and complete. Entries on maintenance documents will be made in black (pencil, ball point pen, stamp or preprinted stickers/labels), unless otherwise specified. Abbreviations may be used for any word or term frequently used in making entries on documents.

3.5 STANDARD DATE FORMAT.

Manually record all dates on the forms prescribed in the 00-20-series TOs by eight digits in the order of year, month, and day. Example: YYYYMMDD, 20091207 for 7 Dec 2009.

3.6 MINIMUM SIGNATURE.

3.6.1 Maintenance. The minimum signature for maintenance document purposes required by the 00-20-series TOs consists of the first name initial, last name (not necessarily in this order), and employee number (omit employee number from signature if form has specified block for employee number), USERID or equivalent Federal Aviation Administration (FAA) certification number. Electronic signatures may be used in lieu of these requirements.

3.6.2 Aircrew. Minimum signature for aircrews consists of the first name initial, last name (not necessarily in this order) and when applicable, crew position. For Mobility Air Forces (MAF) units, add flying squadron number, i.e., 00022 for 22AS or 00319 for 319AS. For RPA units, crew position is required. Electronic signatures may be used in lieu of these requirements.

3.6.3 Contractors. Contractors/Air Logistics Centers (ALCs) may use a production stamp.

3.7 INFORMATIONAL NOTES.

Informational notes are informative in nature and do not affect the safety or reliability of the aerospace equipment, therefore these entries do not require symbols, job control numbers or entry in the MIS. Informational notes will not include non-value added entries (such as statements that inform aircrews of crew chief names, where trash bags are located, statements asking

the aircrew to keep the aerospace equipment clean, etc.). For each entry, write the words “INFO NOTE” in the DISCREPANCY block of the AFTO Form 781A or AFTO Form 244/245 (or electronic equivalents) followed by the applicable information. When any of the information becomes invalid, line through the invalid information only. Informational notes will be transcribed in the same manner as all other discrepancies. For electronic forms, clear the write up if needed and/or re-enter the info note in a new discrepancy block.

3.8 TRANSFER OF DOCUMENTS.

3.8.1 Losing Organization. When aerospace equipment is transferred to another organization, the losing maintenance or supply supervisor, will ensure all current and historical maintenance documents or computer generated equivalents accompany the equipment or are forwarded to the new activity not later than the same day the transfer is affected. Waterproof envelopes will be securely attached to the item in a location that will provide the best protection from exposure to elements and prevent loss during handling. Electronic transfer is preferred. See Chapter 8 for more specifics on transfer of aerospace vehicles.

NOTE

EXCEPTION: Transfer of F-22 IMIS and F-35 ALIS electronic documentation is facilitated by contracted system administrators and Plans, Scheduling, and Documentation (PS&D).

3.8.2 Gaining Organization. When equipment is received and historical documents are missing or contain incomplete information, the gaining organization will immediately notify the losing organization. When documents cannot be located, contact the applicable PM for disposition instructions with an information copy to the MAJCOM.

3.9 FILING.

File and dispose of all forms in accordance with AFI 33-322, *Records Management and Information Governance Program*.

3.9.1 Historical File. Establish and maintain historical files, in accordance with AFI 33-322 and DAFI 21-101 for each aerospace vehicle or equipment. The historical file may include hard or electronic copies. Computer generated forms in these files may contain a difference in format, but must contain all required information. Examples of documents in a historical file are, but not limited to:

- AFTO Form 781 series
- AFTO Forms 95, 244/245, and 427 or 428
- Non-Destructive Inspection (NDI) records (i.e., resume reports, x-ray films, etc.)
- Functional check flight checklist/worksheets
- Egress records
- Weight & Balance records
- Major Inspection packages
- Aircrew Flight Equipment records
- Fuel records

3.10 DISPOSITION.

3.10.1 Forms and Documents. Disposition of maintenance data collection forms and documents should be addressed according to the Air Force Records Information Management System (AFRIMS) Table 21-11 Rule 19.00 and Table 21-06 Rules 15.00, 16.00, and 17.00, dependent upon equipment in current use and applicable MIS. Disposition of all forms and documents will be accomplished IAW AFI 33-322, *Records Management and Information Governance Program*.

NOTE

AFRIMS is exclusively accessed on the following site: https://afrims.cce.af.mil

3.10.1.1 Unclassified forms and documents are considered destroyed when disposed of in a waste container and/or recycled. Forms and documents that contain proprietary or classified information shall be shredded, burned, pulverized, or consigned to a bonding recycling contractor who shred or pulps the paper before resale. The shredded paper shall be recycled.

3.10.1.2 Unclassified forms and documents on digital media (CD/DVD, etc.) may be recycled as is. Forms and documents on digital media that contain proprietary or classified information must be cleared before recycling: reformatted, erased/degaussed, and surfaces scratched.

3.10.1.3 When an ICBM is expended or destroyed, forward historical documents to the PM within 10 working days after the occurrence. In the event an accident investigation board, not related to AFI 51-307, *Aerospace and Ground Accident Investigations*, impounds documents of an ICBM, forward the documents to the PM within ten working days after release from the board. Forward historical documents for reentry vehicles or systems to the 526 ICBM Systems Group, Hill AFB, Utah. This paragraph does not apply to expended drones.

3.10.1.4 Disposal of forms and documents for aerospace vehicle or missiles that are involved in accidents or incidents which result in damage to private property, loss of life or serious injury to personnel, is directed in AFI 33-322.

3.11 EXTENDED STORAGE DOCUMENTATION.

3.11.1 Maintaining Documents. Documentation of aerospace equipment in extended storage will be maintained in the appropriate activity or MIS in accordance with TO 1-1-17 or other directives. Update maintenance and historical files for aerospace equipment being returned to service.

3.11.1.1 While aerospace equipment is in extended storage, the responsible activity will record all applicable TCTO, special inspections, etc., released during the storage period. Engine or equipment containers need not be opened solely to make entries on maintenance or historical documents.

3.11.1.1.1 For other packaged equipment, post these entries on the applicable condition tag or attach label to the item or container for subsequent transfer to the maintenance and historical files. Forward the Engine Configuration Management System (ECMS)/TCTO data reflecting current applicability.

3.11.1.2 When aerospace equipment is removed from storage, the removing organization will review MIS TCTO data or maintenance and historical documents. This is required to ensure they are current and all outstanding TCTOs, special inspections, etc. are recorded on the applicable forms.

3.11.1.3 When aerospace equipment is maintained in extended storage at an organization or activity, in accordance with TO 1-1-17 or other directives, the GP/CC may request a waiver from the TCTO manager on a case-by-case basis. Maintain all active waivers in the aerospace vehicle forms binder. File in the equipment's historical documents when no longer active.

3.12 AIR CARD/FUEL IDENTAPLATE.

Each USAF aerospace vehicle will carry an Aviation Into-plane Reimbursement Card® (AIR Card®) and/or DD Form 1896, Jet Fuel Identaplate, GP/CC selects a suitable location aboard each assigned MDS.

NOTE

The requirement to carry an Air Card/Fuel Identaplate on each aerospace vehicle does not apply to RQ-4 aircraft.

3.13 USE OF USAF AEROSPACE VEHICLE BY BAILMENT CONTRACTORS AND AIR CARRIER CONTRACT OPERATORS.

3.13.1 Requirements. Bailment contractors and air carrier contract operators utilizing USAF aerospace vehicles will maintain the AFTO Form 781J and AFTO Form 95 historical documents.

3.13.1.1 With AF/A4LM consent, use of other AFTO Form 781 series forms is not required provided substitute forms or documents are utilized to accomplish the intent of these forms.

3.13.1.2 When an aerospace vehicle is returned to an Air Force installation, the bailment contractor or air carrier contract operator will return the forms and make the final entries on the AFTO Form 781 series forms and AFTO Forms 95 in accordance with this TO and TO 00-20-2.

3.13.1.3 Since all Air Force information may not be available to the contractors; the Air Force organization receiving the aerospace vehicle will take necessary action to complete the documents or initiate new forms.

3.14 PROCESSING OF DOCUMENTS DURING DEPOT MAINTENANCE.

3.14.1 Depot Maintenance Instructions. When a depot receives an aerospace vehicle, the depot will accomplish the following:

3.14.1.1 Debrief the aerospace vehicle into depot using AFTO Form 781 series forms. Enter discrepancies from debrief in the AFTO Form 781A and carry them forward to Work Control Documents (WCDs). To transfer discrepancies to a depot WCD, the corrective action block of the AFTO Form 781A must reference the WCDs used to close the discrepancy. The depot will transfer each open discrepancy to WCD and enter the statement, “Transferred to depot WCD (specify identification number)” in each corrective action block and enter date and minimum signature.

NOTE

- EXCEPTION 1: Fifth generation aircraft (ex. F-22, F-35) that utilize embedded electronic forms will not close their respective AFTO Forms 781. These aircraft use fifth generation Maintenance Information Systems with embedded 781 series forms that must remain open and operational for any maintenance to be performed.
- EXCEPTION 2: Depot maintenance organizations conducting short-term modifications (45 planned-days or less) are not required to carry forward discrepancies not affecting modification completion or inspections not due or becoming overdue during aircraft possession. If this exception is utilized, depot organizations must complete the following actions:

3.14.1.1.1 A single Red X symbol will be entered or transferred into the AFTO Forms 781A to document the modification to be performed. No concurrent maintenance will be accomplished during this modification unless previously agreed with MXG/CC approval and the Depot team.

3.14.1.1.2 A Production Planning Team (PPT) meeting will be held IAW AFSCMAN 21-102. The PPT will be part of the forms review process to identify discrepancies that affect planned modification at aircraft induction and transfers those discrepancies to WCDs. (Paragraph 3.14.1.1).

3.14.1.1.3 Planner will document PPT review on the modification process using applicable planning documents and forward for PPT coordination.

3.14.1.1.4 In addition to transferring those discrepancies affecting the modification, all Red X discrepancies will be transferred to WCDs.

3.14.1.1.5 Modification will be accomplished using WCDs, to include all Over and Above (O&A) workload.

3.14.1.1.6 After completion of all required modification work, any open WCDs will be transferred to AFTO Forms 781A.

3.14.1.1.7 Modification will be signed off in the AFTO Forms 781A.

3.14.1.1.8 All Historical data will be listed on AFTO Form 95 after completed modification.

3.14.1.1.9 At a minimum, QA will perform a Quality Verification Inspection “Q” Stamp (QVIQ) of the first completed modification to verify process met established criteria. Ensure process deficiencies are reported to the MXG/CC for final dispensation.

3.14.1.2 Transfer all AFTO Form 781K discrepancies, and inspections to be completed, coming due or will become overdue during depot to WCDs during possession. Enter the statement, “All preceding open discrepancies and applicable inspections transferred to depot WCD (specify identification number)” after the last entry. Follow the statement with the date and minimum signature of a production inspector or a representative of the depot documentation activity. All inspections not carried forward to WCDs will remain in the AFTO Forms 781K. The end result must be a complete audit trail in the AFTO Form 781 series forms.

3.14.1.3 The depot WCD will contain, (1) open discrepancies that appear on the maintenance documents which accompany the aerospace vehicle, (2) each TCTO scheduled for accomplishment and (3) an identification of any special requirements or special projects. Document all work performed by depot personnel on applicable depot WCD.

3.14.1.4 Depots will reconcile all WCDs prior to aerospace vehicle -6 TO pre-flight transfer to flight test aircrew. At this time, initiate new AFTO Form 781 and transfer all open WCD discrepancies to reflect current aerospace vehicle status. All maintenance actions will then be documented on AFTO Form 781 to provide a maintenance audit trail and depot WCDs to ensure maintenance action approval, tech data and material availability, and financial accounting.

3.14.1.5 Return the closed out AFTO Form 781 and a copy of the closed out depot package to the owning organization. If available, the unit may request an electronic copy of the depot package instead. Return all AFTO Form 95s to the owning unit with the following: (1) part numbers and serial numbers for all serially tracked items and include Date of Manufacture (DOM) and Date of Installation (DOI), (2) TCTOs, (3) Time Change Item (TCI), (4) Equipment Transfer Report (if available), (5) special or scheduled inspections (with the date and aerospace vehicle time they were accomplished), (6) and any other significant information. All serially controlled items, warranty items, TCIs, inspections and other events listed in Paragraph 9.1.1.3 will be entered into REMIS prior to transfer.

3.15 SAFEGUARDING/DOCUMENTING CLASSIFIED EQUIPMENT.

When an aerospace vehicle has equipment or documents classified confidential or higher, installed or carried aboard, document as follows: electronically format on the AFTO Form 781B or on a Placard (placed in front of the AFTO Form 781F) the assigned security classification and the equipment or documents by their title or nomenclature unless this information is classified. Stamp or mark this information in an easy to see manner, such as a red border, to ensure that the form and the classification are immediately apparent. This form will not indicate the reason the aerospace vehicle is classified. Additionally, document all installed Communications Security (COMSEC) equipment in accordance with Paragraph 5.8.

CHAPTER 4
SYMBOLS AND THEIR USE

4.1 GENERAL.

4.1.1 Symbols. The symbols described in this chapter are established for use on maintenance documents to make important notations instantly apparent. They indicate the condition, fitness for flight or operation, servicing, inspection, and maintenance status of the aerospace vehicle or equipment. The Red X represents the most serious possible condition. The Red W (ICBM only) is the next most serious condition, the Red Dash the next most serious, and the Red Diagonal the least serious condition. Computer-generated forms symbols, that are printed in black, must be overwritten in Red.

4.2 RED X.

4.2.1 Usage. A Red X indicates the aerospace vehicle, equipment or SE is considered unsafe or unserviceable, non-airworthy or unknown status/lack of accountability of special inspection/time change item requirements has been identified and will not be flown or used until the unsatisfactory condition is corrected and/or the symbol is cleared. No one will authorize or direct an aerospace vehicle to be flown, a missile to be launched or equipment to be used until the Red X has been properly cleared in accordance with applicable technical data.

NOTE

EXCEPTION: Aerospace vehicle, equipment or SE with a Red X condition may be operated (but not flown or taxied at high speed) as necessary to troubleshoot or repair the discrepancy.

4.2.1.1 When a Red X is applied, maintenance personnel authorized to clear a Red X will inspect the work performed to correct the discrepancy and validate all related discrepancies for completeness and accuracy.

4.2.1.2 Use a Red X (not all inclusive):

4.2.1.2.1 When aerospace equipment is considered unsafe, unserviceable or non-airworthy, or unknown status/lack of accountability of special inspection/time change item requirements has been identified.

NOTE

EXCEPTION: Dash 21 Equipment normally installed for ground handling addressed in pre-launch workcards/checklists do not require Red X documentation (e.g., pitot covers, gear pins, engine plugs/covers/fan stops, canopy struts, and intake inspection mats).

4.2.1.2.2 Upon receipt of an immediate action TCTO or commercial service bulletin equivalent.

4.2.1.2.3 After expiration of a TCTO or commercial service bulletin equivalent compliance period.

4.2.1.2.4 When work is started on urgent action and safety TCTOs or commercial service bulletin equivalent.

4.2.1.2.5 When an egress final is required.

4.2.1.2.6 When installed AFE inspections are overdue.

NOTE

- EXCEPTION: Those item(s) overdue while an aerospace vehicle is on alert status or away from home station without AFE inspection capability. This does not include Functional Check Flight (FCF) at Depot locations. These are placed on a Red Dash until the aerospace vehicle goes off alert status, returns to home station or AFE mission requirements change.
- Do not use exception above as a planning factor to allow aircraft to depart home station with overdue AFE.

4.2.1.2.7 When time change AFE components/life sustaining items are overdue.

NOTE

- EXCEPTION: Those item(s) overdue while an aerospace vehicle is on alert status or away from home station will be placed on a Red Dash until the aerospace vehicle goes off alert status or returns to home station.
- Do not use the exception above as a planning factor to allow aircraft to depart home station with overdue AFE time change components/items.

4.2.1.2.8 When a major scheduled inspection (e.g., ISO, PH, PE, PDM) has started on aerospace equipment.

4.2.1.2.9 When a scheduled inspection renders the aerospace equipment unsafe or unserviceable.

4.2.1.2.10 Inspections not completed by the next scheduled major inspection (Periodic, isochronal, phase, HSCs, HPOs, and commercial equivalent inspections) will be upgraded to a Red X. Exception: Maintenance and inspection requirements on Munitions Materiel Handling Equipment (MMHE) and Support Equipment identified in the *Master Nuclear Certification Listing* must be completed no later than the maximum interval specified in the item specific technical order. For guidance on inspection and maintenance intervals on nuclear weapons test and handling equipment refer to 11N-35-51. For Cryogenics equipment, follow the applicable guidance as outlined in 37C2-series technical orders. This paragraph does not apply to ICBMs.

NOTE

For equipment that utilize the AFTO Form 244/245, a single inspection that is not completed by the next scheduled inspection date will be annotated/upgraded as a Red X on AFTO Form 244/245. Multiple red dashes may occur on an AFTO Form 244/245, provided the red dashes are for different inspections.

4.2.1.2.11 When aerospace vehicle weight and balance is unknown.

4.2.1.2.12 To indicate a Foreign Object (FO) inspection is required when maintenance has been performed in or around the air intake/inlet or exhaust areas of jet or gas turbine engines.

NOTE

Workcard and TO inlet and exhaust inspections (e.g., PR/BPO/TH) do not require a Red X entry.

4.2.1.2.13 When impounding aerospace equipment.

4.2.1.2.14 When the removal and/or replacement of any component or assembly is such that improper removal and/or reinstallation would affect safety of flight or safe operation of the equipment.

4.2.1.2.15 When loading software into mission essential systems that could jeopardize safety of flight.

NOTE

EXCEPTION: Database loading (e.g., World-Wide Navigation Database, Terrain Awareness Warning System Database) does not require a Red X entry.

4.3 RED DASH.

4.3.1 Usage. The presence of the Red Dash symbol indicates the condition of the equipment is unknown and a more serious condition may exist.

4.3.1.1 Use a Red Dash: (not all Inclusive)

4.3.1.1.1 When an accessory replacement, operational check, cure check or FCF is due.

4.3.1.1.2 When an aerospace equipment inspection is due in accordance with applicable -6 TO or equipment manual. This inspection must be accomplished as soon as the condition preventing its completion no longer exists, but no later than during

the next scheduled major inspection (e.g., ISO/PH/180-Day or equivalent). For cryogenics equipment, follow the applicable guidance outlined in 37C2-series technical orders.

NOTE

EXCEPTION: The inspection will not be postponed if prohibited by applicable -6 TO or equipment manual. See Paragraph 4.2.1.2.10.

4.3.1.1.3 When Alternate Mission Equipment (AME)/Normally Installed Equipment (NIE) is due a scheduled inspection. This equipment must only be flown in an unarmed, unused configuration when a scheduled inspection is due.

4.3.1.1.4 When portions of an inspection are not accomplished due to lack of parts, test equipment etc., unless prohibited by the -6 or other applicable TOs.

4.3.1.1.5 When an aerospace vehicle is due PDM. After 90 days, upgrade the Red Dash to a Red X, unless an extension has been obtained from the appropriate PM.

4.4 RED DIAGONAL.

4.4.1 Usage. The Red Diagonal indicates that a discrepancy exists on equipment, but is not sufficiently urgent or dangerous to warrant its grounding or discontinued use.

4.4.1.1 The Red Diagonal will be a straight line from the lower left to the upper right corner of the SYM block.

4.4.1.2 Use a Red Diagonal (not all inclusive).

4.4.1.2.1 Upon receipt of an urgent action or Category I, routine action safety modification TCTO or commercial equivalent.

4.4.1.2.2 When a Condition Based Maintenance Plus (CBM+) Forecast or Maintenance Alert is received that requires an action to be taken.

4.5 CLEARING RED SYMBOLS.

4.5.1 Requirements. Individuals who sign off a Red symbol for a specific maintenance task must be qualified/certified (if applicable) for the task.

4.5.1.1 Inspectors who are authorized to clear Red X symbols will enter their last name initial in black over the symbol in the SYM block and their minimum signature in the INSPECTED BY block provided that another member of the maintenance crew accomplishing the work signs the CORRECTED BY block with their minimum signature. This maintenance crew member must be involved in the work required to complete the task. In addition, the inspector who signs the INSPECTED BY block must have the opportunity to verify the correct completion of the work.

NOTE

EXCEPTION: Fifth generation aircraft (ex. F-22, F-35) that utilize embedded electronic forms capabilities will not be required to initial in black over the symbol when clearing red symbols.

4.5.1.1.1 MAJCOMS may determine CORRECTED BY block requirements for clearing Red X entries in their Supplement to this TO.

4.5.1.2 When placed on a Red X for accomplishment of an inspection/impoundment, the Red X is cleared by an inspector who will enter a statement in the CORRECTIVE ACTION block indicating the required inspection has been accomplished in accordance with the applicable technical order. The inspector will enter his/her minimum signature in the INSPECTED BY and EMPLOYEE NUMBER blocks and initial over the symbol in the SYM block. The CORRECTED BY block will be left blank.

4.5.1.3 Red dash discrepancies are signed off by the individual who accomplishes the inspection/corrective action by entering their last name initial in black over the symbol in the SYM block and their minimum signature in the INSPECTED BY block.

4.5.1.4 Red diagonal discrepancies are signed off by the individual who accomplishes the corrective action by entering their last name initial in black over the symbol in the SYM block and their minimum signature in the CORRECTED BY block.

4.5.1.5 When operations are conducted in locations where qualified maintenance personnel are not available, the home station GP/CC, or designated official, will designate an individual to sign off the Red X. The designated individual at the location may accomplish the required work and clear the Red X by entering their minimum signature in the CORRECTED BY block, initialing the INSPECTED BY block, and placing their last name initial over the symbol. In the corrective action block, annotate the name of the GP/CC and the specific repair action taken so the data can be entered into the appropriate MIS.

4.5.1.6 When aerospace equipment is in an unserviceable or unsafe condition and a Depot Field Team or Contract Field Team (DFT/CFT) has been dispatched, the chief of that team will clear the Red X for only the work the team has corrected, if specifically authorized by the dispatching organization.

4.6 CHANGING SYMBOLS AFTER AN ORIGINAL ENTRY.

4.6.1 Requirements. Entry of Red symbols on an AFTO Form or equivalent by an individual represents his/her assessment of the seriousness of the defect. Therefore, no individual will be directed to change a symbol that has been entered.

4.6.1.1 Any person who determines a Red diagonal is more serious than previously entered may upgrade that symbol by drawing a line through the minimum signature and employee number of the person who made the entry. Enter their own minimum signature and employee number directly above the lined out minimum signature and employee number (DISCOVERED BY block). Draw a red straight line from the upper left corner to the lower right corner to indicate a Red X condition.

NOTE

EXCEPTION: Fifth generation aircraft (ex. F-22, F-35) that utilize embedded electronic forms capabilities will not be required to draw a line over the symbol when upgrading a red diagonal. Users will utilize current system functionalities in accordance with specific weapon system requirements.

4.6.1.2 When a Red Dash is upgraded to a Red X, the individual will close out the original Red Dash with the remark "Symbol upgraded to a Red X, see page ___, item ___" in the CORRECTIVE ACTION block. Enter their own minimum signature and employee number in the INSPECTED BY block and place their last name initial over the Red Dash. Reenter the original discrepancy on a Red X in the next open DISCREPANCY block reflecting the minimum signature and employee number of individual upgrading the discrepancy in the DISCOVERED BY block.

4.6.1.3 If any supervisory personnel believe the condition is less serious than represented by the symbol, the matter will be brought to the attention of the GP/CC, equivalent contractor representative or any personnel specifically authorized by the GP/CC to downgrade Red X or W entries. If the symbol is downgraded, the authorized individual who made the decision will annotate their action in the CORRECTIVE ACTION block for the particular defect. This entry will read as follows: "Symbol downgraded from a Red X to a Red Diagonal. Reentered see page ____, item ____." Individuals who enter the remark assume responsibility for their action by initialing over the symbol and entering their minimum signature in the INSPECTED BY block. Reenter the same entry for the discrepancy, the new symbol, and the printed minimum signature of the person originally discovering the discrepancy in the next open block of the applicable AFTO Form or equivalent and include an entry to read essentially as follows: "Symbol downgraded from a Red X to a Red Diagonal on (date) by (employee minimum signature) see page ____, item ____." This entry remains with the discrepancy until it is corrected.

4.6.1.4 To defer accomplishment of an immediate or urgent action TCTO or commercial equivalent, submit requests to the PM, through the MAJCOM. When waiver/deferral of a TCTO or commercial equivalent is approved downgrade the Red X to a Red Dash symbol in accordance with this TO and enter a brief statement of reason for noncompliance with the TCTO on the applicable forms. Upon termination of the condition that required the use of the waiver, the Red Dash symbol will be upgraded to a Red X.

4.6.1.5 Symbols/initials once entered in the aircraft forms will never be erased. Erroneous MIS entries (computer generated entries) related to scheduled maintenance (special inspection, time changes, and TCTOs) will be corrected per the paragraphs below but WILL NOT be signed off in MIS as erroneous. Instead, delete these entries in the MIS per Paragraph 4.6.1.5.5 and manually correct the aircraft forms. Correct ALL erroneously entered symbols/initials as follows:

4.6.1.5.1 When a Red symbol is entered in error, the individual discovering the incorrect entry will enter the statement in the CORRECTIVE ACTION block: "Symbol entered in error, discrepancy and correct symbol reentered on page ____, item ____" or "Symbol entered in error, no discrepancy exists," and enter their minimum signature requirements in the CORRECTED BY or INSPECTED BY blocks as applicable and initial over the symbol. If the symbol entered in error is a Red X, the authorized individual who signs off the incorrect symbol must follow the procedures stated in the next paragraph.

4.6.1.5.2 When a Red X or a Red W is entered in error, the individual discovering the incorrect entry will enter the applicable statement identified in the previous paragraph. If they are authorized to clear these symbols, they will complete the INSPECTED BY block and initial over the symbol. If they are not authorized to clear these symbols, they will enter their minimum signature in the CORRECTED BY block. An individual authorized to clear these symbols, initials over the symbol and completes the INSPECTED BY block. This procedure will NOT be used to circumvent downgrade procedures.

4.6.1.5.3 When an initial is entered in error, the individual discovering the incorrect entry will enter the statement in the CORRECTIVE ACTION block "Initial entered in error, discrepancy reentered on page_____, item_____."

NOTE

Do not place an additional initial over the symbol.

4.6.1.5.4 When a discrepancy is entered in error, the discrepancy will not be erased or changed by anyone other than the originator. The individual discovering the incorrect entry will enter "Discrepancy entered in error." To clear a Red Diagonal or Red Dash, enter minimum signature in the CORRECTED BY or INSPECTED by blocks, as applicable, and initial over symbol. To clear a Red X or Red W, enter minimum signature in the INSPECTED BY block and initial over symbol, if they are authorized to clear these symbols. If they are not authorized to clear these symbols, enter minimum signature in the CORRECTED BY block. An individual authorized to clear these symbols will enter minimum signature in INSPECTED BY block and initial over symbol.

4.6.1.5.5 When erroneous MIS entries created by Scheduling are entered, they must be deleted, and not signed off as entered in error. This is to avoid inadvertent advancement of the due date/time for special inspections, time change items or erroneous completion of TCTOs. These entries have a type interval indicator or data code in the MIS and are unique to other maintenance entries. Clearing these discrepancies as entered in error will advance the due date and reflect completion regardless of corrective action comments. Notify Plans and Scheduling and/or the appropriate computer system administrator to delete these discrepancies when deletion is necessary to ensure inspections and time change due dates/time and TCTO completion are properly managed.

4.7 DOWNGRADING A RED X FOR ONE-TIME FLIGHT.

4.7.1 Requirements. An aerospace vehicle with a Red X condition may be released for a one-time flight provided the aerospace vehicle is or can be made airworthy under tightly controlled and specified operating conditions. Such action must be authorized by the owning GP/CC or designated official, the PM or through the on-site chief of an AFMC repair team (when aerospace vehicle is possessed by AFMC). Aircraft under the operational control of an Area of Responsibility (AOR) GP/CC are owned by that GP/CC for the period of deployment. Aircraft transiting through an AOR, and not under the operational control of that AOR, are still owned by the home station GP/CC. For example, F-16s deployed to Balad are owned by Balad GP/CC; however, a C-5 transiting through Balad is owned by the home station GP/CC. The following AFTO FORMs 781A and 781H documentation are required to downgrade a Red X and release the aerospace vehicle for a one-time flight.

4.7.1.1 To downgrade a Red X on the AFTO Form 781A, the GP/CC or designated official enters the following statement in the CORRECTIVE ACTION block, "Red X changed to a Red diagonal (see page ___, item ___) for the purpose of a one-time flight to (name destination station)" and if applicable, "with an enroute stop at (name station)." This individual will also enter their minimum signature in the INSPECTED BY block and initial over the symbol in the SYM block with their last name initial.

4.7.1.1.1 If a downgrading official is not available to sign the INSPECTED BY block, continue the CORRECTIVE ACTION statement: "One-Time flight authorized by (name, rank, title, organization)." The on-site person, authorized by the

downgrade official, will downgrade the Red X by placing their minimum signature in the INSPECTED BY block and initialing over the symbol in the SYM block.

4.7.1.2 In the next open block of the AFTO Form 781A, enter a Red Diagonal in the SYM block and current date in DATE DISC block. In the DISCREPANCY block, enter the original discrepancy with a descriptive statement of temporary repair or inspection accomplished to make the aerospace vehicle airworthy for one-time flight. Also, enter restrictions to normal flight operation of systems and/or equipment, such as gear operation, pressurization, altitude or airspeed limits, etc. Print the minimum signature in the DISCOVERED BY block (normally, the same person that downgraded the Red X).

4.7.1.3 When the aerospace vehicle arrives at the destination, the Red Diagonal will be upgraded to a Red X.

4.8 RED W (ICBM ONLY).

4.8.1 Requirements. A Red W symbol for ICBMs is used to reflect a condition of Aerospace Vehicle Equipment (AVE), SE or Real Property Installed Equipment (RPIE) that is inoperative for its intended use and requires careful attention because of a condition:

4.8.1.1 At a missile site that will not prevent successful launch, flight impact or command and control of the launch or flight.

4.8.1.2 Off site that will not prevent the operation of a major end item of powered or non-powered SE.

4.8.1.3 At a missile trainer that will not prevent its operation.

4.8.1.4 The inoperative equipment will not be used for its intended purpose until the malfunction, unsatisfactory or unsafe condition is corrected and the item can be used without further damage to equipment or injury to personnel.

4.8.1.5 Once the Red W is entered, it will be treated the same as a Red X for clearing actions.

4.9 RED C.

4.9.1 Requirements. Use a RED C in the Symbol block to indicate that the equipment has been contaminated by a chemical, biological, radiological agent, environmental, or infestation (e.g., Insects, rodents).

4.9.1.1 A Red C indicates that an aerospace vehicle or SE has been contaminated with chemical, biological, radiological, environmental contaminants or an infestation. The Red C discrepancy should note the highest level of contamination, type of contamination or infestation, and minimum Personal Protective Equipment (PPE) requirements for operation and maintenance of aerospace vehicles. These conditions will be determined by installation Bioenvironmental Engineering Office.

4.9.1.2 A Red C will never denote an aerospace vehicle or SE as unsafe to utilize or perform maintenance on. The Red C is a means of recording events of aerospace vehicle or SE contamination or infestation. This discrepancy should never be removed from the forms until the vehicle or SE has been deemed safe to work on or around without the use of additional PPE as stated in the discrepancy. Red Cs will only be cleared by authorization of the Installation Bioenvironmental Engineering Office.

4.9.1.3 A Red C will not status an aircraft or SE as it does not impact its ability to accomplish a mission.

4.9.1.4 The Red C will be cleared the same as a Red X as directed in Paragraph 4.5.1.1. CORRECTIVE ACTION block will include highest level of contamination, post decontamination at sign off, name of individual from installation Bioenvironmental Engineering Office that cleared the aircraft or SE, and an applicable statement clearing the aerospace vehicle or SE. For example, “Aircraft Contamination reduced to acceptable levels” or “SE infestation eliminated.”

4.9.1.5 Enhanced local procedures may be developed by utilizing the MDS-specific or SE technical data and approved by GP/CC.

CHAPTER 5
AFTO FORM 781 SERIES

5.1 GENERAL PURPOSE OF AFTO FORM 781.

Use the AFTO Form 781 series collectively to provide a maintenance, inspection, service, configuration, status, and flight record for the particular aerospace vehicles and trainers for which they are maintained. There may be slight differences between the forms provided as examples in this TO and the forms available from the Maintenance Information System (MIS) and AF Publishing website or the electronic versions. If the MIS is available, it will be used; if the MIS is not available, the version on the web will be used. Supervisors will ensure current forms are being used, and all entries on these forms accurately contain the original form entries. Prior to flight, the aircrew will review the AFTO Form 781 series forms for aerospace vehicle status. Prior to maintenance, technicians will review the AFTO Form 781 series forms. Use the 24-hour military clock format when recording time entries in all forms. Forms binders must be standardized at unit level.

5.2 TRAINING DEVICE FORMS.

5.2.1 Mandatory AFTO Forms For Operational Training Devices. The AFTO Forms 781, 781A, 781F, 781H, and 781K are mandatory for operational trainers in the 6930 Federal Stock Class (FSC) (e.g. Link Trainers, Automatic Pilot Training Devices, Drift Meter Training Devices, Celestial Navigation Trainers, Dead Reckoning Navigation Trainers, Instrument Flying and Landing Trainers, Terrain Projection Trainers, Flight Crew Simulators, etc.), as well as private company owned training devices used by USAF flight crews, GP/CCs may approve the use of additional AFTO Form 781 series forms for this FSC. Accomplish documentation for visual systems listed in FSC 6930 on the forms of the simulator to which they are attached. GP/CCs may opt to use any AFTO Form 781 series forms with other FSC trainers. See Paragraph 7.1.4 for Training Equipment.

NOTE

EXCEPTION: Altitude training chamber maintenance will be documented on AFTO Form 244/245, electronic equivalent, or in an appropriate Maintenance Information System (MIS).

5.2.1.1 When documenting the AFTO Form 781 series forms, precede the MDS of the aerospace vehicle being simulated by the letter S to denote a specific aerospace vehicle trainer MDS.

5.3 AEROSPACE VEHICLE FORMS.

NOTE

EXCEPTION: F-35 will utilize ALIS embedded electronic forms capabilities in accordance with applicable technical manuals to document service inspections.

5.3.1 Mandatory AFTO Forms. The AFTO Forms 781, 781A, 781F, 781H, and 781K are mandatory for aerospace vehicles. GP/CCs may approve the use of additional AFTO Form 781 series forms.

5.3.2 Forms Binder. Aerospace vehicle forms are maintained in a forms binder. Arrangement of forms in the binder are as follows: AFTO Forms 781F, 781B (if used), 781, 781H, and 781A in that order. The GP/CC will determine standardized arrangement of all other forms as long as they are arranged after the AFTO Form 781A.

NOTE

- During deployment or contingency operations where the potential for battle damage exists, the AFTO Form 97/97A/97B will be added to the forms binder.
- The requirement for systems coded aerospace equipment to carry a 781J does not apply to Ground Control Station (GCS). The GCS does not have an engine, therefore has no engine data to track.

5.4 DOCUMENTING OPERATIONAL CHECKS AND FUNCTIONAL CHECK FLIGHTS (FCF).

5.4.1 Requirements. FCFs and Operational Checks, to include leak checks, rig checks, and cure checks, must be entered on the AFTO Form 781A and documented as follows:

5.4.1.1 Operational Checks. When required, an operational check/stray volt check will be part of the maintenance action. Document in the CORRECTIVE ACTION block by including a statement such as "OP CK GOOD" or "Stray Volt Check Good." If a malfunction is detected during the check, document the finding (for example, sign off the write-up as "OP CK BAD" or "Stray Volt Check Bad") and refer to a new write-up documenting the malfunction under the appropriate symbol.

5.4.1.1.1 In the event that the operational check cannot be accomplished concurrently with or immediately after completion of the maintenance, close out the original entry by describing the corrective action with a statement that an operational check is required. When this situation occurs, make a new entry for the operational check in the next open block on the AFTO Form 781A.

5.4.1.1.2 The original entry CORRECTIVE ACTION and the new "OPERATIONAL CHECK" entry must refer to each by entering "See JCN" and/or "See page _____ and item _____." The operational check entry must adequately describe the reason for the operational check with the prescribing TO number recorded.

5.4.1.1.3 In-flight operational checks are accomplished at the request of maintenance to validate a maintenance action that cannot be fully verified on the ground.

5.4.1.1.3.1 When an in-flight operational check is required and does not involve an FCF, make an AFTO Form 781A entry to describe the type and extent of the check needed.

5.4.1.1.4 When an in-flight operational check is good, an aircrew member enters the remark "OP CK GOOD" in the CORRECTIVE ACTION block, enters minimum signature in the INSPECTED BY block and initials over the symbol. When an in-flight operational check fails, the aircrew member enters the remarks "OP CK BAD" in the CORRECTIVE ACTION block, enters minimum signature in the INSPECTED BY block, initials over the symbol and enters a new discrepancy in the next open DISCREPANCY block.

5.4.1.2 FCF. Enter the reason the FCF is being accomplished in the DISCREPANCY block.

5.4.1.2.1 After completion of the FCF, if the aerospace vehicle is released, enter the following statement in the CORRECTIVE ACTION block, "FCF completed, aircraft released for flight."

5.4.1.2.2 The assigned primary pilot who accomplishes the FCF will initial over the symbol in the SYM block and enter their minimum signature in the INSPECTED BY block.

5.4.1.2.3 Record discrepancies noted during an FCF performed by depot facility personnel on depot work documents; however, when this option is taken, the AFTO Form 781A will contain a statement reading: "FCF defects recorded on _____" (enter the form 1039 identification).

5.4.1.2.4 For FCFs accomplished after depot work is completed, sign off the AFTO Form 781A entry as "Reported defects cleared on" (enter form identification) and enter minimum signatures in the CORRECTED BY and/or INSPECTED BY blocks. Ensure copies of depot documentation reflecting discrepancies and corrective action accomplished by depot facilities during FCFs accompany the aircraft being returned to the owning command. These documents will be returned to the unit FCF Manager. The documents will then be filed in the historical file and disposed of in accordance with AFI 33-322.

5.5 RECORDING ENGINE STORAGE.

When installed engines are placed in storage, make entries on the AFTO Form 781A to indicate the type of storage and which portions of TO 2J-1-18 have been complied with. Example: "Engines in storage, TO 2J-1-18, sect par CW." When the engines are removed from storage status, record a reference to the de-preservation instructions that were used in the CORRECTIVE ACTION blocks. For additional information on assets in extended storage see Paragraph 3.11.

5.6 AFTO FORM 781, ARMS AIRCREW/MISSION FLIGHT DATA DOCUMENT.

(Figure 5-1 and Figure 5-2) The AFTO Form 781 is the source document for recording individual flying time, sorties and/or events for input into the MIS and Aircrew Resource Management System (ARMS).

5.6.1 AFTO Form 781 Documentation Instructions. When available, aircraft with automated flight data recording systems will use the total flight time, sortie count, and mods provided by this system for input into the MIS in accordance with MDS specific guidance established in coordination with Lead Command and aircraft PM.

5.6.1.1 Maintenance or aircrew trainer technician/operator will complete blocks 2 through 5.

a. Block 2, MDS. Enter the MDS designators from block 6 of the AFTO Form 781F.

b. Block 3, SERIAL #. Enter the aerospace vehicle serial number. Example: 85-11428, 65-0966.

c. Block 4, UNIT CHARGED FOR FLYING HOURS. Enter the organization to which the aerospace vehicle is assigned, with the command designation in parenthesis (e.g., 374 AW (AMC). Enter the four-letter code of the Host Aviation Resource Management (HARM) which services the organization, (supplied by the unit operations officer) to which the original forms must be sent for processing and filing.

d. Block 5, HARM LOCATION. Enter the base to which the aerospace vehicle is assigned.

5.6.1.2 The Aircraft Commander will ensure completion of all other blocks required by DAFMAN 11-401. ▌

5.6.1.3 Remove the completed AFTO Form 781 from the aerospace vehicle forms binder and enter data into the MIS at maintenance debriefing. Maintenance debrief will complete block 39, MAINT REVIEW to show the form was reviewed and the data was entered into MIS. Send completed form to unit operations. If aircraft is equipped with automated flight data recording system, flight data is entered into the MIS utilizing the MDS specific guidance and 781 Maint Review is signed only indicating that the information in block 11+12 = 13 and block 14 tallies are correct.

5.6.1.4 The ARMS input operator will complete block 41 in accordance with DAFMAN 11-401. ▌

(THIS FORM IS SUBJECT TO THE PRIVACY ACT OF 1974 - SEE REVERSE)

I. MISSION DATA

1. DATE *(DD MMM YYYY)*	2. MDS *(Exp: SMC130E)*	3. SERIAL # *(YY-TTTT)*	4. UNIT CHARGED FOR FLYING HOURS	5. HARM LOCATION

FLT SEQ 6	MISSION NUMBER 7	MISSION SYMBOL 8	FROM (ICAO) 9	TO (ICAO) 10	TAKE OFF TIME (Z) 11	LAND TIME (Z) 12	TOTAL TIME 13	14. LANDINGS TOUCH & GO	14. LANDINGS FULL STOP	14. LANDINGS TOTAL	SORTIES 15	SPECIAL USE 16
a.												
b.												
c.												
d.												
e.												
f.												
17. FLIGHT AUTH #		18. ISSUING UNIT			GRAND TOTALS							

CONVERSION Minutes	Dur
1 ~ 2	= .0
3 ~ 8	= .1
9 ~ 14	= .2
15 ~ 20	= .3
21 ~ 26	= .4
27 ~ 33	= .5
34 ~ 39	= .6
40 ~ 45	= .7
46 ~ 51	= .8
52 ~ 57	= .9
58 ~ 60	= Next

II. AIRCREW DATA

FLYING ORGN 19	SSAN (LAST4) 20	LAST NAME 21	FLIGHT AUTH DUTY CODE 22	FLIGHT TIME PRIM 23	FLIGHT TIME SEC 24	FLIGHT TIME INSTR 25	FLIGHT TIME EVAL 26	FLIGHT TIME OTHER 27	TOTALS TIME 28	TOTALS SRTY 29	FLIGHT CONDITIONS NIGHT (P/S/I/E) 30	FLIGHT CONDITIONS INS (P/I/E) 31	FLIGHT CONDITIONS SIM INS (P/I/E) 32	FLIGHT CONDITIONS NVG 33	COMBAT TIME 34	COMBAT SRTY 35	COMBAT SPT TIME 36	COMBAT SPT SRTY 37	RESV STATUS 38

39. MAINT REVIEW

40. PILOT REVIEW *(If different, AC for each Flt Seq should initial)*

a. b. c. d. e. f.

41. SARM REVIEW

42. ARMS INPUT

DATE: INITIALS

ARMS AUDIT

DATE INITIALS:

43. EXTRACT CERTIFICATION (if required): I certify I am a commissioned officer, gov civ (when PIC), or HARM Chief and this is a true copy of an AFTO Form 781 and the extracted names have been crossed out.

Printed Name: Rank: Branch of Svc: DSN: Signature:

AFTO FORM 781, 20170703 **PREVIOUS EDITION IS OBSOLETE** **ARMS AIRCREW/MISSION FLIGHT DATA DOCUMENT**

G1603866

Figure 5-1. AFTO FORM 781, ARMS Aircrew/Mission Flight Data Document (Front)

AUTHORITY: 10 U.S.C. 8012; 44 U.S.C. 3101; and EO 9397
PRINCIPAL PURPOSES: Source document for recording individual flying time for input into the Aviation Resource Management System (ARMS) and Integrated Maintenance Data System (IMDS).
ROUTINE USES: Validation of accomplishment of flying requirements needed to attain or maintain professional standards. Validation of hourly flying accomplishments where necessary to authorize payment of flying incentive pay. Provide basic record of each flight of USAF aircraft, reason for mission, duration, crew members and duty positions. Used as a source document for determining number of hours of operating time on airframes and power plants. The SSN is used for identification of individuals and records.
DISCLOSURE IS MANDATORY: Individuals must furnish the information to meet qualification and incentive pay standards. Failure to provide the information and SSN could result in loss of records with consequent loss of professional qualification and incentive pay entitlement.

II. AIRCREW DATA (CONTINUED)

FLYING ORGN	SSAN (LAST4)	LAST NAME	FLIGHT AUTH DUTY CODE	FLIGHT TIME							FLIGHT CONDITIONS								RESV STATUS
									TOTALS						COMBAT		COMBAT SPT		
				PRIM	SEC	INSTR	EVAL	OTHER	TIME	SRTY	NIGHT (P/S/I/E)	INS (P/I/E)	SIM INS (P/I/E)	NVG	TIME	SRTY	TIME	SRTY	
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

44. REMARKS OTHER THAN FLIGHT DISCREPANCIES

AFTO FORM 781, 20170703

G1603877

Figure 5-2. AFTO FORM 781, ARMS Aircrew/Mission Flight Data Document (Reverse)

5.7 AFTO FORM 781A, MAINTENANCE DISCREPANCY AND WORK DOCUMENT.

(Figure 5-3 and Figure 5-4) Use the AFTO Form 781A to document each discrepancy discovered by aircrew or maintenance personnel.

NOTE

EXCEPTION: Upon discovery of battle damage, the finder will make an initial Red X entry in the aircraft's AFTO Form 781A which reads "Aircraft sustained battle damage, see AFTO Form 97." From this point, all discrepancies resulting from battle damage will be documented on AFTO Form 97/97A/97B. See TO 1-1H-39, for specific instructions on documenting aerospace vehicle battle damage repairs.

5.7.1 AFTO Form 781A Documentation Instructions. Maintenance personnel or aircrew trainer technician/operator will ensure sufficient copies of the AFTO Form 781A are aboard the aerospace vehicle or in the AFTO Forms 781 binder or available at the Aircrew Training Device (ATD).

5.7.1.1 Transcribe open discrepancies to a new AFTO Form 781A, remove the AFTO Form 781A from the binder, and forward removed forms to the work center office. After the responsible supervisor reviews and ensures the entries are accurate, forward the AFTO Form 781A to the documentation activity responsible for filing (maintain ATD AFTO Form 781As at the work center).

5.7.1.2 Minimum heading requirements for double-sided AFTO Form 781A forms will be: FROM, MDS, and SERIAL NUMBER on page one and all odd numbered pages and page number on all pages. When single-sided forms are used the minimum heading requirements are: FROM, MDS, SERIAL NUMBER, and page number on all pages.

5.7.1.2.1 FROM: Enter the date the form was initiated. Example: YYYYMMDD.

5.7.1.2.2 TO: When closing out a set of forms enter the date the form was closed out and removed from the binder on page one only. Example: 20090420. The FROM date of a new form will always be the same as the TO date on the form that is closed out. This entry provides a positive means of determining whether any forms are missing from the aerospace vehicle file. Securely fasten all forms together to prevent loss.

5.7.1.2.3 MDS: Enter the aerospace vehicle MDS designator. Example: C-130H.

5.7.1.2.4 SERIAL NUMBER: Enter the aerospace vehicle serial number. Example 85-1428 or 65-14828.

5.7.1.2.5 PAGE: Enter the page number. On two-sided forms the front and back of the form will be considered as separate pages and will be numbered accordingly.

5.7.1.2.6 PAGE___OF___PAGES: When closing out a set of forms enter the total number of pages on page one only. Example: Page 1 of 8 Pages.

5.7.1.3 Complete entries for the AFTO Form 781A as follows:

5.7.1.3.1 SYM: Enter the proper symbol of each discrepancy documented.

5.7.1.3.2 JCN: Enter the job control number.

5.7.1.3.3 DATE DISC: Print the date a discrepancy is discovered.

5.7.1.3.4 DOC NO.: Enter the supply document number, if part(s) is/are back-ordered.

5.7.1.3.5 CF 781A: When a new AFTO Form 781A is initiated, uncorrected discrepancies will be carried forward to a new AFTO Form 781A.

a. When a discrepancy is carried forward to a new AFTO Form 781A, the individual transcribing the discrepancy will mark the CF 781A box, sign the CORRECTED BY block with their minimum signature and enter their employee number in the EMPLOYEE NO. block.

b. Transcribe the SYM, JCN, original DATE DISC, DISCREPANCY and, if applicable, the DOC NO. The individual transcribing the discrepancy will print the name and employee number of the individual who made the initial entry in the appropriate blocks.

c. Do not place an initial over the symbol for the discrepancies that are carried forward, since this only represents a transcribing action and does not correct the reported condition.

5.7.1.3.6 XF 781K: If corrective action for discrepancies will be delayed, discrepancies OTHER than Red X items may be transferred to the AFTO Form 781K.

NOTE

Downgraded Red Xs will never be transferred to the AFTO Form 781K.

a. When a discrepancy is transferred to the AFTO Form 781K, the individual transferring the discrepancy will mark the XF 781K box, sign the CORRECTED BY block with their minimum signature and enter their employee number in the EMPLOYEE NO. block.

b. Transcribe the SYM, JCN, original discrepancy and, if applicable, the DOC NO. to the AFTO Form 781K.

c. Do not place an initial over the symbol for the discrepancies that are transferred to another form, since this only represents a transcribing action and does not correct the reported condition.

5.7.1.3.7 DATE CORRECTED: Enter the date that the discrepancy is corrected. Example: YYYYMMDD.

5.7.1.3.8 WUC/REF (GP/CC option): Use this block, if applicable to document Work Unit Code information or the appropriate Reference Designator.

5.7.1.3.9 FAULT CODE: Use this block, if applicable to document Fault Code information.

5.7.1.3.10 STA CODE: Use this block when any corrective action is accomplished away from home station and when maintenance is performed by other than home station personnel. Enter the four-letter geographic location (GEO-LOC) indicator for the location where the repair was accomplished. The GEO-LOC will be entered at the time the discrepancy is corrected. GEO-LOC Codes are located in the MIS.

NOTE

EXCEPTION: Do not include the GEO-LOC or Station Code information for aerospace vehicles on classified missions.

5.7.1.3.11 DISCREPANCY: Prior to entering new discrepancies, review the forms to prevent duplication.

a. Print a thorough description of the discrepancy in the next open DISCREPANCY block. More than one block may be used for a discrepancy if required.

b. Enter all defects noted before, during, and after each flight. Do not enter more than one defect in each block.

5.7.1.3.11.1 Quick access panels/doors/plugs/caps opened or removed for servicing, inspection, operational checkout, etc as specified by TOs do not need to be documented separately if closed/reinstalled upon task completion per the TO. MAJCOMs will supplement this guidance providing documentation guidance per MDS addressing the leaving of these quick access panels/doors open/removed for next launch. Owning MAJCOMs may follow existing lead MAJCOM supplemental guidance.

5.7.1.3.11.2 Required aircraft servicing discovered and completed during pre-flight/launch inspections (PR/BPO, TH) does not require separate AFTO Form 781A documentation however, if the servicing is not completed before the inspection is signed off, the servicing discrepancy must be documented. Unless directed by the Maintenance Group Commander (MXG/CC), Fuel/LOX servicing documentation is not required on the AFTO Form 781A.

5.7.1.3.11.3 Panels/doors removed/opened except those identified in Paragraph 5.7.1.3.11.1, will be entered as a separate individual discrepancy or may be grouped into one discrepancy. If removed to Facilitate Other Maintenance (FOM), reference the original discrepancy by using "See JCN _____" and/or "See Page _____, Item _____." If grouped, all panels/doors removed must be listed individually within the discrepancy and corrective action blocks. Panels/doors requiring In Process Inspections (IPIs) cannot be grouped and must be documented individually except as noted below.

NOTE

EXCEPTION: If WCEs/WESs are part of original discrepancy and are listed in the MIS generated AFTO Form 781A or non-MIS generated WCEs/WESs are in sequential order to the original discrepancy, reference to the original entry is not required.

5.7.1.3.11.3.1 For scheduled inspections, GP/CCs have the option of developing local panel sheets to record the removal of panels required by an inspection as long as a Red X entry is made in the AFTO Form 781A which reflects its use. This will preclude a separate Red X entry for each panel/IPI. Local panel sheets contain as a minimum: panel number or nomenclature, name and employee number of individual who removed panel, minimum signature and employee number of individual who installed the panel and minimum signature and employee number of individual who performed applicable IPIs. Local panel sheets will be treated the same as aerospace vehicle documents and filed with the inspection historical documents.

5.7.1.3.11.4 Whenever an original discrepancy is of a nature that operation of the affected system could be hazardous or result in further damage or injury to personnel, include a warning note written or underlined in red following the original discrepancy statement. For example: "NOTE - DO NOT APPLY ELECTRICAL POWER TO FUEL SYSTEM - FIRE HAZARD" or "NOTE - DO NOT APPLY ELECTRICAL POWER TO GALLEY OVEN - FIRE HAZARD." When the condition that created the note no longer exists, line through the warning/note.

5.7.1.3.11.5 AFTO Form 492, MX Warning Tag. (Figure 5-5) The AFTO Form 492 has replaced the AF Form 1492 with all references being removed from DAFMAN 91-203. Continued use of the AF Form 1492 is authorized until supplies are exhausted. Once supplies are exhausted, all references to the AF Form 1492 will be replaced with the AFTO Form 492 at the next TO change.

NOTE

AFTO Form 492 will not be used on Electronic Circuit Breakers (ECBs).

5.7.1.3.11.5.1 The warning tag is a communication device used to prevent the inadvertent activation, movement, or configuration change of a system, flight control, stored energy, etc. that will cause injury to personnel and/or damage to equipment. The AFTO Form 492 shall be used during maintenance action as required by MDS-specific technical data and/or local procedures.

5.7.1.3.11.5.1.1 GP/CCs shall develop local procedures if MDS-specific technical data does not provide sufficient guidance on usage of the AFTO Form 492.

5.7.1.3.11.5.1.2 For conditions that warrant AFTO Form 492 usage, but are not covered by MDS-specific technical data and/or local procedures, technicians will use warning tags and notify Maintenance Supervision of the condition for review and/or inclusion in local procedures.

5.7.1.3.11.5.2 Warning tags will not be used in-flight. If a system is required to be de-activated for flight (e.g., thrust reversers, galley oven, etc.), the system will be deactivated using a circuit breaker collar or other approved method, and an applicable warning statement as directed in Paragraph 5.7.1.3.11.5.7. Do not use the AF Form 979, Danger Tag, for on-equipment aircraft maintenance.

5.7.1.3.11.5.3 For aircraft with ECBs, strapping/unstrapping is the equivalent of installing/removing warning tags and may be authorized for flight per specific MDS guidance.

5.7.1.3.11.5.4 Text and Reverse Side. Warning tag text shall be completed by individual responsible for physically installing tag. The following blocks shall be completed on the AFTO Form 492:

a. JCN. Enter the job control number of warning tag Red X discrepancy. See Paragraph 5.7.1.3.11.5.7.

b. TAG_____OF_____. Enter the tag number and total number of tags.

c. ITEM TAGGED. Enter the common name of the item that the tag is installed on.

5.7.1.3.11.5.5 Installation. The AFTO Form 492 is no longer a two part tag. Therefore, insertion into aircraft forms or attachment by a locally developed warning tag program (board, binder, form, etc.) is no longer required. The individual that performs the procedure or validates the condition or configuration for which a warning tag/ECB strap is required, shall attach the AFTO Form 492 or strap the ECB to the aircraft specific circuit breaker, switch, control handle, etc. When utilizing a WCD or locally developed warning tag program, the GP/CC will establish local procedures.

5.7.1.3.11.5.6 Removal. The warning tag/ECB strap will be removed prior to activation, movement or configuration change of the system, flight control, stored energy, etc. that was isolated. Only personnel authorized to clear Red X discrepancies shall physically remove the AFTO Form 492/ECB strap.

5.7.1.3.11.5.7 Documentation. Warning tag(s)/ECB strap(s) will be documented on a separate Red X as either an associated JCN or WCE/WES. Warning tag(s)/ECB strap(s) must match a corresponding AFTO Form 781A and MIS entry. (MIS only for paperless inspections). Warning tags/ECB straps may be grouped providing all tags/straps pertain to the same discrepancy.

NOTE

- EXCEPTION: Non-discrepancy driven warning tag(s)/ECB strap(s) (i.e., system locked out to perform pre-flight, etc.) will still be documented on a Red X but are not required to match a corresponding AFTO Form 781A and MIS entry.
- EXCEPTION: An individual warning tag JCN discrepancy may reference multiple corresponding AFTO Form 781A and MIS entries providing all entries require the same exact warning tags. The warning tag JCN discrepancy will reference all corresponding AFTO Form 781A and MIS entries in the DISCREPANCY block as directed in step a. below. The CORRECTIVE ACTION block will annotate removal of warning tags for each corresponding AFTO Form 781A and MIS entry separately as directed in step b. below

a. In the DISCREPANCY block, enter the total number/location of warning tags/ECB straps installed, and applicable warning note per Paragraph 5.7.1.3.11.4. For example, “2 each warning tags/ECB straps installed. NOTE: DO NOT OPERATE LANDING GEAR - CRUSH HAZARD.” Reference the original discrepancy, if applicable, using “See JCN _____” and/or “See Page _____, Item _____.”

NOTE

If WCEs/WESs are part of original discrepancy and are listed in the MIS generated AFTO Form 781A or non-MIS generated WCEs/WESs are in sequential order to the original discrepancy, reference to the original entry is not required.

b. In the CORRECTIVE ACTION block annotate total number of warning tags/ECB straps removed, and clear the Red X as directed in Paragraph 4.5.1.2.

(1) When grouped warning tags/ECB straps are removed at different times or by different Red X authorized individuals, each warning tag/ECB strap will be annotated in the CORRECTIVE ACTION block along with the minimum signature of the individual(s) that removed the warning tag(s)/ECB strap(s).

(2) The individual that removes the final grouped warning tag/ECB strap will ensure that each warning tag/ECB strap in the DISCREPANCY block has been properly annotated as removed in the CORRECTIVE ACTION block prior to clearing the Red X as directed in Paragraph 4.5.1.2.

5.7.1.3.11.5.7.1 Fifth Generation aircraft will create a Red X discrepancy in the applicable electronic forms reflecting a hazardous condition remains unresolved associated with a maintenance task (e.g. disconnected APU exhaust duct, open electrical circuit, disconnected hydraulic or fuel lines, etc.) and that an AFTO Form 492 has been installed on the applicable activation device or system.

5.7.1.3.11.6 The following procedures apply to the documentation requirements for completing an IPI. Some digital TOs include IPIs displayed as a step in the task. The IPI executes as a process within the TO. Once executed, a WCE/WES is automatically created in the digital aircraft forms detailing the IPI task description. In this case, the IPI requirement is fulfilled and the following procedures do not apply.

5.7.1.3.11.6.1 The IPI inspector who completes the IPI will indicate completion of the IPI(s) in the CORRECTIVE ACTION block of the original discrepancy by stating, "Required IPI (insert IPI task title or IPI description or IPI step number) complied with" and enter minimum signature in the CORRECTIVE ACTION block. If more than one IPI is required to complete the task, IPI inspector must identify number of IPIs in corrective action block such as, "Three required IPIs (insert IPI task title or IPI description or IPI step number of three IPIs) complied with." If there is no room in the CORRECTIVE ACTION block, the IPI inspector will document IPIs as a separate entry in the AFTO Form 781A or appropriate work package. Place the IPI(s) on a Red X and reference the page and item number of the original discrepancy(s).

5.7.1.3.11.6.2 When an IPI is documented as a separate entry, the IPI inspector will indicate completion of the IPI(s) in the CORRECTIVE ACTION block of the discrepancy by stating: IPI complied with in accordance with TO, page number, paragraph number, and step number and entering their minimum signature in the INSPECTED BY block in accordance with Paragraph 4.5.1.2. For S1000D IETM users, use TO number, data module code, and steps (e.g. 1C17-A-E72-31-123X-1X001-720A-A Step 6) or (73-31-12-3, Task 3-1, Step 6). If IPI WCEs/WESs are part of original discrepancy, and are listed in the MIS generated AFTO Form 781A, reference to the original entry is not required.

5.7.1.3.11.7 The following documentation will be accomplished whenever a maintenance action is stopped prior to completion or a change of maintenance technician occurs (e.g., job awaiting parts, technician reassigned to another job, end of shift, etc.).

5.7.1.3.11.7.1 The technician(s) will create a new discrepancy documenting the reason maintenance was stopped and referencing the original discrepancy. Example: Lt MLG Strut repack, steps 1 thru 25 CW in accordance with 1C-5B-5-5JG-2, Sec 5-2 (reference the page __, item __ of original entry). For S1000D IETM users, use data module code and steps. For Non-S1000D IETM users, follow your MAJCOM guidance.

5.7.1.3.11.7.2 The technician will create a subsequent entry in the AFTO Form 781A detailing the remaining open TO steps or tasks. Example: Lt MLG Strut requires repack in accordance with 1C-5B-5-5JG-2, Sect 5-2, steps 26 thru 30 NCW (reference original entry). For S1000D IETM users, place TO number, data module code and steps. For Non-S1000D IETM users, follow your MAJCOM guidance.

5.7.1.3.11.7.3 Keep the original discrepancy and JCN open in MIS/IMDS (units produced 00) until the entire maintenance action is completed, since subsequent discrepancy corrective actions only document partial completion (reference TO 00-20-2). Do not transcribe aerospace vehicles forms until all tasks associated with the original discrepancy are completed.

5.7.1.3.11.7.4 When all steps or tasks of the maintenance action are complete, a qualified technician will clear the discrepancy and review all pertinent discrepancies to determine if all steps were accomplished in accordance with the applicable technical data.

5.7.1.3.11.8 Record discrepancies discovered during scheduled inspections directly in the MIS, locally developed/approved lists or WCDs. All Red X entries must be entered in both the AFTO Form 781A and MIS (MIS only for paperless inspections). All other discrepancies tracked on locally developed lists and/or WCDs that cannot be corrected by the allotted scheduled inspection time, must be transcribed to the MIS with the documents routed with the 781 series forms package and filed with the inspection historical documents.

5.7.1.3.11.8.1 When utilizing the paperless process, refer to Paragraph 5.18.

5.7.1.3.11.9 Any component removed to FOM, will be documented as a separate discrepancy with the appropriate Red symbol entry. This applies even if the item is immediately reinstalled. Reference the original discrepancy using "See JCN _____" and/or "See Page _____, Item _____."

NOTE

- EXCEPTION: Procedures that require removal of a component as a step of the task and contain all of the steps for component removal/installation within the same procedure or reference other tasks for both removal and installation, which contain **all the steps** for component removal/installation, do not need to be documented separately. If applicable, ensure steps include any operational checks and functional check flights documentation procedures IAW Paragraph 5.4.
- EXCEPTION: If the removal to FOM WCEs/WESs are part of the original discrepancy and are listed in the MIS generated AFTO Form 781A, a reference to the original discrepancy is not required.

5.7.1.3.11.9.1 All jacking/mooring equipment installed to FOM or facilitate stabilizing the aircraft due to Center of Gravity (CG) imbalance, will be documented as a separate discrepancy with a Red X symbol entry. Reference this entry to the original discrepancy using "See JCN _____" and/or "See Page _____, Item _____." Whenever the discrepancy is of a nature that removal of the equipment could be hazardous or result in damage to equipment or injury to personnel, include a warning note written and underlined in red following the discrepancy statement. For example: "NOTE - DO NOT REMOVE JACKS - CG HAZARD or CRUSH HAZARD." When the condition that created the note no longer exists, line through the warning/note.

5.7.1.3.11.9.2 All support equipment installed, as required by MDS-specific technical data, shall be documented as a separate discrepancy with a Red X symbol. If grouped, all support equipment items must be listed individually within the discrepancy and corrective action blocks. Support equipment items requiring IPIs cannot be grouped and must be documented individually except as noted below. Whenever the discrepancy is of a nature that removal of the equipment could be hazardous or result in damage to equipment or injury to personnel, include a warning note written and underlined in red following the discrepancy statement (For example: NOTE - DO NOT REMOVE THROTTLE SHIELD - CRUSH HAZARD). When the condition that created the note no longer exists, line through the warning note.

5.7.1.3.11.10 Identify repeat or recurring discrepancies as "repeat" or "recurring," as applicable, in the DISCREPENCY block.

5.7.1.3.11.11 Internally loaded munitions will be entered as an "INFO NOTE," identifying type and quantity of munitions uploaded (refer to TO 11A-1-33 for internally loaded munitions). Annotate multiple entries in the same discrepancy block. Update the "INFO NOTE" with types and quantities of expendables prior to each flight. The applicable "INFO NOTE" will be retained in the aerospace vehicle forms until munitions are removed and/or expended.

5.7.1.3.12 DISCOVERED BY: Print name (first name initial and last name as a minimum) for each discrepancy recorded.

5.7.1.3.12.1 A discovered by is not required for MIS generated jobs that are part of a job package (i.e. isochronal inspections, -6 inspections, TCTO, Debrief, etc.).

5.7.1.3.13 EMPLOYEE NO/USERID: Maintenance personnel will enter their employee/USERID/FAA certification number or equivalent.

5.7.1.3.13.1 An employee number is not required for MIS generated jobs that are part of a job package (i.e. isochronal inspections, -6 inspections, TCTO, Debrief, etc.).

5.7.1.3.14 CORRECTIVE ACTION: When a discrepancy on the AFTO Form 781A is completed, document the corrective action taken.

5.7.1.3.14.1 For Red X discrepancies, include a TO reference to determine the work performed in the CORRECTIVE ACTION block. Examples of TO references include, but are not limited to:

5.7.1.3.14.1.1 TOs use full TO number along with paragraph/figure number.

5.7.1.3.14.1.2 S1000D Interactive Electronic Technical Manual (IETM) use data module code.

5.7.1.3.14.1.3 Maintenance Integrated Data Access System (MIDAS) use function/fault code.

5.7.1.3.14.1.4 System/Sub-System/Subject Number (SSSN) or equivalent.

5.7.1.3.14.1.5 WPNS checklists use specific checklist within a WPNS checklist.

5.7.1.3.14.2 When a temporary/partial repair is accomplished that warrants changing the symbol entered for the discrepancy, and the final repair action is deferred, enter the temporary/partial repair corrective action. Close out the original discrepancy and enter a new discrepancy, with the appropriate symbol and description of the work to be accomplished in the next open block of the AFTO Form 781A. The original entry CORRECTIVE ACTION block and new entry DISCREPANCY block must refer to each other by the entries "see JCN" and/or "see page __, item __".

5.7.1.3.14.2.1 AFTO Form 781A entries for temporary repair of fuel leaks will include the following information in the discrepancy block:

a. Tank

b. Wing station or X-Y plot

c. Leak classification

d. Cause, if known

5.7.1.3.14.3 AFTO Form 781A entries for the unscheduled replacement of a Time Change Item (TCI) accomplished away from home station will include the old and new item's serial number and aircraft operating time at time of replacement in the CORRECTIVE ACTION block.

5.7.1.3.14.4 To clear a discrepancy that was Previously Complied With (PCW), print "PCW, see JCN _____" and/or "PCW, see forms dated FROM _____ TO _____ (from the old forms, if applicable), Page _____ Item _____ in the CORRECTIVE ACTION block of the new set of forms. The individual will then enter their minimum signature in the CORRECTED BY block and initial over the symbol in the SYM block. A Red X PCW discrepancy does not require a Red X qualified individual since there is no maintenance action.

5.7.1.3.14.4.1 Duplicate discrepancies occur when two or more write-ups are entered and remain open for the same discrepancy. The initial entry should remain open and all duplicate entries closed by referencing the original discrepancy. If the entries share the same JCN do not close the job in the MIS when clearing the duplicate entries. To clear a duplicate discrepancy, print "Duplicate Discrepancy, see JCN _____" and/or "Duplicate Discrepancy, see Page_____ Item_____ in the CORRECTIVE ACTION block of the forms. The individual will then enter their minimum signature in the CORRECTED BY block and initial over the symbol in the SYM block. A Red X duplicate discrepancy does not require a Red X qualified individual since there is no maintenance action.

5.7.1.3.15 CORRECTED BY, INSPECTED BY, and EMPLOYEE NO.

5.7.1.3.15.1 When a Red diagonal entry has been corrected, the maintenance technician will enter their minimum signature in the CORRECTED BY block and their employee number/FAA certification number/USERID in the EMPLOYEE NO. block. The INSPECTED BY block will be left blank.

5.7.1.3.15.2 When a Red dash entry has been corrected, the maintenance technician will enter their minimum signature in the INSPECTED BY block and their employee number/FAA certification number/USERID in the EMPLOYEE NO. block. The CORRECTED BY block will be left blank.

5.7.1.3.15.3 When a Red X entry has been corrected, the maintenance technician correcting the discrepancy will enter his/her minimum signature in the CORRECTED BY block and their employee number/FAA certification number/USERID in the EMPLOYEE NO. block. The inspector will then enter their minimum signature in the INSPECTED BY block and their employee number/FAA certification number/USERID in the EMPLOYEE NO. block.

NOTE

See Paragraph 4.5 for additional discrepancy clearing requirements.

5.7.1.3.16 Cannot Duplicate (CND) Discrepancies. Personnel will make every effort to duplicate the circumstances that created the reported discrepancy. When a discrepancy cannot be duplicated, the technician will document “Cannot Duplicate Malfunction” or “CND” in the corrective action block, and ensure the symbol is cleared in accordance with Paragraph 4.5.

Form Completion Instructions Defined in TO 00-20-1 Para 5.7

FROM	TO	MDS	SERIAL NUMBER	PAGE OF PAGES

SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED

WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION
DISCREPANCY			
			CORRECTED BY / EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.

SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED

WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION
DISCREPANCY			
			CORRECTED BY / EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.

SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED

WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION
DISCREPANCY			
			CORRECTED BY / EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.	INSPECTED BY	EMPLOYEE NO.

AFTO FORM 781A, 20170628 **MAINTENANCE DISCREPANCY AND WORK DOCUMENT**

G1603880

Figure 5-3. AFTO FORM 781A, Maintenance Discrepancy and Work Document

Form Completion Instructions Defined in TO 00-20-1 Para 5.7

FROM	TO	MDS	SERIAL NUMBER	PAGE OF PAGES

SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED
WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION			
DISCREPANCY						
			CORRECTED BY			EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.		INSPECTED BY			EMPLOYEE NO.

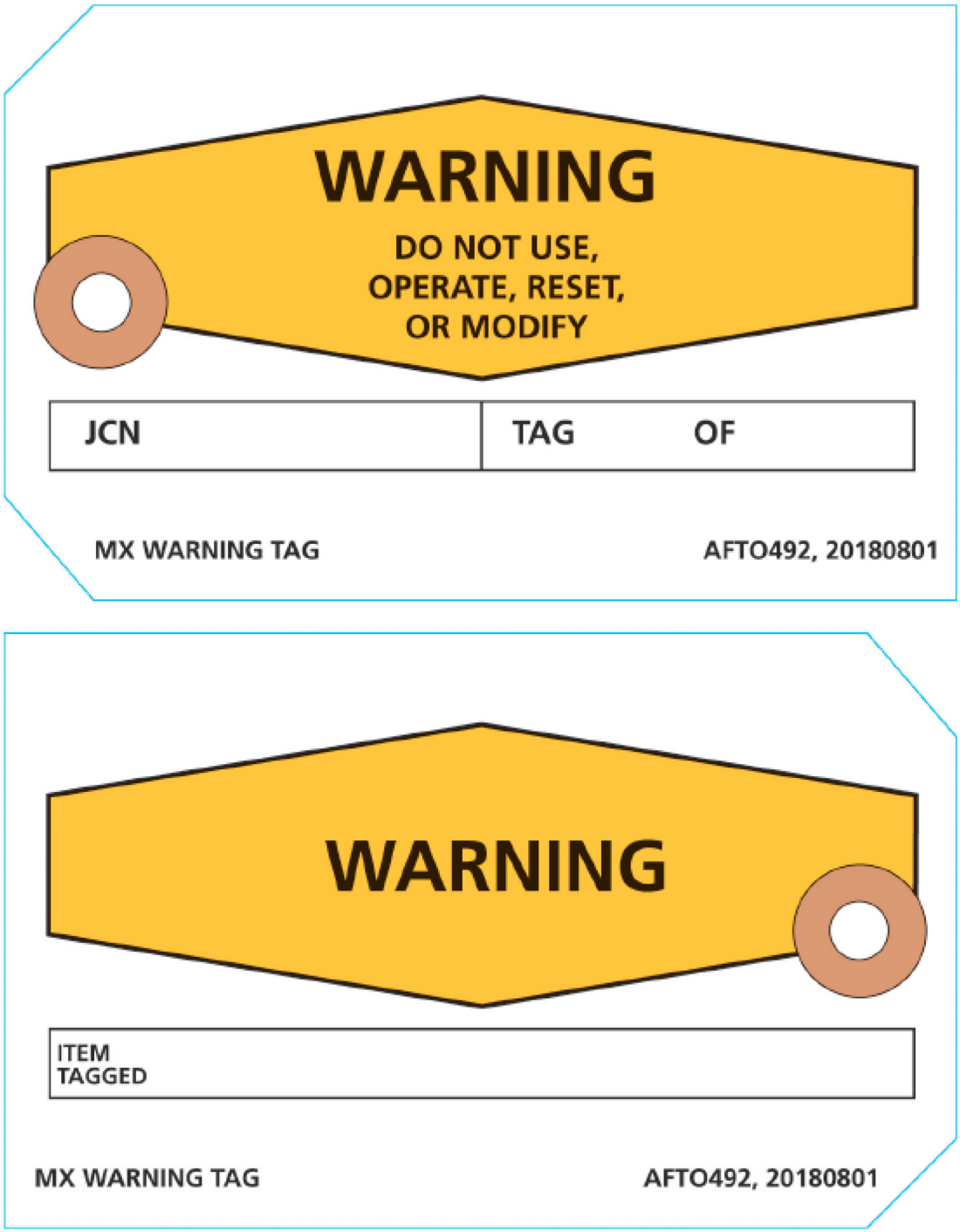
SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED
WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION			
DISCREPANCY						
			CORRECTED BY			EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.		INSPECTED BY			EMPLOYEE NO.

SYM	JCN	DATE DISC	DOC NO.	CF ☐ 781A	XF ☐ 781K	DATE CORRECTED
WUC/REF	FAULT CODE	STA CODE	CORRECTIVE ACTION			
DISCREPANCY						
			CORRECTED BY			EMPLOYEE NO.
DISCOVERED BY *(Print)*	EMPLOYEE NO.		INSPECTED BY			EMPLOYEE NO.

AFTO FORM 781A, 20170628

G1603881

Figure 5-4. AFTO FORM 781A, Maintenance Discrepancy and Work Document (Reverse)



TO00-20-1-002

Figure 5-5. AFTO FORM 492, MX WARNING TAG

5.8 AFTO FORM 781B, COMMUNICATIONS SECURITY EQUIPMENT RECORD.

(Figure 5-6) If used, this form is designed to provide Communications Security (COMSEC) equipment status.

5.8.1 AFTO Form 781B Documentation Instructions. Use the AFTO Form 781B, when COMSEC equipment is installed on the aerospace vehicle. Maintenance personnel remove the completed AFTO Form 781B and dispose of it in accordance with AFI 33-322. The Aircraft Commander (A/C) or designated aircrew member checks the AFTO Form 781B prior to flight to ascertain that the COMSEC equipment configuration conforms to the mission requirements. The following form entries are required:

a. Complete the heading with the appropriate aerospace vehicle and date information.

b. ITEM: Enter the nomenclature of the equipment installed.

c. SERIAL NUMBER: Enter the serial number of the COMSEC equipment item.

d. POSITION: Enter the position number of the item. Examples: KY-28 number five, enter a 5; KIR-1A number two, enter a 2.

e. DATE INSTALLED Enter the date the item is installed. If the installation date is unknown, verify the item is installed and enter the current date.

f. SIGNATURE AND EMPLOYEE NUMBER: The maintenance technician who installed the item or verified installation enters their minimum signature. If a person transcribes the information from another AFTO Form 781B, they will enter their minimum signature.

g. DATE REMOVED: Enter the date the COMSEC equipment item is removed.

h. SIGNATURE AND EMPLOYEE NUMBER: Enter the minimum signature and employee/FAA certification number of the person who removed the item or verified removal

FORM COMPLETION INSTRUCTIONS DEFINED IN TO 00-20-1, PARA 5.8.

FROM	TO		MDS		SERIAL NUMBER	
ITEM	SERIAL NUMBER	POSITION	DATE INSTALLED	SIGNATURE AND EMPLOYEE NUMBER	DATE REMOVED	SIGNATURE AND EMPLOYEE NUMBER

AFTO FORM 781B, 20130724 PREVIOUS EDITION IS OBSOLETE COMMUNICATION SECURITY EQUIPMENT RECORD

G1603882

Figure 5-6. AFTO FORM 781B, Communication Security Equipment Record

5.9 AFTO FORM 781C, AVIONICS CONFIGURATION AND LOAD STATUS DOCUMENT.

(Figure 5-7 and Figure 5-8) The form provides avionics configuration and load status and is used when directed by the GP/CC.

5.9.1 AFTO Form 781C Documentation Instructions. Maintenance personnel remove the completed AFTO Form 781C and dispose of it in accordance with AFI 33-322. In the case of transient aerospace vehicles, retain the completed forms in the binder until the aerospace vehicle returns to the home organization. When the form is used, the aircrew checks the AFTO Form 781C prior to flight to ascertain that the avionics equipment status and configuration conform to the mission requirements. The following form entries are required:

a. Complete the heading with the appropriate aerospace vehicle and date information.

b. ITEM: Enter the common name of the equipment installed. When the equipment is removed, draw a line through the entry and enter a notation in the REMARKS block at the lower portion of the form to indicate that the item was expended or removed.

c. TYPE AND SIZE: If applicable, enter the type of equipment on the top line and size of the equipment on the lower line.

d. QUANTITY: Enter the quantity of the item installed.

e. POSITION: Enter the position where the item is installed. Examples: Left inboard (L inbd), right outboard (R outbd).

f. COMPARTMENT: If applicable, enter the compartment in which the item is installed.

g. WEIGHT: Enter the weight of the item.

h. SYS CHECKED/DATE AND TIME: Enter the date and time operational checks were performed prior to or after installation of the equipment. Example: 20100816 will be entered on the top line and 0945 on the lower line to indicate 16 August 2010 at 0945 hours. When a series of consecutive entries are made or checked by the same individual, draw a diagonal line through this column from the first to the last entry, with a single date entry above the line and a time entry below the line.

i. OPERATIONAL STATUS: Make an entry in this block indicating the item is either operational (OP) or non-operational (NON-OP).

j. SIGNATURE/EMPLOYEE NUMBER: The maintenance person responsible for the overall condition of the listed item enters their minimum signature and employee number. When a series of consecutive entries are made or checked by the same individual, draw a diagonal line through this column from the first to the last entry and initial the line(s).

k. REMARKS: Use this block to enter explanatory remarks that are pertinent to installations or removals, special precautions and so forth. Follow entries in this block by a minimum signature, date and time of entry.

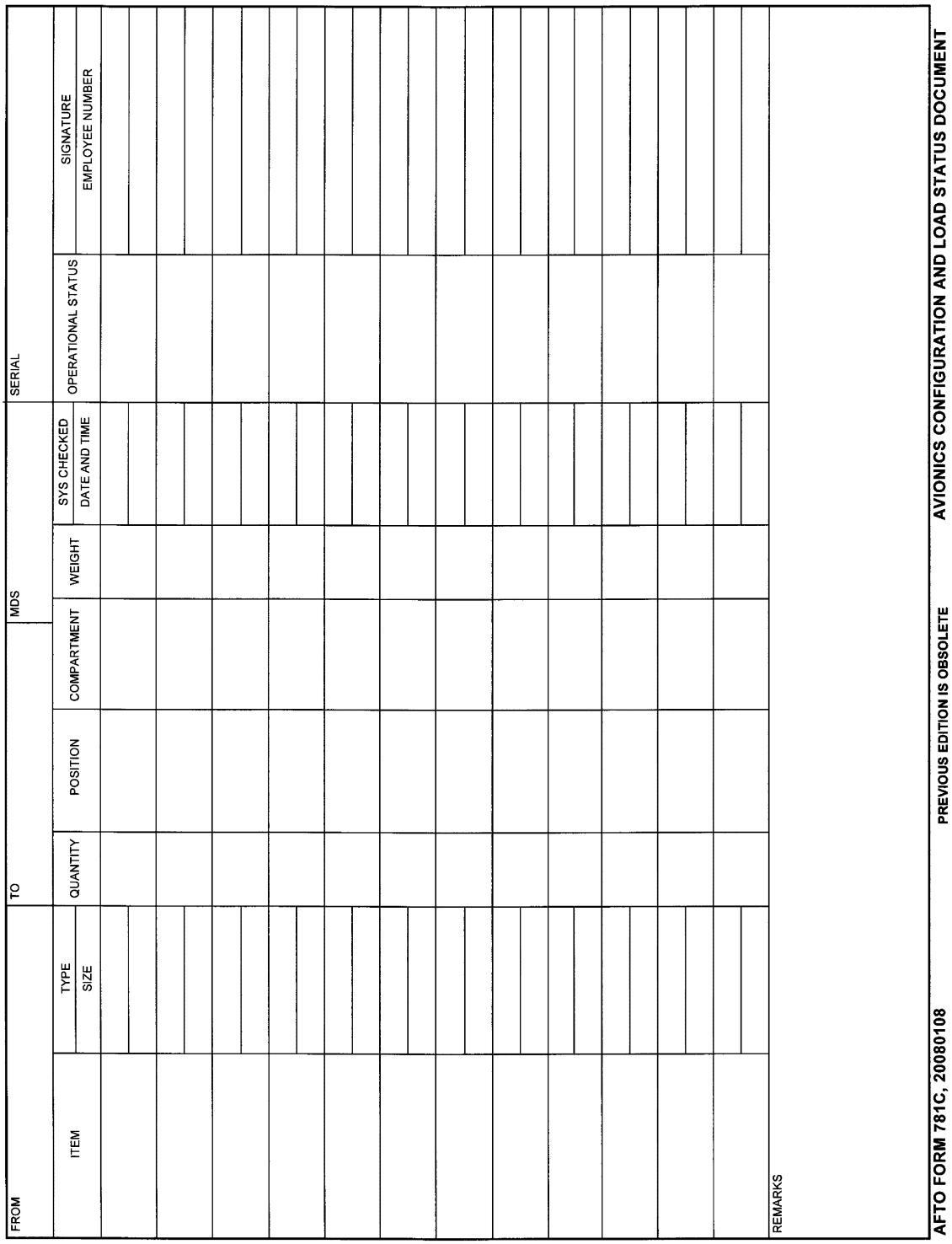


Figure 5-7. AFTO FORM 781C, Avionics Configuration and Loads Status Document

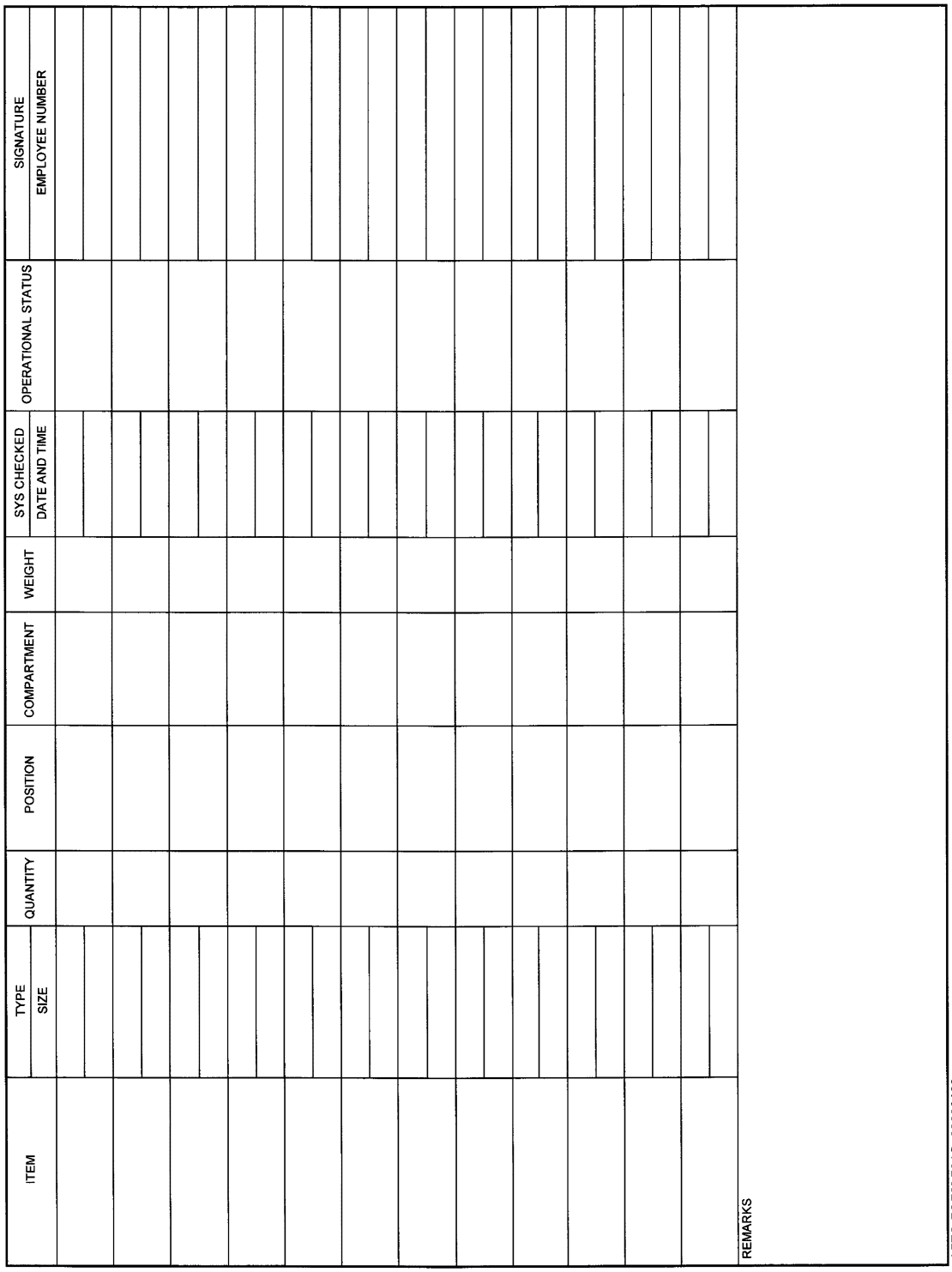


Figure 5-8. AFTO FORM 781C, Avionics Configuration and Load Status Document (Reverse)

5.10 AFTO FORM 781E, ACCESSORY REPLACEMENT DOCUMENT.

(Figure 5-9 and Figure 5-10) This form is used to record data to facilitate compliance with replacement requirements and the necessary data for reporting discrepancies when an MIS product is not used. Also use this form to document replacement intervals of the items as specified in the applicable MDS specific -6 TO and maintenance manual, related commodity series TOs and accessories and components of reciprocating and turbojet engines as outlined in TO 2J-1-24.

5.10.1 AFTO Form 781E Documentation Instructions. Regardless of whether the equipment is serviceable or repairable, keep the AFTO Form 781E current as long as the aerospace vehicle or equipment is in the possession of the owning activity. On aerospace vehicles that have engine events history recording devices installed, compute the elapsed operating time as indicated on the recording device and document it on the AFTO Form 781E.

5.10.1.1 Initiate one AFTO Form 781E for aerospace vehicle accessories, and one for each engine. List the replacement items in the sequence they appear in the applicable MDS specific -6 TO and maintenance manual. Separate these listings into convenient groups. Lines may be left blank after each group to provide space for recording replacement of items listed within that group.

5.10.1.2 Accessory replacement documents for jet engines (excluding J-79) will include an entry for each main shaft bearing to reflect serial number, manufacturer, part number, location, previous operating time, and the engine time at installation.

5.10.1.3 Use a two-line entry for those items requiring replacement at either the aerospace vehicle or equipment time or specified cycles, rounds or a calendar period. Use one line to indicate the aerospace vehicle or equipment time and the next to indicate cycles, rounds or calendar time, at which the replacement is due. Use ditto marks in columns A, B, and C for the second line of such entries.

5.10.1.4 Enter additional items requiring replacement, following the listing obtained from the -6 TO and maintenance manual, that may be required due to the type mission, GEO-LOC or at the direction of the MXG/CC. When replacements are made, use the next open line to record entries for the newly installed item.

5.10.1.5 Make a separate entry on the AFTO Form 781E to reflect complete identification data for each explosive item utilized, such as those employed in aircrew escape systems and external stores jettison systems. Record the following minimum data; the item nomenclature, type, and item serial number. To complete the identification data, make entries in the LOCATION, REPLACE EVERY, and INSTALLED AT columns. When subsequent changes of these items are made, make entries in the remaining applicable columns of the form in accordance with the instructions in this section and post new data for the replacement item.

5.10.1.6 Data for small items, such as a blasting cap, fire extinguisher cartridges or squibs, and squib and plate assemblies, are available only on the outer containers. If an explosive device is received as a component of an assembly and the identification data are not attached and the shipping organization cannot furnish the data, the date of manufacture stamped on the item will be used in lieu of the lot number for recording purposes. If the date of inspection is not known, consider the Date of Manufacture (DOM) as the Date of Installation (DOI).

5.10.1.7 Entries on the AFTO Form 781E are as follows:

a. FROM: Enter the date the form was initiated. Example: 20020914.

b. TO: Enter the date the form was closed out and removed from the binder.

c. MDS: Enter the aerospace vehicle's type MDS. When an AFTO Form 781E is used to track engine mounted accessories, enter the engine type in the MDS block.

d. SERIAL NUMBER: Enter the serial number of the affected aerospace vehicle or engine.

e. PAGE: When more than one sheet of this form is required, enter the page number and total number of pages.

f. Column A, NOMENCLATURE AND TYPE: Enter the nomenclature and type of accessory or equipment requiring replacement at a specified interval.

g. Column B, SERIAL NO.: Enter the serial number, normally found on the data plate. If the serial number is not on the accessory, enter “none.” When new forms are being prepared to replace lost forms and the serial number cannot be identified without expenditure of excessive man-hours, enter the word “unknown.”

h. Column C, LOCATION: Enter the installed location of the accessory. Leave this block blank when a single installation of the accessory in the aerospace vehicle or engine is involved and the location of the item is obvious.

i. Column D, REPLACE EVERY: Enter the operating interval or the calendar period at which the accessory or component should be replaced. This replacement time will be found in the applicable MDS specific -6 TO and maintenance manual or related commodity series TOs. When the replacement intervals for items are reduced locally, enclose the entry in this block within parentheses. Also enclose within parenthesis items prescribed by the MXG/CC. Use of the parentheses denotes unique replacement intervals.

j. Column E, PREVIOUS OPERATING TIME: Enter the previous operating time or usage of the accessory.

k. Column F, INSTALLED AT: Enter the aerospace vehicle or engine time to the nearest hour or the calendar date, for items that are changed on an hourly or calendar basis.

l. Column G, REPLACEMENT DUE AT: Enter the aerospace vehicle or engine time to the nearest hour, calendar date, cycles or rounds fired when an accessory or item of equipment is due for replacement. This entry will be the maximum allowable operating time of the accessory. For hourly time change items, add the time to the aerospace vehicle or engine hours entered in column F. When an accessory that has not been overhauled prior to installation is being reused, subtract the previous operating time from the maximum allowable operating time.

m. Column H, REMOVED: Enter the aerospace vehicle or engine time to the nearest hour, cycles, rounds fired or calendar date at which the accessory or item of equipment was removed. For components requiring replacement based on actual operating time, such as APUs, entries in columns F, G, and H will be in terms of component operating time instead of aerospace vehicle time. Maintain forms for engine mounted accessories in terms of engine operating time.

n. Column I, TIME ACCUMULATED: Enter the accumulated time, cycles or rounds fired on the accessory during this installation period. Compute this by subtracting the installation time, cycles or rounds from the removal time, cycles or rounds.

o. Column J, TOTAL OPERATING TIME: Enter the time, cycles or rounds the accessory was operated since new or last overhaul. Compute this by adding the accumulated time entry of column I to the previous operating time entry in column E. For example, if an item having 250 hours previous operating time is installed at 550 hours and removed at 1050 hours, the operating time will be 750 hours (column J). Entries for items having only a calendar replacement interval will reflect the calendar period of installation as computed from the date of installation to the date of removal.

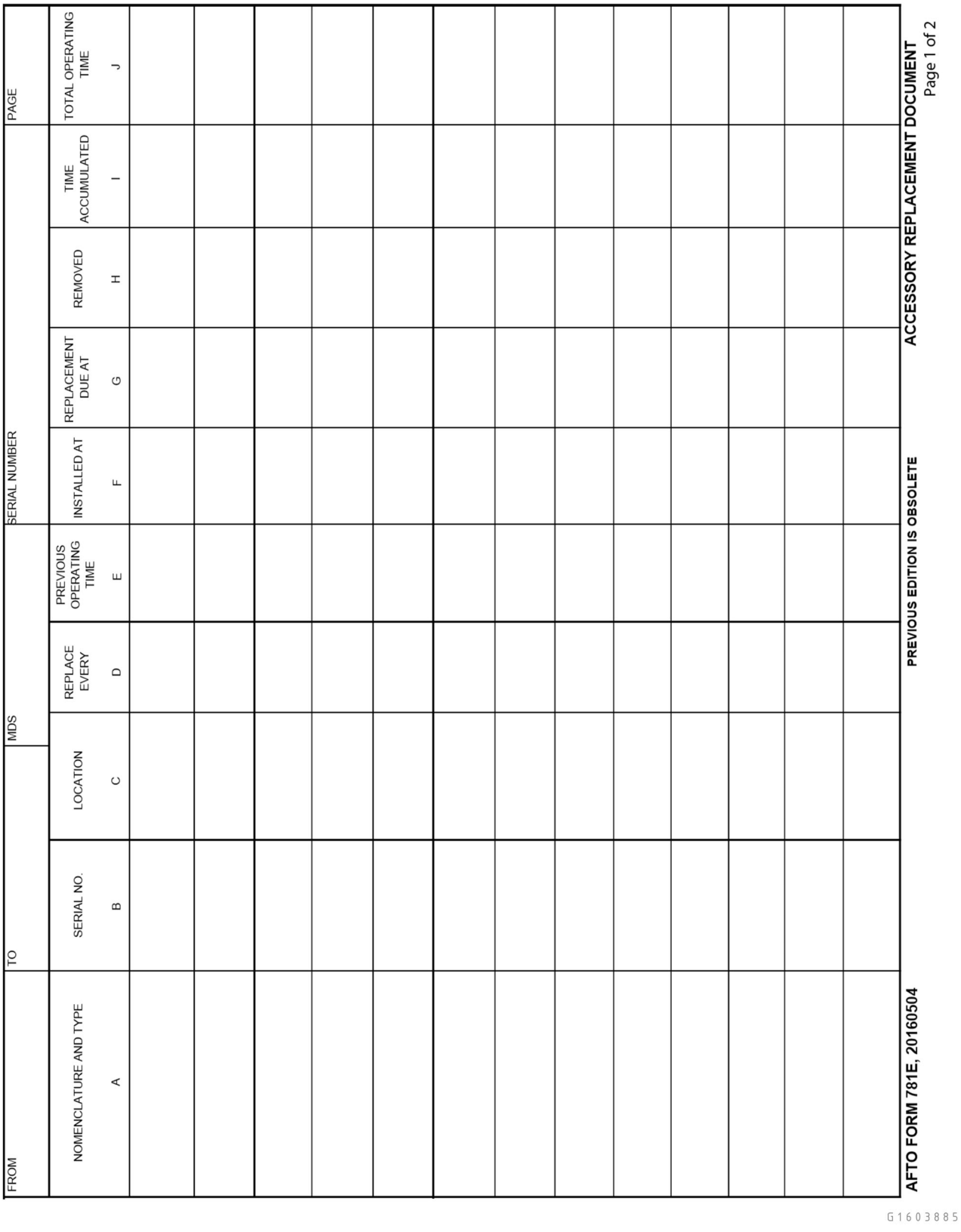


Figure 5-9. AFTO FORM 781E, Accessory Replacement Document

NOMENCLATURE AND TYPE A	SERIAL NO. B	LOCATION C	REPLACE EVERY D	PREVIOUS OPERATING TIME E	INSTALLED AT F	REPLACEMENT DUE AT G	REMOVED H	TIME ACCUMULATED I	TOTAL OPERATING TIME J

AFTO FORM 781E, 20160504

Page 2 of 2

G1603886

Figure 5-10. AFTO FORM 781E, Accessory Replacement Document

5.11 AFTO FORM 781F, AEROSPACE VEHICLE IDENTIFICATION DOCUMENT.

(Figure 5-11)

5.11.1 AFTO Form 781F Documentation Instructions. A completed AFTO Form 781F is always displayed at the front of the AFTO Form 781 series forms binder. When an aerospace vehicle is transferred, revise the data and complete a new form. When possession of the aircraft changes from one organization to another, maintenance supervision will ensure that the appropriate data blocks on the form are changed to ensure proper billing of customer's fuel, maintenance cost per flying hour, and consumption factors.

5.11.1.1 Fill out the AFTO Form 781F to reflect the requirements of the aerospace vehicle. For a trainer, include all but the MDS and SERIAL NUMBER block.

5.11.1.2 Post entries on the AFTO Form 781F in bold print in the appropriate blocks in accordance with the following instructions:

a. Block 1, CREW CHIEF: Enter the name and grade of the aerospace vehicle dedicated crew chief.

b. Block 2, ASST CC: Enter the name(s) and grade(s) of the assistant aerospace vehicle crew chief(s).

c. Block 3, Blank: Use of this block is GP/CC option.

d. Block 4, DOD ACTIVITY ADDRESS CODE: Enter the DoD activity address code of the base fuels accounts (FP) at the possessing base (contact Logistics Readiness Squadron (LRS) customer service for the appropriate DoDAC).

e. Block 5, CUSTOMER ID CODE: Enter the customer ID code, using the two-digit Command Code from TO 00-20-2, Appendix B.

f. Blocks 6, MISSION DESIGN SERIES: Enter the aerospace vehicle MDS. Example: C-17A (For ATDs see Paragraph 5.2.1.1).

g. Block 7, SERIAL NUMBER: Enter the aerospace vehicle serial number. Example: 85-1428 or 65-14828.

h. Block 8, ORGANIZATION: Enter the designation of the organization to which the aerospace vehicle is assigned. Example: 437 AW.

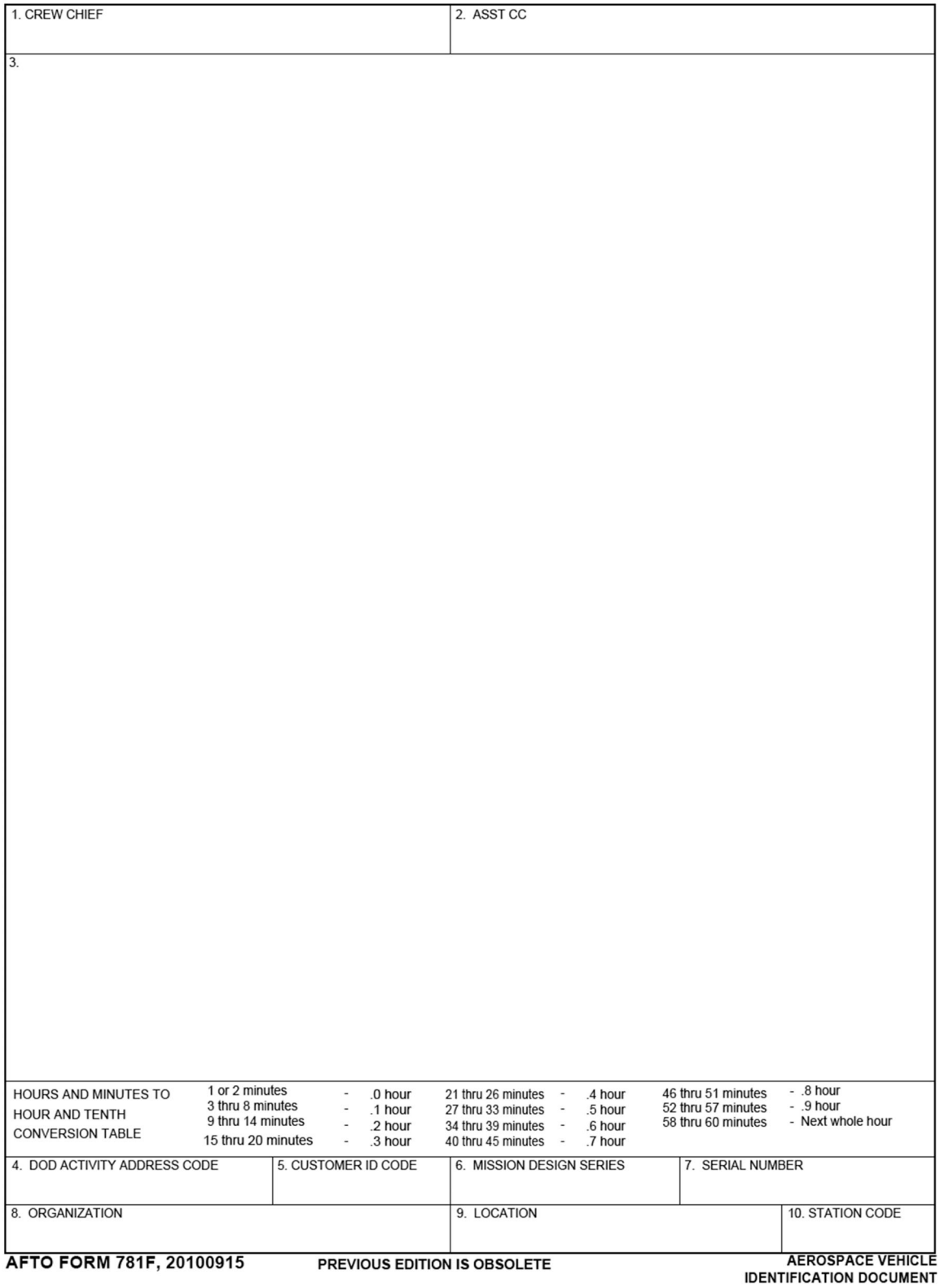
i. Block 9, LOCATION: Enter the location of the organization to which the aerospace vehicle is assigned. Example: Charleston AFB, SC. Overseas organizations enter their Army Post Office/Fleet Post Office (APO/FPO) number in this block.

j. Block 10, STATION CODE: Enter the assigned station code.

5.11.1.3 Certain conditions could exist which may allow continuous operation with restrictions. These conditions and restrictions shall be noted and flight approval from the using command shall be required. These aircraft will be identified by a placard on the AFTO Form 781F.

5.12 AFTO FORM 781G, GENERAL MISSION CLASSIFICATION-MISSION SYMBOLS.

(Figure 5-12 and Figure 5-13) The AFTO Form 781G contains basic information to serve as an aid in making entries on the AFTO Form 781. If used, file in the rear of the binder.



1. CREW CHIEF	2. ASST CC
3.	

HOURS AND MINUTES TO HOUR AND TENTH CONVERSION TABLE								
	1 or 2 minutes	- .0 hour	21 thru 26 minutes	- .4 hour	46 thru 51 minutes	- .8 hour		
	3 thru 8 minutes	- .1 hour	27 thru 33 minutes	- .5 hour	52 thru 57 minutes	- .9 hour		
	9 thru 14 minutes	- .2 hour	34 thru 39 minutes	- .6 hour	58 thru 60 minutes	- Next whole hour		
	15 thru 20 minutes	- .3 hour	40 thru 45 minutes	- .7 hour				

4. DOD ACTIVITY ADDRESS CODE	5. CUSTOMER ID CODE	6. MISSION DESIGN SERIES	7. SERIAL NUMBER
8. ORGANIZATION		9. LOCATION	10. STATION CODE

AFTO FORM 781F, 20100915 PREVIOUS EDITION IS OBSOLETE AEROSPACE VEHICLE IDENTIFICATION DOCUMENT

G1603867

Figure 5-11. AFTO FORM 781F, Aerospace Vehicle identification Document

Instructions to pilots - Use only one mission symbol per AFTO Form 781. The flight authorization will indicate the authorized *(or symbols)*

CA CODED AIRCRAFT MISSION CLASSIFICATION

A1 SCHEDULED FLIGHTS: Missions in which the main goal is to move cargo/passengers on a scheduled frequency.

A2 SCHEDULED AIR EVACUATION FLIGHTS Missions in which the main goal is to move patients who require immediate evacuation to the proper treatment facility

A3 NONSCHEDULED AIR EVACUATION FLIGHTS: Missions in which the main goal is to move patients who require immediate evacuation to the proper treatment facility.

A4 NONSCHEDULED LOGISTICS: Missions in which the main goal is to move cargo/passengers on other than scheduled flights

A5 POSITIONING/REPOSITINING: The nonproductive part of a flight that is required to locate an aircraft at a station for onload or returning an aircraft to home station

A6 TACTICAL TRAINING: Missions in which the main goal is nonscheduled joint airborne training that includes personnel and equipment/supply drops

A7 OTHER Classified and/or other special missions
NOTE Missions Symbols A1 through A7 are for CA coded aircraft use outside of a combat environment and ARRS CF coded aircraft

SUPPORT MISSIONS

S-1 ADMINISTRATIVE: Missions in which the main purpose is serial transportation of personnel accomplishing executive, administrative, and inspection functions These include staff and command ordered flights. Also includes Air ROTC, Air Explorers, and CAP Indoctrination and similar flights.
S-2 PERSONNEL: Missions in which the main purpose is air movement of personnel This symbol includes courier flights Does not include flights by MAC common user passenger/cargo transports accomplishing single manager operations for airlift services
S-3 MATERIEL AND SUPPLIES. Missions in which the main purpose is air movement of materiel and supplies Does not include flights MAC common user passenger/cargo transports accomplishing single manager operations for airlift services
S-4 LOGISTICS Missions in which the main purpose is air movement of personnel, materiel and supplies. This symbol includes flights in direct support of combat units and combat supporting unit operations. Does not include flights by MAC common user passenger/cargo transport.
S-5 SPECIAL. Missions in which the main purpose is to complete specific special activities of the Air Force and other governmental agences, such as target missions for air defense purpose, tow missions for defense and tactical forces, and local search and rescue, civil relief, mercy missions and air demonstration flights.
S-6 NAVAIDS CHECKS: Missions in which the main purpose is flight-check radar and navigation aids
S-7 AIRCREW QUALIFICATION Missions in which aircrew members who occupy aircrew or instructor crew positions complete standardization and instrument check flights as well as qualification and currency checks.
S-8 SUPPORT TRAINING Missions in which the purpose is to perform annual flying requirements, to include instrument, proficiency and other qualification checks as prescribed by AFR 60-1. This symbol is used by "behind-the-line" aircrew who are not assigned to MSL aircrw positions.
NOTE Symbols S-1 through S-8 are used for Z coded operational support aircraft only

TRAINING MISSIONS

T-1 STUDENT TRAINING Missions in which the main goal is to instruct and train pilots and aircrews under the direction of the Air Training Command or other USAF activities engaged in formal student instruction (includes flying of instructors in the course of student training). Specific mission symbols within this category, may be designated locally.
T-2 COMBAT CREW TRAINING Instructions and training of pilots and crews undergoing formal course of combat crew training in designated combat training organizations. Specific mission subsymbols within this category may be designated locally.
T-3 OPERATIONAL TRAINING Missions in which the main goal is the accomplishment of scheduled gunnery, bombing, reconnaissance, navigation, instrument, target missions for air defense purposes, towing targets, search and rescue and transportation of cargo and/or personnel (excludes flight of MAC common user passenger/cargo transports accomplishing single manager operations for airlift services) Specific missions within this category may be designated locally
T-4 SPECIAL: Missions in which the main purpose is the direct support of non-military activities in such areas as civil relief, mercy missions, health communications, public works and others contributing to the economic and social well-being of the nation
T-5 AIRBORNE ALERT MISSIONS: See Note 1.
T-6 LOW LEVEL MISSIONS: See Note 1
NOTE 1: Codes T-5 and T-6 are applicable to specific SAC aircraft
NOTE 2 T symbols are used in force structure aircraft in assignment codes such as CB, CC, CF, CA and TF

OPERATION MISSIONS

O-1 COMBAT: Aerial activity engagements or attacks conducted by committee units or aircraft, under the operational control of a theater commander or other appropriate authority, which have as a primary purpose the expenditure of munitions or other destructive materiels against an enemy of the United States or an opposing foreign force or any flying activity in direct support thereof. Specific mission subsymbols, using numeric suffix, may be designated locally.
O-2 COMBAT SUPPORT. Aerial activity or engagements conducted by committed units or aircraft, under the operational control of a theater commander or other appropriate authority, which have as a primary purpose the support of friendly foreign forces engaged in armed conflict, and which:
(1) Encounter foreign armed opposition, or
(2) Are otherwise placed in such a position that hostile action by armed forces was imminent even though it did not materialize
O-3 AIRCRAFT DELIVERY. Aircraft delivery flights under the control of TAC, including intercommand transfers, USAF, Navy or other pilots attached to TAC for purposes of delivering aircraft are considered TAC aircraft delivery crews. This will include flying time accumulated by pilots assigned to the TAC aircraft delivery organizations as well as "borrowed" crews Also includes aircraft deliveries other than under TAC control.
O-4 TEST Missions in which the main goal is engineering testing of aerospace vehicles to include the airframe, propulsion units, and components that are integral parts of the vehicle being tested

AFTO FORM 781G, 20080108 **PREVIOUS EDITION IS OBSOLETE** **GENERAL MISSION CLASSIFICATIONS-MISSION SYMBOLS**

G1603868

Figure 5-12. AFTO FORM 781G, General Mission Classifications-Mission Symbols

OPERATION MISSIONS (CONTINUED)

0-5 DIRECT TEST SUPPORT: Missions which are performed in direct support of research, development, test, or engineering, programs for the purpose of data acquisition. Includes flights to and from test locations.
0-6 INDIRECT TEST SUPPORT: Missions in which the main goal is the accomplishment of simulated mission profiles in preparation for approved test programs. Included in this category are missions in E, D, and CB coded aircraft in which the main goal is proficiency, flying training, initial checkout, requalification, annual instrument and proficiency check, etc.
0-7 SPECIAL (AFLC, AFSC, AFCC use only): Missions performed in E and CF coded aircraft which do fall within the categories explained above. Included are missions such as search and rescue, demonstrations, record attempts, flight inspection, traffic control and landing system (TRACALS) evaluations, and air traffic control operational evaluations.
0-8 MAINTENANCE TESTS: Missions in which the main goal is to perform functional check flights after completing inspections or maintenance to assure that the aircraft is airworthy and capable of mission accomplishment. This symbol applies to aircraft in all assignment codes.
0-9 OPERATIONAL RECONNAISSANCE: Aerial activity or engagements conducted by committed units or aircraft which have as a main purpose the accomplishment of higher headquarters directed reconnaissance missions that do not fall in the other categories explained above.
NOTE: For all missions flown into, or out of designed combat areas, the suffix A is used to provide differentiation of, and credit for actual combat flying

INDUSTRIAL FUNDED AIRCRAFT MISSION CLASSIFICATIONS

L-1 through L-8 CONTINGENCY: Special transport missions that support contingency plans and test exercises. Symbol is assigned by HQ MAC in the Operation Order. If no OPORD is written, MAC Command Post (MCP) assigns symbol to be used.
M-1 CARGO: Scheduled transport missions in which the main goal is the movement of cargo.
M-2 PASSENGER/PATIENTS: Scheduled transport missions in which the main goal is the movement of passenger/patients.
M-3 CARGO/PASSENGERS: Scheduled transport missions in which the main goal is the movement of mixed loads (cargo/passengers).
M-4 POSITIONING FOR CHANNEL: Returning an aircraft to home station from channel traffic onload. This includes missions from the offload station of a special assignment airlift mission (SAAM) or contingency mission to the onload station of channel traffic mission.
M-5 DEPOSITIONING FOR CHANNEL. Returning an aircraft to home station from channel traffic offload station and to return an aircraft to backup position from an offload or terminating point of any mission where backup equipment has been.
M-6 SPECIAL ASSIGNMENT: Transport missions in which the main goal is the accomplishment of special assignment airlift mission. These missions will include hours logged from the time the aircraft departs from home station or is diverted from channel traffic (scheduled mission) until the aircraft returns to home station or returns to channel traffic operations.
M-7 NON-REVENUE: Nonscheduled missions operated in support of the airlift force other exercises.
M-8 JOINT AIRBORNE OR AIR TRANSPORTABILITY TRAINING: Transport missions in which the main goal is nonscheduled joint airborne training.
N-1 TRAINING AND STANDARDIZATION: Training and standardization evaluation flights for personnel assigned or attached to a tactical or transport unit.
N-2 TACTICAL TRAINING: Unilateral tactical training other than joint airborne training. This includes: airdrop, formation flying, and low level navigation training missions.
N-3 SEARCH: Industrially funded aircraft diverted to perform search missions. Symbol will be used starting with time of diversion until aircraft returns to normal mission.
N-4 through N-8 RESERVED FOR FUTURE USE: These symbols will be used to complement the contingency mission symbols as assigned by MCP.

NOTE: L, M and N symbols are used in force structure aircraft in assignment codes CC, CF, IF and TF.

SIMULATOR/TRAINER CLASSIFICATIONS

Q-1 STUDENT TRAINING: Instruction and training of pilots and crews under the direction of the Air Training Command or other USAF organization engaged in formal student instruction.
Q-2 MISSION TRAINING: Synthetic trainer/simulator missions in which the main goal is training of tactical and support aircrews.
Q-3 MAINTENANCE TESTS: Performance of functional check lights.
Q-4 OPERATIONAL TRAINING: Simulator time logged during a formal course of training that is creditable to operational flying duty.
Q-5 SIMULATOR TEST: Missions for the acquisition of data or verification of simulator performance, handling qualities, and systems

Suffix "E" is reserved for engineering tests for the purpose of simulator hardware/software design or development.
Suffix "F" is reserved for missions scheduled in direct support of personnel research.

AFTO FORM 781G, 20080108

G1603869

Figure 5-13. AFTO FORM 781G, General Mission Classifications-Mission (Reverse)

5.13 AFTO FORM 781H, AEROSPACE VEHICLE FLIGHT STATUS AND MAINTENANCE .

(Figure 5-14 and Figure 5-15) Use the AFTO Form 781H to document maintenance status, servicing information, and to provide a ready reference as to the status of aerospace vehicles or ATDs. This form also indicates the status and history of inspections. When off- station, leave the form in the binder until the aerospace vehicle returns to home station. The current active AFTO Form 781H will be on top of the old AFTO Form 781Hs.

5.13.1 AFTO Form 781H Documentation Instructions. Prepare a new AFTO Form 781H when a block on the form is full. If additional lines are needed during the specified flying period, initiate a second 781H. Print "Page 1 of 2" at the top of page 1, and "Page 2 of 2" on the top of page 2. Only transfer the information from the full blocks on page 1 and leave all other blocks blank on page 2 until the corresponding block on page 1 becomes full.

5.13.1.1 The aircrew will check the servicing entries recorded in block 11 SERVICING DATA, to verify that the quantities are adequate for the flight. Specific responsibilities are as follows:

5.13.1.1.1 The aircrew documents the airframe time, full stop landings, total landings, landing gear cycles, cartridge/JFS starts, and engine cycles, as required, in blocks 7, 8, 9 and 10 of the AFTO Form 781H, at the completion of each sortie. If an automated flight data recording system is available, maintenance personnel will extract this information from the debrief in accordance with MDS specific guidance and enter onto the AFTO Form 781H blocks 7, 8, 9 and 10 at the completion of each sortie as part of the debrief process.

5.13.1.2 AFTO Form 781H Entries. Complete the form for aerospace vehicle and ATDs in the following manner:

5.13.1.2.1 For ATDs, completion of blocks 1 through 4 and 6 STATUS TODAY is mandatory and completion of the exceptional release portion of block 6 and the remaining blocks is a GP/CC option.

5.13.1.2.2 Block 1, FROM: Enter the year, month, and day of the beginning date for the use of this form, in the following format: YYYYMMDD.

5.13.1.2.3 Block 2, TO: Enter the ending date for the use of this form.

5.13.1.2.4 Block 3, MDS: Enter the aerospace vehicle MDS. Example: C-130H.

5.13.1.2.5 Block 4, SERIAL NUMBER: Enter the aerospace vehicle serial number. Example: 85-1500 or 65-0966.

5.13.1.2.6 Block 5, Certification of PR, PR/BPO, TH, BPO, QT, ICT, WAI, PLI: The maintenance person who accomplishes or supervises the above listed actions will enter in the appropriate columns; the type inspection, minimum signature and the local date and time completed. MAJCOMs have the option of using Zulu time. When initiating a new form, transfer the time and date of the current PR or PR/BPO inspection (provided the validity period has not expired) and the most current TH (if applicable), and carry forward the individual's minimum signature who accomplished the inspections by printing in block 5 of the new form. The individual transcribing the entries enters the abbreviations "CF" under the TYPE column and their first and last name initial in the ACCOMPLISHED BY column of the old form. Record the entries for each column of this block as follows:

a. TYPE: Enter the abbreviation of the type inspection.

b. ACCOMPLISHED BY: Use this column to record the minimum signature of the individual who accomplished the inspection.

c. COMPLETED DATE/TIME: Enter the date in YYYYMMDD format, and time of completion.

5.13.1.2.7 Block 6, STATUS DATA: Entries will be:

5.13.1.2.7.1 STATUS TODAY: Enter symbols in the STATUS TODAY column to reflect current status of the aerospace vehicle. A black last name initial indicates no known discrepancies which require a symbol exist; and no inspections are due or overdue on the aerospace vehicle. When initiating this form, bring forward the last status symbol of the previous form to box 1 of the new form. If no discrepancies exist on the aerospace vehicle, enter the last name initial of the authorized individual who accomplished or supervised the pre-flight inspection. The status symbol recorded in these columns always

represents the most serious condition. When status changes occur, the maintenance technician responsible for the change will use the next open box to record the applicable symbol. Symbol entries recorded in these columns will never be erased or initialed over. If a symbol is entered in error, enter the correct symbol in the next open box.

5.13.1.2.7.2 BOX NO: This column is used to record the box number of the STATUS TODAY column for which an exceptional/conditional release is being signed. This entry is the responsibility of the authorized individual who signs the exceptional release.

5.13.1.2.7.3 EXCEPTIONAL RELEASE: An exceptional release is required before flight. Under no circumstances will the exceptional release be granted when the aerospace vehicle status is indicated by a Red X symbol. The exceptional release serves as a certification that the authorized individual who enters their minimum signature has reviewed the active forms to ensure the aerospace vehicle is safe for flight.

5.13.1.2.7.3.1 A list of personnel designated to sign the exceptional release will be approved by the GP/CC. These personnel must be an aircraft maintenance officer, SNCO or their civilian equivalent. If, after thorough review, the GP/CC determines that local conditions require the assignment of other than maintenance officers, SNCOs or their civilian equivalents to sign exceptional releases, a waiver request is forwarded to the MAJCOM for approval. Such request must fully justify the need for the waiver and identify actions being taken or planned to resolve the problem.

5.13.1.2.7.3.2 When an exceptional release is signed by a designated individual, it will not require another signature during the pre-flight validity period unless additional Red symbol discrepancies are encountered or the AFTO Form 781H has to be removed as outlined in Paragraph 5.13.1. When an additional symbol is entered or the form is removed, the prior signature is no longer valid and another exceptional release is necessary. When designated personnel are not available to sign the exceptional release, the Aircraft Commander will sign the release. When a release is signed by the Aircraft Commander, it is effective only for those flights in which the releasing Aircraft Commander participates as an aircrew member. The launch control officer, maintenance officer, SNCO or civilian equivalent will sign an exceptional release, when required for installed air launched missiles. For aerospace vehicle (including bailed and government furnished property) undergoing maintenance at a contractor's facility, exceptional releases shall be signed by personnel identified by the contractor in a listing provided to the Air Force Contract Administration Office, as required by this TO. Additional special instructions relative to exceptional releases are as follows:

5.13.1.2.7.3.3 If in Transient status and the aircrew desires omission of an inspection even though the required resources are available, the aircrew will make an entry on the AFTO Form 781A stating the reason for their decision. The aircrew will sign the exceptional release. A duplicate of the AFTO Forms 781A and 781H will be made, and will be retained by the Transient Alert (TA) supervisor for not less than 90 days and disposed of in accordance with AFI 33-322.

5.13.1.2.7.3.4 If TA cannot accomplish the required inspections, servicing or repairs because of a lack of qualified personnel, facilities or material, and the A/C does not wish to continue the flight without accomplishment of these items, the A/C will contact the home station of the aerospace vehicle to request assistance. If the A/C elects to proceed on the flight without accomplishment of these items, document the AFTO FORM 781A, including a brief entry describing the situation. The A/C will sign the exceptional release. A duplicate of the AFTO Forms 781A and 781H will be made, and will be retained by the TA supervisor for not less than 90 days and disposed of in accordance with AFI 33-322.

5.13.1.2.7.3.5 An exceptional release may be granted as a conditional release. A conditional release allows an aerospace vehicle to be flown although a discrepancy exists which restricts the aerospace vehicle's capabilities. When such conditional releases are granted, the conditions of the release will be described by an appropriate entry in the AFTO Form 781A. Additionally, enter "conditional, see AFTO Form 781A, (page ____, and item ____)" in the next open line after the exceptional release signature. As an example, conditional releases may be given to an aerospace vehicle that has cargo weight restrictions due to cracks, fuel limitations or airspeed restrictions, etc.

5.13.1.2.7.3.6 To indicate what conditions are covered by the exceptional release, the releaser will draw a red line under the entire last entry on the AFTO Form 781A. When the exceptional release is signed, the releaser places their initials at the left margin of the AFTO Form 781A beside the red line entry. If new discrepancies are entered, draw a new red line under the last item to indicate coverage of the next exceptional release signature. If the same person who signed the previous exceptional release reviews the discrepancies and corrective actions, the individual may initial beside the red line and release the aerospace vehicle without another minimum signature in block 6, provided the status has not changed. If no additional red symbol entries are entered, but the aerospace vehicle status changes to a Red Dash or Red Diagonal as a result of an AFTO Form 781K entry, a new exceptional release is required. The releaser will initial immediately above the original initials on the AFTO Form 781A.

5.13.1.2.8 Block 7, AIRFRAME TIME: Upon initiation of a new form, transcribe the total time from the TOTAL block of the previous form to the PREVIOUS block of the new form. Ensure the airframe time is updated in the AFTO Form 781J. At the completion of each flight, record the flight time pertaining to the date involved in the appropriate flight blocks. Aircraft with automated flight data recording systems will utilize the data provided by the automated flight data recording system. Add these entries for a new total entry in the block at the end of the specified flying period.

5.13.1.2.9 Block 8, LANDINGS: Use this block to record previous FULL STOP, TOTAL, and LANDING GEAR CYCLES on aerospace vehicles for which maintenance or inspection of the landing gear system or components is based on a specified number of landings/gear cycles. Maintain a separate record of full stop landings for aerospace vehicles under this criteria. The aircrew will document total landings, which include full stop landings, in the TOTAL column and document only the full stop landings in the FULL STOP column. These entries will be added for a new total entry in the TOTAL block at the end of the specified flying period. If applicable, aircrew will also document LANDING GEAR CYCLES (gear full up/full down). Aircraft with automated flight data recording systems, will utilize the data provided and stored by the automated flight data recording systems in accordance with MDS specific guidance.

5.13.1.2.10 Block 9, CART/JFS STARTS: For aircraft/engines with cartridge/JFS start capability, maintain a history of cartridge/JFS starts to determine starter time change. The aircrew will document in the CART/JFS START column by engine number, the number of cartridge/JFS starts for each flight. Maintenance personnel will document each ground cartridge/JFS start. These entries will be added for a new total in the TOTAL block at the end of the specified flying period. This total will be carried forward to block 9, PREVIOUS of the new AFTO Form 781H.

5.13.1.2.11 Block 10, ENGINE CYCLE DOCUMENTATION: For selected engines listed in TO 00-25-254-1, maintain a history of cycles for compressors, turbine disks, and other designated components to determine fatigue life. The aircrew will document cycles which have occurred during the flight, on the FLIGHTS line. The definition of cycles for each engine is included in the applicable aerospace vehicles MDS specific -1, -2, and -6 TOs and the appropriate engine TO and maintenance manual. Aircraft with automated flight data recording systems, will utilize the data provided and stored by the automated flight data recording systems.

NOTE

When blocks 8, 9, 10, 11 and 12 are not used line out the printed words and use the blocks for other purposes as approved by the GP/CC.

5.13.1.2.12 Block 11, SERVICING DATA: Servicing data is grouped into four basic categories: FUEL, OIL, OXYGEN AND NITROGEN/WATER. A dash in servicing rows will indicate that in-tank checks have not been complied with or are not required. For example, if only fuel is checked or serviced, put a dash in the servicing rows for OIL, OXY, and NITROGEN/WATER blocks and carry down previous in-tanks totals. Specific entries are as follows:

5.13.1.2.12.1 OCTANE or GRADE: For each servicing line, enter the fuel grade/octane with which the aerospace vehicle was serviced. Example: JP-8.

5.13.1.2.12.2 QTY SRVCD: Enter the total quantity of fuel (Pounds, Gallons or Liters) serviced or drained at one operation. If no service is required, enter a “0” (zero) to serve as a positive indication that the tanks have been checked. To indicate the unit of measure being used for the QTY SRVCD and TOTAL IN TANKS entries, enter “P,” “G,” or “L,” which will indicate pounds, gallons or liters, as a part of the serviced or in tanks entry. Example: 2,750P or 6,243G. Enter total pounds, gallons or liters of fuel drained in red and carry a minus sign prefix. Example: -250G. Record fuel taken onboard, fuel dumped overboard, fuel off loaded or oil transferred from an auxiliary tank to an engine or engines during flight, as a separate service in the next open row. Enter the quantity of fuel dumped or off loaded in red and carry a minus sign prefix. The aircrew or other aircrew member will make these entries for in-flight operations.

5.13.1.2.12.3 TOTAL IN TANKS: Upon completion of servicing, draining or completion of an in-tank check, enter the total number of pounds (P), gallons (G) or liters (L), of fuel onboard in all tanks (excluding in-flight refueling tanks of tanker aerospace vehicles). Enter a separate line entry when a different grade of fuel is onboard other than that of the aerospace vehicles.

5.13.1.2.12.4 OIL (Half pints, pints, quarts, gallons or liters): Line out the non-applicable words from the title of this column to indicate what units of measure are being used and list the type and/or specification of the oil serviced to the right of the title, if different than what the TO calls for. In the SER column of the applicable servicing number row, enter the number of half-pints, pints, quarts, gallons or liters of oil serviced or drained from each oil tank. Record the total number of half-pints, pints, quarts, gallons or liters of oil in each engine tank after servicing or draining in the IN column. If no in-tanks

checks are performed, then enter a dash in the SER column and carry down previous IN totals. If no servicing is required, enter a “0” (zero) in the SER column to serve as a positive indication that the in-tanks checks have been made. Enter oil drained in Red and a minus sign prefix. Example: -15. To indicate a complete oil change, circle amount added in SER column in Red. If different oils are mixed according to TO 42B2-1-1, make an appropriate entry in the AFTO Form 781A. Aerospace vehicles having requirements for recording constant speed drive (CSD) and extended range oil tank (ext. range) oil servicing, will draw a red line between columns after the last engine entry and record CSD or EXT oil servicing information behind the red line separator. Cross out the engine number of the column being used and enter the CSD or EXT number. Example: CSD # or EXT range #.

5.13.1.2.12.5 OXY PRESS OR QTY: Line out the non-applicable portion of the title. In the OXY PRESS OR QTY column of the applicable servicing number row, enter the oxygen system pressure or quantity serviced or checked. The individual making the check will ensure the pressure or quantity is at or above the minimum prescribed in the applicable -2 TO. If no quantity check is required, enter a dash. Leave this block blank for aerospace vehicles not equipped with oxygen.

5.13.1.2.12.6 NITROGEN/WATER: In the nitrogen/water servicing column, enter the nitrogen/water quantity. If this column is not used, the GP/CC may designate its use for other purposes. For example, F-16 units may use this column to document hydrazine (H-70) quantity.

5.13.1.2.12.7 PRE TOT: When transcribing the AFTO Form 781H, this row is used to record the current FUEL, OIL, OXY, etc. totals from the previous AFTO Form 781H, block 11, last applicable servicing number row. To ensure no additional entries are made on the PRE TOT row, line through all servicing blocks.

5.13.1.2.13 Block 12, SERVICING CERTIFICATION: The individual who performs or supervises the servicing, draining or in-tanks check of items in block 11, enters their minimum signature in the BY block corresponding with the numbered servicing row recorded in block 11. Unless classified, enter the station name and date at which the action was performed in the corresponding AT and DATE blocks. The aircrew or other aircrew member will sign the BY block, enter the words “in-flight” or “hot pit” in the AT block and the date in the DATE block to certify any in-flight or hot pit servicing accomplished.

5.13.1.2.13.1 As directed by the MAJCOM/System Program Office/Unit Commander, units may develop a local form, with standardized procedures, to track aircraft servicing/connection on the following equipment: hydraulic servicing carts, oil servicing carts, and Polyalphaolefin (PAO) servicing carts. For tracking and control purposes, the form will identify the equipment ID, and at a minimum, aircraft tail number, component serviced/system(s) connected to, date, and employee number.

1. FROM	2. TO	3. MDS	4. SERIAL NUMBER

5. Certification of PR, PR/BPO, PR/TH, TH, BPO, QT, ICT, WAI, PLI

TYPE	ACCOMPLISHED BY	COMPLETED		TYPE	ACCOMPLISHED BY	COMPLETED	
		DATE	TIME			DATE	TIME

6. STATUS DATA

SEE AFTO FORMS 781A AND 781K FOR EXPLANATION OF THE STATUS SYMBOLS

	STATUS TODAY		BOX NO	EXCEPTIONAL RELEASE (Enter Box No)	STATUS TODAY		BOX NO	EXCEPTIONAL RELEASE (Enter Box No)
1	13				25	37		
2	14				26	38		
3	15				27	39		
4	16				28	40		
5	17				29	41		
6	18				30	42		
7	19				31	43		
8	20				32	44		
9	21				33	45		
10	22				34	46		
11	23				35	47		
12	24				36	48		

FLIGHTS

7. AIRFRAME TIME		8. LANDINGS			9. CART/JFS STARTS				10. ENGINE CYCLE DOCUMENTATION							
		FULL STOP	TOTAL	LANDING GEAR CYCLES	NO	ENG	NO	ENG	NO 1 ENG	NO 2 ENG	NO 3 ENG	NO 4 ENG	NO 5 ENG	NO 6 ENG	NO 7 ENG	NO 8 ENG
PREVIOUS																
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
TOTAL																

PREVIOUS EDITION IS OBSOLETE

AEROSPACE VEHICLE FLIGHT STATUS AND MAINTENANCE

AFTO Form 781H, 20161215

Page 1 of 2

G1603870

Figure 5-14. AFTO FORM 781H, Aerospace Vehicle Flight Status and Maintenance Document

11. SERVICING DATA

	FUEL (Pounds, Gallons or Liters)			OIL (Half pints, pints, quarts, gallons or liters)																OXY PRESS OR QTY	NITROGEN	WATER
	OCTANE OR GRADE	QTY SRVCD	TOTAL IN TANKS	1		2		3		4		5		6		7		8				
				SER	IN	SER	IN	SER	IN	SER	IN	SER	IN	SER	IN	SER	IN	SER	IN			
PRE TOT																						
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						

12. SERVICING CERTIFICATION *(Signature, Employee Number, and Station at Which Servicing is Accomplished)*

1	BY			7	BY			13	BY								
	AT		DATE		AT		DATE		AT		DATE						
2	BY			8	BY			14	BY								
	AT		DATE		AT		DATE		AT		DATE						
3	BY			9	BY			15	BY								
	AT		DATE		AT		DATE		AT		DATE						
4	BY			10	BY			16	BY								
	AT		DATE		AT		DATE		AT		DATE						
5	BY			11	BY			17	BY								
	AT		DATE		AT		DATE		AT		DATE						
6	BY			12	BY			18	BY								
	AT		DATE		AT		DATE		AT		DATE						

AFTO Form 781H, 20161215 Page 2 of 2

G1603871

Figure 5-15. AFTO FORM 781H, Aerospace Vehicle Flight Status and Maintenance (Reverse)

5.14 AFTO FORM 781J, AEROSPACE VEHICLE ENGINE FLIGHT DOCUMENT.

(Figure 5-16 and Figure 5-17)

5.14.1 AFTO Form 781J Documentation Instructions.

NOTE

For engines equipped with Engine Monitoring Systems (EMS) such as F100, F110, TF34, T701C, etc. use of the AFTO Form 781J is by the direction of the GP/CC. For those engines not incorporating EMS tracking like T56, TF33, etc. use of the AFTO Form 781J is required.

5.14.1.1 FROM and TO: Enter the date on which the form was initiated in the FROM block. When the form is closed out, enter the date in the TO block. The FROM block on the new form will agree with the TO block on the old form.

5.14.1.2 MDS: Enter the aerospace vehicle MDS. Example: C-130H.

5.14.1.3 SERIAL NUMBER: Enter the aerospace vehicle serial number. Example: 85-1428 or 65-14828.

5.14.1.4 PAGE___ OF___PAGES: Enter the page number and the total number of pages.

5.14.1.5 AIRCRAFT AND ENGINE OPERATING TIME, CYCLE AND OIL ADDED: Line through non-applicable measurements in the header (Half Pints, Pints, Quarts).

5.14.1.6 DATE: Enter the date on which the aerospace vehicle flies in the first open line.

5.14.1.7 AIRFRAME TIME: When transcribing the AFTO Form 781J, the PREVIOUS TOTAL row is used to record the last entry of data documented on the previous AFTO Form 781J CARRIED FWD row. The last entry in this column corresponds with the TOTAL row entry in block 7 of the AFTO Form 781H. At the end of the specified flying period, enter the time accrued for that flying period on the line opposite the specific date entry. Add this entry to the previously recorded time to provide new totals. GP/CCs may elect to post entries on this form for each flight in lieu of the specified flying period.

5.14.1.8 OIL SAMPLE (X): Enter an X in this block, on the line corresponding to the specific date entry to indicate that an oil sample was taken for oil analysis. This distinguishes the correct placement of the X, (line entry vs total).

5.14.1.9 OIL ADDED: In the OIL ADDED column of the PREVIOUS TOTAL row, enter the total amounts of oil added in Half Pints (HP), Pints (P) or Quarts (Q), as reflected on the last entry of the previous AFTO Form 781J.

5.14.1.9.1 Enter the total amount of oil serviced for each engine on the line corresponding to the specific date entry. The GP/CC may elect to post entries after each flight. The amount of oil serviced for each engine will match oil servicing amounts reflected in the AFTO Form 781H, block 11, SERVICING DATA. Add these oil amounts to the previously recorded OIL ADDED column amounts to derive new cumulative totals. Use this column to maintain precise, cumulative totals of oil added for each engine to facilitate accurate documentation on DD Form 2026, OIL ADDED SINCE LAST SAMPLE block. Accurate running totals of oil added to each engine between oil samples are essential for performing accurate oil analysis and preventing potentially catastrophic engine/component failures. Ensure amounts of oil serviced for each engine are also annotated on the AFTO Form 781H.

5.14.1.9.2 For engine programs that do not require oil samples to be taken or do not use DD Form 2026, there is no requirement to record amounts of oil serviced on the AFTO Form 781J.

5.14.1.10 OIL CONSUMPTION: Optional Column. If used, enter the oil consumption rate (Qts/Hr) after each flight completion and calculate the oil consumption total after obtaining individual engine flight consumption rates. The oil consumption rate is obtained by dividing the oil added amount by the flight time, while the rolling total is obtained by dividing the total oil added by the total airframe time.

5.14.1.11 ENGINE POS #: The first engine ENGINE POS # column is for engine number 1, the second is for engine number 2 and so on. One- and two-engine aerospace vehicles may use the remaining engine position columns as continuations. If a column is not used, GP/CCs may authorize other standardized entries (e.g., engine start cycles, events, times,

attempts, daily/flight information, etc.). For aerospace vehicles with more than four engines, use front and back or use a second form if single sided, to track additional engines. Label each column with the appropriate engine position numbers and each form with appropriate headings.

5.14.1.12 OIL CHANGE/TIME: Enter the engine time at the last oil change. To facilitate completion of DD Form 2026, circle the engine operating time in red when an oil change is made.

5.14.1.13 ENGINE TIME and CYCLES: Engine time will reflect engine total hours accumulated throughout the life of the engine, unless directed otherwise by a MAJCOM supplement. Therefore, the accrued CYCLES column will start with the accumulated cycles annotated on the AFTO Form 95 prepared by the overhaul activity and will be found immediately after the Total Time (TT) and Time Since Complete Overhaul (TSCO). This information will be used for the initial cycles entry on the new AFTO Form 781J. If previously accumulated cycles are not available, contact the applicable ALC engine manager.

5.14.1.13.1 On aerospace vehicles that have engine-recording devices installed, the engine time need not be entered in the ENGINE TIME columns. Line out the ENGINE TIME in the ENGINE POS #1 block and in as many other number engine blocks as required, and enter the Event History Recorder (EHR) ″Ser. No.″ or Engine Time Temperature Recorder (ETTR) ″Ser. No.″ as applicable.

5.14.1.13.2 When an engine change occurs, post a brief entry in the next open date line. Reopen entries for the new engine, together with active entries of other columns in the TOTAL row. Transcribe total cycles/hours accumulated on the removed engine to the engine AFTO Form 95. Extract accumulated cycles on the newly installed engine from the AFTO Form 95.

5.14.1.14 CARRIED FWD: When all rows have been completely filled in or when rows have been utilized to the extent that initiation of a new 781J becomes necessary; total all columns in the appropriate blocks in the CARRIED FWD row. Carry these individual totals along with other applicable data forward to the appropriate blocks of the new AFTO Form 781J.

5.14.1.15 When corrections are made to the airframe and engine operating time and cycle documentation data, enter them in red to highlight the changes.

5.14.1.16 For jet engine powered missiles, use the AFTO Form 781J to document the missile airframe time and engine operating time. Missile airframe time will be the same as each day’s flight time of the carrier aerospace vehicles. The total missile airframe time will be cumulative for the life of the missile. Engine operating time will be cumulative for the installed engine and the document will be appropriately adjusted when an engine change occurs. When missile forms are carried aboard the aerospace vehicle, the aircrew will ensure the time entries are made.

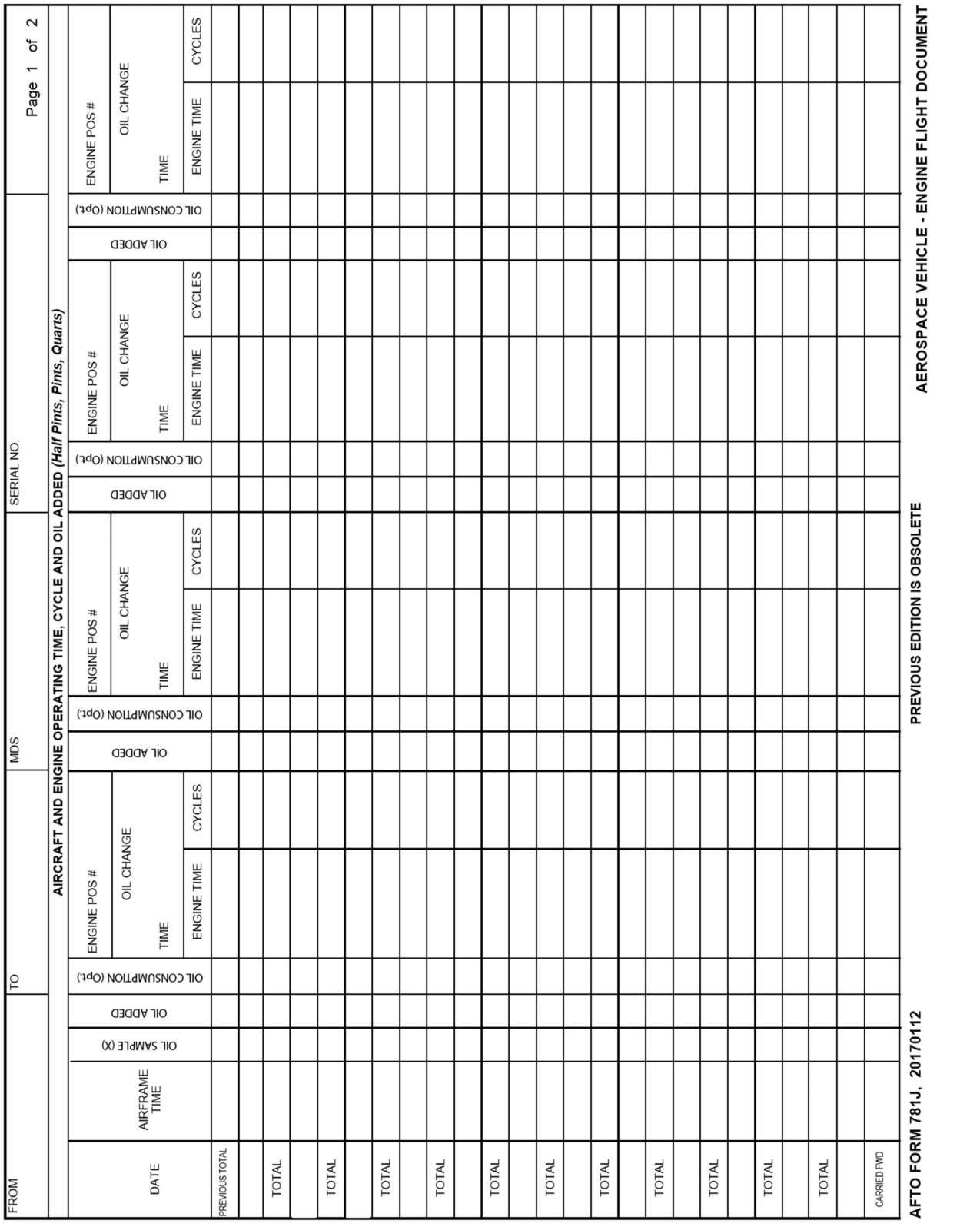


Figure 5-16. AFTO FORM 781J, Aerospace Vehicle Engine Flight Document

FROM	TO	MDS	SERIAL NO.	Page 2 of 2

AIRCRAFT AND ENGINE OPERATING TIME, CYCLE AND OIL ADDED *(Half Pints, Pints, Quarts)*

DATE	AIRFRAME TIME	OIL SAMPLE (X)	OIL ADDED	OIL CONSUMPTION (Opt.)	ENGINE POS #		OIL ADDED	OIL CONSUMPTION (Opt.)	ENGINE POS #		OIL ADDED	OIL CONSUMPTION (Opt.)	ENGINE POS #		OIL ADDED	OIL CONSUMPTION (Opt.)	ENGINE POS #	
					OIL CHANGE TIME				OIL CHANGE TIME				OIL CHANGE TIME				OIL CHANGE TIME	
					ENGINE TIME	CYCLES			ENGINE TIME	CYCLES			ENGINE TIME	CYCLES			ENGINE TIME	CYCLES
PREVIOUS TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
TOTAL																		
CARRIED FWD																		

AFTO FORM 781J, 20170112 **PREVIOUS EDITION IS OBSOLETE** **AEROSPACE VEHICLE - ENGINE FLIGHT DOCUMENT**

G1603873

Figure 5-17. AFTO FORM 781J, Aerospace Vehicle Engine Flight Document (Reverse)

5.15 AFTO FORM 781K, AEROSPACE VEHICLE INSPECTION, ENGINE DATA, CALENDAR INSPECTION, AND DELAYED DISCREPANCY DOCUMENT.

(Figure 5-18 and Figure 5-19)

5.15.1 AFTO Form 781K Documentation Instructions. Enter the appropriate heading entries (Date(From/To), MDS, and Serial Number) at the top of the form in accordance with the instructions that apply to the AFTO Form 781H (Paragraph 5.13.1.2).

5.15.1.1 The GP/CC may approve use of a separate AFTO Form 781K for each aerospace vehicle engine. This form will be maintained in the aerospace vehicle forms binder. All AFTO Form 781K Block entries are mandatory. Standardize entries among like engines. The AFTO Form 781K(s) will stay with the engine upon removal. File these engine AFTO Form 781K(s) directly following the aerospace vehicle AFTO Form 781K.

5.15.1.2 Block A, AEROSPACE INSPECTION STATUS: Use the boxes to the right of the title NEXT PERIODIC, MAJOR OR PHASED INSPECTION DUE NO. to document the number and type of the next inspection due. Use the TYPE, COMPL, and NEXT DUE columns to identify the types of inspections involved, including Home Station Check (HSC) and Hourly Post-flight (HPO), the airframe time or date an inspection was completed; and the airframe time or date an inspection is next due. Upon completion of the prescribed inspection listed in this block, line out the old COMPL and the NEXT DUE entries and enter the new COMPL and NEXT DUE time.

5.15.1.3 Block B, ENGINE DATA: This block is provided to record engine position, serial number, and engine change due time. In the ENG SER NO, enter the serial number of each engine in the box to the right of the applicable number that denotes the position in which each engine is installed. In the ENG CHANGE DUE TIME column, enter the aerospace vehicle/engine time at which the next engine change is due. Transcribe only current engine entries when initiating a new form. This block may be left blank for ATDs and for aerospace vehicles which have engine history recording devices installed. For aerospace vehicles with modular engines, the time change due date will be based on the lowest time remaining module. Aerospace vehicles with Engine History Recorders (EHR) will enter EHR serial numbers under the engine change due time.

5.15.1.4 Block C, CALENDAR AND HOURLY INSPECTION SCHEDULE: Use this block to document inspection items that are to be inspected or tested at a specific hourly or calendar period. List calendar and hourly inspections with frequency and next due date. Items listed will be primarily those short-term special inspection requirements that frequently become due. Short-term items are those having an interval of less than six months or an hourly interval less than the periodic inspection interval. After completion of inspection, line out the date or hourly inspection that was due. In the NEXT DUE date block, annotate when the next inspection, calendar or hourly, is due. When an inspection is overdue, an AFTO Form 781A entry will be annotated with appropriate Red symbol. For control purposes, load all installed aircrew flight equipment items in the MIS.

5.15.1.5 Block D, DELAYED DISCREPANCIES, URGENT ACTION, AND OUTSTANDING ROUTINE ACTION TCTOs: Enter all delayed discrepancies, urgent action TCTOs, Category I routine action safety modification TCTOs, outstanding routine action TCTOs or commercial equivalents in this block. Delayed discrepancies may be transferred from the AFTO Form 781A or upon completion of scheduled maintenance from the MIS-generated discrepancy form or WCD. Transfer urgent action and Category I routine safety TCTOs from the AFTO Form 781K to the AFTO Form 781A upon notification of applicability in anticipation of immediate accomplishment. List open TCTOs grounding within 120 days and any part/component in overfly. When compliance with routine action Category I TCTOs or commercial equivalents for which kits or parts are available depends upon prior compliance with depot TCTOs, time computation for application of the Red Diagonal does not begin until the depot work is accomplished. After the depot work is accomplished, apply the Red Diagonal at the specified number of days in the category I TCTO. For IMDS units, at a minimum, mandatory entries for deferred discrepancies are SYM, JOB CONTROL NUMBER, and DOCUMENT NUMBER (if parts are required). At a minimum, mandatory entries for TCTOs are TCTO NUMBER, and GROUND DATE/TIME (date TCTO grounds).

5.15.1.5.1 Enter symbols in the SYM column of the AFTO Form 781K to reflect the seriousness of the particular discrepancy. Some rules concerning symbol entries are:

5.15.1.5.1.1 Never enter a Red X on the AFTO Form 781K; only use Red Diagonal and Red Dash symbols. Once entered, symbols will not be erased or initialed over.

5.15.1.5.1.2 When the symbol for a TCTO or a discrepancy entered on the AFTO Form 781K is to be upgraded, transfer that TCTO or discrepancy to the AFTO Form 781A. Enter the upgraded symbol in the AFTO Form 781A SYM block.

5.15.1.5.1.3 If a symbol is entered in error, the person making the entry will enter the following statement in the DELAYED DISCREPANCIES OR TCTO NUMBER AND PUBLICATION DATE block: “Symbol entered in error, discrepancy and correct symbol reentered below.” The person will enter their employee number or USERID in the TRANSFER BY EMPLOYEE NUMBER block. Then reenter the discrepancy, with the correct symbol, on the next open row.

5.15.1.5.2 The assigned JCN will be entered in the JOB CONTROL NUMBER column.

5.15.1.5.3 Enter the delayed discrepancy narrative or TCTO number date, and short title in the DELAYED DISCREPANCIES OR TCTO NUMBER AND PUBLICATION DATE column. When delayed discrepancies are added to this section for reasons other than parts, a brief explanation will follow the discrepancy.

5.15.1.5.4 Enter the supply document number for all delayed discrepancies, if applicable, in the DOCUMENT NUMBER column. For TCTOs, no supply document number (when parts, kits, and tools are required) will be required.

5.15.1.5.5 Enter the TCTO grounding date or airframe time, as applicable, in the GROUND DATE/TIME column.

5.15.1.5.6 When a delayed discrepancy or TCTO entered on the AFTO Form 781K is to be corrected or accomplished, the entry must be transferred to the AFTO Form 781A or WCD prior to performing maintenance action. After the entry is transferred to the AFTO Form 781A, follow procedures for clearing AFTO Form 781A entries. When an aerospace vehicle is undergoing a scheduled inspection, transfer entries to an MIS-generated discrepancy form, WCD or to the AFTO Form 781A for corrective action or upgrading.

5.15.1.6 When it becomes necessary to initiate a new AFTO Form 781K, carry forward open delayed discrepancies, TCTOs, and other data affecting the status of the aerospace vehicle to the new form. Upon completion of the transfer action, the transcriber will enter their minimum signature in block D.

5.15.1.7 When an entry is transferred, the person accomplishing the transfer will enter their employee number or USERID for the entry in the TRANSFERRED BY EMPLOYEE NUMBER column. Line out the transferred entry with a single line except for the employee number block. The line will denote that the entry has been transferred. When a Red Dash symbol is involved, draw the line above or below the Red Dash, so it will not hide the symbol. Aerospace vehicles inducted into PDM will follow procedures specified in Paragraph 8.1.5.1.

FORM COMPLETION INSTRUCTIONS DEFINED IN TO 00-20-1

FROM	TO	MDS	SERIAL NUMBER

A. AEROSPACE INSPECTION STATUS				
NEXT PERIODIC, MAJOR, OR PHASED INSPECTION DUE NO.				
TYPE	COMPL	NEXT DUE	COMPL	NEXT DUE

B. ENGINE DATA					
	ENG SER NO	ENG CHANGE DUE TIME		ENG SER NO	ENG CHANGE DUE TIME
1			5		
2			6		
3			7		
4			8		

C. CALENDAR AND HOURLY INSPECTION SCHEDULE					
INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE

AFTO FORM 781K, 20160325 **PREVIOUS EDITION IS OBSOLETE** **AEROSPACE VEHICLE INSPECTION, ENGINE DATA, CALENDAR INSPECTION AND DELAYED DISCREPANCY DOCUMENT**

G1603874

Figure 5-18. AFTO FORM 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document

D.	DELAYED DISCREPANCIES, URGENT ACTION, AND OUTSTANDING ROUTINE ACTION TCTOs				
SYM	JOB CONTROL NUMBER	DELAYED DISCREPANCIES OR TCTO NUMBER AND PUBLICATION DATE	DOCUMENT NUMBER	GROUND DATE/TIME	TRANSFER BY EMPLOYEE NUMBER
OPEN ITEMS CARRIED FORWARDED TO NEW AFTO FORM 781K		SIGNATURE		EMPLOYEE NO.	

AFTO FORM 781K, 20160325

G1603875

Figure 5-19. AFTO FORM 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document (Reverse)

5.16 AFTO FORM 781M, STATUS SYMBOLS AND FUNCTIONAL SYSTEM CODES .

(Figure 5-20 and Figure 5-21) The AFTO Form 781M contains basic information to serve as an aid in making entries on the AFTO Forms 781A and 781K. If used, this form is inserted in a clear page holder and placed at the rear of the binder.

5.17 AFTO FORM 781P, SUPPORT GENERAL DOCUMENTATION RECORD.

(Figure 5-22). Support General Documentation records are those maintenance actions that are considered routine in the day to day support of the weapon system operations. Support General includes parking, fueling, cleaning, documentation, unpacking, scheduled and unscheduled inspection, etc.

5.17.1 AFTO Form 781P Process. MAJCOMs have the option of requiring Support General reporting.

5.17.1.1 When an automated system is unavailable, document Support General Codes which begin with 03, 04, and 09 on the AFTO Form 781P.

5.18 PAPERLESS PROCESS.

5.18.1 Utilizing Paperless Process. When utilizing the paperless process and AFTO Form 367 (Figure 5-23), locally developed lists or WCDs are not used. All MAJOR (Red X) discrepancies will be entered directly into the Maintenance Information System (MIS).

5.18.1.1 If a paperless inspection process is approved by the MXG/CC and utilized, units will develop specific procedures and publish them in a Base/MXG supplement or instruction. The following minimum guidelines will be met:

5.18.1.1.1 Prior to beginning the paperless process, verify all forms entries are in the MIS and pull the aircraft forms.

5.18.1.1.2 Units will locally develop a cover sheet strictly for the use of forms pulled for the paperless process. At a minimum, the cover sheet will include the following information: aircraft tail number, aircraft forms dates, including from date and date inactivated, reason for removal (i.e. paperless inspection), number of pages removed from each type of form (i.e. 781A, 16 pages inactivated), the statement “I verify that all open entries have been entered/validated in IMDS/G081”, printed name and employee number of coordinator/dock chief/team leader, followed by their signature. These permanently inactivated forms will be filed in the aircraft jacket file with the inspection package.

5.18.1.1.3 If an impoundment is needed during a paperless process, use unit directed impoundment program procedures as directed by DAFI 21-101.

5.18.1.1.4 Units may use the AFTO Form 367 or a locally developed/approved gig sheet to document minor discrepancies. All MAJOR (Red X) discrepancies will be documented in the MIS. Upon completion of the inspection, gig sheets will be filed in the aircraft jacket file as part of the inspection package.

5.18.1.1.5 Units will develop procedures that address what to do in the event of an extended MIS or power outage.

5.18.1.1.6 Units will develop procedures that address how they will display informational notes, aircraft warning notes and warning tags. Warning tags will be documented per Paragraph 5.7.1.3.11.5.

SYSTEM NUMBERS, GENERAL GROUPING, AND SYSTEM TITLES

AIRCRAFT SUPPORT GENERAL

1 Ground Handling, Servicing and Related Tasks.

2 Aircraft Cleaning - Includes washing, decontamination corrosion

3 "Look" Phase of Scheduled Inspection - Includes all work such as greasing, etc., included on work cards and minor fixes such as tightening clamps and connections and unbuttoning up the aircraft.

4 "Look" Phase of Special Inspections - Includes items of work as defined for 03 above.

5 Preservation, Depreservation, and Storage of Aircraft, Engines, and Associated Equipment.

6 Ground Safety - Includes disarm and rearm seat, canopy, and other explosive squibs and disconnect or reconnect battery.

7 Preparation and Maintenance of Records.

8 Shop Support General.

AIRCRAFT BASIC

11 Airframe

12 Cockpit and Fuselage

13 Landing Gear

14 Flight Control

15 Helicopter Rotor System *(Rotors, Hub Controls)*

16 Escape Capsule

17 Aerial Recovery System

18 Vehicle or Short Take Off and Landing (VISTO) Power and Transmission System

POWER PLANTS

19 Engine Starting

21 Reciprocating Power Plant

22 Turbo-Prop/Turbo Shaft Power Plant

23 Turbo-Jet or Turbo-Fan Power Plant

24 Auxillary Power Plant

25 Rocket Power Plant

26 Helicopter Rotary Wing Drive System

27 Turbo-Jet or Turbo Fan Power Plant *(Accessory Gear Box (B-1 Only)*

PROPELLERS

31 Electric

32 Hydraulic

33 Electro-Hydraulic

34 Mechanical and Fixed Pitch

UTILITIES

39 Ice and Rain Protection

41 Air Conditioning, Pressurization and Surface Ice Control

42 Electrical Power Supply

43 Electrical Multiplex (EMUX)

44 Lighting Systems

45 Hydraulic and Pneumatic Power Supply

46 Fuel System

47 Oxygen System

48 Indicating/Recording

49 Miscellaneous Utilities - Includes fire extinguishing, fire detection, water, personnel warning, overheat warning, JATO systems and VGH Recording Systems.

INSTRUMENTATION

51 Instruments

52 Auto Pilot

53 Drone Airborne Launch and Guidance System

54 Telemetry

55 Malfunction Analysis and Recording Equipment

56 Automatic All Weather Landing System

57 Integrated Guidance and Flight Control - Includes Auto Pilot When Part of Integrated System

COMMUNICATION EQUIPMENT

59 Crew Communications

60 VLF/LF Communication

61 HF Communication

62 VHF Communication

63 UHF Communication

64 Interphone, Audio Switching, and Recording

65 IFF/SIF

66 Emergency Communications

67 SHF/EHF

68 AFSATCOM

69 Miscellaneous Communications Equipment

NAVIGATION, BOMB-NAV, FIRE CONTROL WEAPONS DELIVERY, ELECTRONIC COUNTERMEASURES, PHOTOGRAPHIC:

70 Nuclear Detection

71 Radio Navigation

72 Radar Navigation

73 Bombing Navigation

74 Fire Control

75 Weapons Delivery

76 Electronic Countermeasures

77 Photographic/Reconnaissance

81 Airborne Command and Control Surveillance Radar *(AWACS)*

MISCELLANEOUS EQUIPMENT:

82 Computer and Data Display *(Graphic)*

89 Airborne Battlefield Command Control Center *(Capsule)*

91 Emergency Equipment

92 Tow Target Equipment

93 Drag Chute Equipment

94 Meterological Equipment

95 Smoke Generator, Scoring and Target Area Augmentation Systems and Airborne Cooperational Equipment.

96 Personnel and Miscellaneous Equipment

97 Explosive Devices and Components *(Excluding Nuclear)*

98 Atmospheric Research Equipment

99 R&D Research and Development

AFTO FORM 781M, 20180227 **PREVIOUS EDITION IS OBSOLETE** **STATUS SYMBOLS AND FUNCTIONAL SYSTEM CODES**

G1603876

Figure 5-20. AFTO FORM 781M, Status Symbols and Functional System Codes

CODES ON AFTO FORM 781A ENTRIES	STATUS SYMBOLS
PILOT WILL REPORT ON A Forced landings due to weather or other nonmaterial failures. B Forced landings resulting from mechanical or material failures. C Extremely hard landings. D Exceeding of airspeed imitiations. E Overtemperature encountered on jet engines. F Chemical, Biological or Radiological Contamination and Decontamination. **WHEN DISCOVERED CODES** A Before Flight - Abort. B Before Flight - No Abort. C In Flight - Abort *(For aircraft this includes precautionary landings at the home station, intermediate station or final destination as a result of an inflight malfunction).* D In-flight - No Abort/During AGE Operation. E After Flight. F Between Flights - Ground Crew *(when not associated with an inspection)* /During Unscheduled Maintenance (AGE). G Ground Alert - not Degraded/AIM 270 Day Checkout/AGM 18 Month Checkout H Basic Postflight, Thru flight or Alert Exercise Postflight Inspection/ AIM 30 Day Checkout/AIM 30 Day Storage Inspection. J Preflight or Combined Preflight/Postflight or End of Runway Inspections. K Hourly Postflight Inspection/Minor Inspection - Isochronal/AIM 120 Day checkout/AGM Combined Systems Checkout/AGM 45 Day Checkout. L During Training or Maintenance on Training Equipment. M Periodic/Phased/Major Isochronal Inspection/AIM 180 Day Checkout/60 Day GMT Inspection/AGM/TGM 12 Month Checkout. N Ground Alert - Degrade/AIM 360 Day Checkout/AGM 24 Month Checkout. P Engine Starting Q Reciprocating Power Plant R Turbo-Prop/Turbo Shaft Power Plant S Turbo-Jet or Turbo-Fan Power Plant T Auxillary Power Plant U Rocket Power Plant V Helicopter Rotary Wing Drive System W Turbo-Jet or Turbo Fan Power Plant X Helicopter Rotary Wing Drive System Y Turbo-Jet or Turbo Fan Power Plant Z "AGM Under Wing Check" Use of this code for aircraft equpped with MADREC should be limited to discrepancies discovered through analysis of MADREC tape. 0 Eddy Current. 1 Magnetic Particle. 2 During Operating of Malfunction Analysis and Recording Equipment or Subsequent Data Analysis. 3 Eddy Current. 4 Magnetic Particle. 5 Aircraft Interior Refurbishment. 6 All Other NDIs. 7 X-Ray. 8 Ultrasound. 9 Flourescent Penetrant.	**STATUS SYMBOLS** **RED C:** This symbol indicates that the aerospace equipment has been contaminated by a chemical, biological, or radiological agent and ensure that the equipment is properly marked/identified and life-cycle historical records are maintained. **RED X:** This symbol grounds the aircraft: maintenance required is of a serious nature and endangers the operation of the aircraft. No one will authorize or direct that an aircraft will be flown until the red x is properly cleared. **RED DASH:** This symbol indicates the condition of the equipment is unknown and a more serious condition may exist. **RED DIAGONAL:** This symbol indicates that an unsatisfactory condition exists on the aircraft or equipment; but, is not sufficiently urgent or dangerous to warrant grounding the aircraft or discontinuing use of the equipment. **BLACK LAST NAME INITIAL:** The initial placed over a red X, red dash or red diagonal means that the trouble has been corrected. A symbol will never be placed over the initial. **NOTE:** When a red dash or red diagonal is used, the Aircraft Maintenance Officer or Pilot will authorize a flight by signing the exceptinal release. Such authorization indicates that the officer has investigated the nature and extent of the defect and assumes full responsibility for mechanical safety in flight.

AFTO FORM 781M, 20180227

G1603878

Figure 5-21. AFTO FORM 781M, Status Symbols and Functional System Codes (Reverse)

1. DATE	2. TO	3. JOB CONTROL NO.	4. WORK CENTER	5. ID NO	6. SRD	7. CAT LAB

MAINTENANCE ACTION	JOB COMPLETIONS																														8. CODE	9. TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

AFTO FORM 781P, 20130821 PREVIOUS EDITION IS OBSOLETE **SUPPORT GENERAL DOCUMENTATION RECORD**

G1603879

Figure 5-22. AFTO Form 781P, Support General Documentation

AIRCRAFT DISCREPANCY GIG SHEET

1. AIRCRAFT TAIL NUMBER	2. INSPECTION AREA	3. PHASE JCN
4. INSPECTOR/AREA CHIEF *(Last name, first, middle initial)*		5. DATE (*YYYYMMDD*)

ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K
ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K
ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K
ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K
ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K
ITEM NO.	SUPPORT SHOP	DISCREPANCY	TRANS-FERRED TO AFTO FORM 781A OR K*
DISCOVERED BY			☐ 781A
CORRECTED BY (*Employee Number and Signature*)		CORRECTIVE ACTION	☐ 781K

** AFTO Form 781A, Maintenance Discrepancy And Work Document.*
AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection And Delayed Discrepancy Document.

AFTOForm 367, 20171103 **FOR OFFICIAL USE ONLY *(When Filled In)*** Page 1 of 1

T000-20-1-001

Figure 5-23. AFTO Form 367, Aircraft Discrepancy Gig Sheet

CHAPTER 6
ACCESSORY REPLACEMENT AND REUSE PROCEDURES

6.1 GENERAL.

6.1.1 Accessory Replacement and Reuse. Accessories, as defined in this TO, include both Time Change Items (TCI) and Condition Replacement Items (CRI). Those accessories not identified in the applicable MDS specific -6 TO and maintenance manual as TCI are CRI. CRI only require replacement when it is determined they are operationally unserviceable.

6.1.1.1 Do not remove items from aerospace equipment involved in a mishap until investigation personnel authorize such removals. Reuse of parts or accessories from wrecked or damaged aerospace equipment requires extreme caution. Before considering reuse, use the appropriate TOs to conduct thorough testing and/or inspections of items that may have been damaged. Although the external appearance may indicate that the item was not damaged, hidden flaws may exist due to stress, strain or other forces that can only be detected by testing and inspection. Items routed for test and/or inspection will include a notation on the AFTO Form 350 that the item was removed from wrecked or damaged aerospace equipment. In the absence of appropriate TOs contact the PM through the MAJCOM for guidance.

6.1.1.2 Designation of parts removed from aerospace equipment contaminated with chemical, biological or radiological agents will be labeled with the contamination date and type of agent on an AFTO Form 350. Equipment markings will ensure all handlers of the contaminated parts are aware of possible residual contamination hazards. Removed parts not repaired and replaced must be disposed of per AFMAN 10-2503.

6.2 TCI REPLACEMENT.

6.2.1 Replacement Policies. Items designated as TCIs are replaced at specified intervals. The primary objective of the time-change replacement program is to achieve maximum utilization of components consistent with the economic operation of aerospace equipment without jeopardizing flight or operational safety. Time-change replacement requirements are prescribed only for those items that have a measured service life expectancy and that display an age related failure pattern, (e.g., failures rise sharply at some given operating time or age of an item).

6.2.1.1 TCIs must fall into one or more of the following categories to be a valid candidate for time-change replacement:

6.2.1.1.1 Items whose failure due to location or function within a system would compromise safety of flight of airborne systems or the operational safety of ground equipment.

6.2.1.1.2 Items whose failure due to location or function within a system would definitely cause a mission to abort or ground equipment failures for excessive downtime of mission critical items.

6.2.1.1.3 Items for which a failure might cause damage beyond economical repair.

6.2.1.1.4 Items whose physical characteristics allow an accurate prediction of deterioration from calendar time or hours in operational use.

6.2.1.2 The replacement schedule in the -6 or inspection workcards are the only authority for the scheduled replacement interval of accessory and components, except for the following deviations:

6.2.1.2.1 TO 2-1-18, will be used as the authority for scheduled replacement of reciprocating engines, gas turbine engines, and propeller reduction gearboxes.

6.2.1.2.2 The 11P or 11A series TOs will be used for scheduled replacement of explosive devices. Service life requirements for AFE items can be found in specific TOs, for example 14D, 14S, 15X, etc.

6.2.1.2.3 The MDS specific -6 TOs or inspection workcards will make note of each listed item and reference the applicable commodity series TOs. These TOs will serve as authority if in conflict with the MDS specific -6 TOs or workcards.

6.2.1.3 Replacement intervals for any specific item are based on the aerospace equipment installation and utilization, rather than being a general replacement interval for all applications. Based on this rule, the replacement interval for an identical item may vary considerably for different aerospace equipment application.

6.2.1.4 Equipment in an operational status used for ground instructional purposes will have the TCIs replaced at the specified replacement interval. Compute operating time accrued on accessories installed on the equipment while in such status by multiplying the estimated monthly usage by the number of months that the equipment is in such status.

6.2.1.5 Consider replacing TCIs at the next hourly post-flight, home station check, phased, periodic, minor or major isochronal, scheduled PDM, etc. nearest to the replacement date. Base the determination of the nearest inspection for calendar TCIs on the average or projected utilization of the aerospace equipment for any given period. As an example, if an aerospace vehicle having a 26-hour inspection cycle accrues an average of 25 hours each month and is undergoing an inspection on the first day of the month, any calendar TCIs due for change between the 1st and 15th of that month are due for change at that inspection. Similarly, any calendar TCIs due for change between the 16th and the last day of that month will be considered due for change at the next inspection.

6.2.1.5.1 MAJCOMs may waive the requirement to replace time changes at hourly post-flight when the interval is 50 hours or less. This policy enhances effective maintenance scheduling, reduces equipment downtime, and eliminates the need for checking replacement documents on a daily basis.

6.2.1.5.2 The expiration date for both the service and shelf life on life sustaining or Cartridge Actuated Device/Propellant Actuated Device (CAD/PAD) items will be the last day of the expiration month.

NOTE

EXCEPTION: Service limits of life sustaining or CAD/PAD items cannot exceed the limits imposed by Table 6-1 and Table 6-2. Units should schedule these items for replacement at the nearest scheduled inspection prior to expiration of service life established by the applicable series TOs.

6.2.1.5.2.1 Requests for new or existing CAD/PAD shelf/service life extensions will be submitted through the AMMO and Agile Munitions Support Tool (AMST)-Global Ammunition Control Point (GACP) website located in the Air Force Portal. Request for access is required. Once in the website, select the JPO CAD/PAD link under Menu/Munitions Division Websites, select Electronic Temporary Extension Management System (E-TEMP) System, and then select the applicable process. After completing all required information select submit. The required engineering analysis will be accomplished by the applicable JPO CAD/PAD engineer and provided to the applicable system program office with recommendation to either extend or not extend the items as requested. The system program office will provide a list of personnel that extension requests can be forwarded to for approval at the JPO CAD/PAD office (784CBSG/GJ, Hill AFB) (AFLCMC/EBHJ, Hill AFB). The designated personnel at the system program office will have final approval authority over the requested extension. For those who cannot gain access to the E-TEMP system contact Customer Service at DSN 775/777-2666 or commercial (801) 775/777-2666 for assistance. All extension requests should be submitted at least 30 days prior to expiration to allow sufficient time to be processed through the system. System program offices may request additional processing time.

6.2.1.5.2.2 Requests for AFE items shelf/service life extensions should be forwarded through appropriate MAJCOM focal point to the sustaining authority as identified in TO 14-1-1. The system engineer will consider shelf/service life extensions based upon item application and engineering technical analysis. The intent is to preclude unnecessary aerospace vehicle grounding.

6.2.1.6 TCI Operating Time. When the previous operating time of a TCI is unknown or known to be invalid refer to Table 6-2.

6.2.1.7 During depot processing, replace TCIs only if due, as indicated by the TCIs replacement documents. It may be more expedient and less expensive to accomplish replacement of some TCIs at the depot. The annual workload conference should review those TCIs that may be candidates for depot change because of accessibility or other factors. The candidates would then be negotiated for change prior to PDM input when their accumulated time was high in relation to their specific replacement interval. The item must be included on the applicable AFTO Form 103.

6.2.1.8 Continue processing aerospace vehicle/missile time-change items (except helicopter gearboxes) for shipment to areas outside the Continental United States (CONUS) when the accumulated time of the item, plus 150 hours, does not exceed the specified replacement interval. Helicopter gearbox accumulated time must not exceed 50 percent of the established replacement interval. These procedures do not apply to aerospace equipment possessed by overseas activities being delivered to CONUS facilities for maintenance and return to the owning organization. In these cases, the provisions of TO 00-25-4, will apply.

6.2.1.9 Those items having a replacement interval of 150 hours or less will be replaced with zero-time items during processing.

6.2.1.10 Those items having replacement interval expressed in calendar time may be continued in use if they have four months of service life remaining.

6.2.1.11 Those items to be continued in use will be given a thorough inspection and functional test to determine operational serviceability.

6.2.1.12 Forecasting procedures for TCIs are contained in TO 00-20-9.

6.3 TCI REUSE.

6.3.1 Reuse Policies. When TCIs that have been previously used are installed on aerospace equipment and the replacement interval is the same (see Paragraph 6.2.1.3), enter the previous time in use on the appropriate time change item replacement documents or automated system. If the previous scheduled replacement interval is different from the scheduled replacement interval for the aerospace equipment on which the item is being installed, recompute the operating time as follows:

a. Compute the operating time for the new installation by obtaining the previous operating time from the DD Form 1574 or historical documents, and subtract this figure from the former scheduled replacement interval.

NOTE

For CAD/PAD items, the following steps do not apply.

b. Divide the resulting figure by the replacement interval of the former installation and multiply by 100 to obtain the percentage of remaining operating time on the item.

c. Multiply the resulting percentage by the replacement interval time for the aerospace equipment in which the item is to be installed. This provides the remaining operating time for the item, which is used to determine the time the next replacement is due.

6.3.1.1 When a TCI is removed prior to expiration of the replacement interval for repair, TCTO compliance or because of modification of the aerospace equipment, reuse the item as governed by the following requirements (excluding CAD/PAD):

6.3.1.1.1 An item may be reused after minor repair or modification when the accumulated time on the item plus 100 hours does not exceed the replacement interval specified in the scheduled inspection and maintenance requirements manual.

6.3.1.1.2 If an item cannot be made serviceable through minor repair, modification or, if its remaining life is 100 hours or less, completely overhaul the item prior to reuse. If a complete overhaul is beyond base level capability, process and ship the item to a depot facility.

6.3.1.1.3 An item having a calendar replacement interval may be reused after minor repair when more than three months of service life remains. If less than three months remains, completely overhaul the item prior to reuse.

6.3.1.2 When an item installed in aerospace equipment is newly selected as a TCI, and the aerospace equipment's age is less than the prescribed replacement interval for the item, assume that the operating time of the TCI is the same as the aerospace equipment if no other data (historical, MIS, etc.) can validate the installation date/time of the item.

6.3.1.2.1 When both an hourly and calendar interval are prescribed for the added item, base the calendar age on the ratio of the aerospace equipment age to the hourly replacement interval. For example; an item has an age of 300 hours and

requires replacement at 500 hours (or if three years were added to the replacement schedule), assume that 3/5 of the calendar interval has been consumed and that 2/5 or 14 months of the calendar age remains.

6.3.1.3 For class A-2 and B-2 engine accessories, assume the item was installed at the last engine change. When engine power packs are involved, assumed the operating time is the same as the power pack time since last overhaul.

6.3.1.4 Conditional replacement items may be removed from one type of aerospace equipment, and restored to a serviceable condition through off-equipment maintenance or minor repair, then issued for installation on aerospace equipment where it will be a TCI. Partial service life will have accrued; however, because the item has been a conditional replacement item, a "previous operating time" entry could not be made on the serviceable tag. To determine service life status of these items, maintenance personnel must examine the serviceable tag on each time change item prior to installation, determine the tag's source of initiation, and take one of the following courses of action:

6.3.1.4.1 If the serviceable tag was initiated by the manufacturer or an AFMC overhaul facility, assume the item has zero operating time.

6.3.1.4.2 If the serviceable tag was initiated by an operating location or centralized repair facility, assume that the item has 50 percent of its service life remaining.

6.3.1.4.3 When an operating location or centralized repair facility is authorized to overhaul items as prescribed in the aerospace equipment maintenance manuals, consider these items as having zero operating time. Identify items overhauled at these maintenance facilities with the word "overhauled" stamped across the face of the serviceable tag.

6.3.1.4.4 Do not zero the operating time for limited life items.

6.3.1.4.5 Retain total time since manufacture for all document purposes.

Table 6-1. Red Symbol Entries for Installed Aerospace Equipment Time Change Items

Part 1			
Aerospace Equipment Time Change Items Rules			
	A	B	C
Rule	If an aerospace equipment time change item:	And maintenance:	Then maintenance will:
1	is determined due replacement at its nearest inspection to its due date	fails to replace the item at the next scheduled inspection excluding, preflight, thru flight, and basic post flight	place a Red Dash in the applicable maintenance forms indicating that the time change is due replacement *
2	was determined due because the replacement time expired with no approved extension/waiver from the program office/appropriate item manager on file:	fails to replace the item	place a Red X in the applicable maintenance forms indicating that the time change is due replacement.
Part 2			
Life Sustaining Aerospace Equipment Time Change Items Rules			
	A	**B**	**C**
Rule	**If a life sustaining time change item identified with an asterisk in the -6 or a CAD/PAD item:**	**And maintenance:**	**Then maintenance will:**
3	is determined to be due at the next applicable inspection, and that inspection will occur after the items replacement time/date has expired	does not replace the item when the item replacement time/date expires	place a Red X in the applicable maintenance forms indicating that the item is due replacement prior to the next flight or operation

Table 6-1. Red Symbol Entries for Installed Aerospace Equipment Time Change Items - Continued

Part 1			
Aerospace Equipment Time Change Items Rules			
	A	B	C
Rule	If an aerospace equipment time change item:	And maintenance:	Then maintenance will:
4	is determined to be due at the next applicable inspection, and that inspection will occur before the times replacement time/date has expired	does not replace the item during the inspection	place a Red dash in the applicable maintenance forms indicating that the item is due replacement at the expiration of replacement time/date
5	was entered in the forms as a Red dash indicating replacement due at the expiration of the replacement time/date	does not replace the item when the replacement time/date expires	place a Red X in the applicable maintenance forms indicating the item is due replacement prior to the next flight or operational use
* Note: TCIs cannot exceed replacement interval in applicable -6 and commodity TOs without an approved extension/waiver from the program office/appropriate item manager per DAFI 21-101.			

Table 6-2. Processing Time Change Items Where Previous Operating Time is Unknown or Known to be Invalid

	A	B	C
Rule	If aerospace equipment time change item (includes CAD/PAD) has a previous operating	And the time change item is:	Then maintenance will:
1	time which is unknown or known to be invalid:	life sustaining installed in an aerospace vehicle	place a Red X in the applicable maintenance forms indicating that item is due replacement prior to the next flight or operational use
2		life sustaining not installed in an aerospace vehicle	process for overhaul in accordance with TO 00-20-3
3		not life sustaining and is installed in an aerospace vehicle	estimate the previous operating time at 50 percent of the service life and continue to use
4		not life sustaining and not installed in an aerospace vehicle	process in accordance with TO 00-20-3 for condition determination. If serviceable or made serviceable by minor maintenance, estimate previous operating time at 50 percent of serviceable life. If made serviceable through an authorized overhaul, it may be considered as having zero operating time unless notification has been issued to the contrary by the overhaul facility

CHAPTER 7
SUPPORT EQUIPMENT (SE)

7.1 SE DEFINED.

Support Equipment (SE) is a broad family of off-aircraft accessory assets that facilitate weapon system, command and control system, support system, advanced objective, subsystem, or end item on or off equipment/aircraft maintenance, operational/functional checks, and sortie generation. Major categories of SE include; powered and non-powered Aerospace Ground Equipment (AGE); Propulsion Support Equipment; Depot Industrial Plant Equipment (DIPE); Test, Measurement and Diagnostic Equipment (TMDE); Automated Test Systems (ATS); Munitions Materiel Handling Equipment (MMHE).

NOTE

Industrial plant equipment and non-depot industrial support equipment (powered machinery and shop equipment) will follow TO 34-1-3.

7.1.1 Defense Property Accountability System (DPAS) Maintenance and Utilization (M&U). DPAS M&U module is the new AF system of record for all aircraft and weapon system maintenance Support Equipment (SE) or SE Maintenance Information System (SEMIS). DPAS M&U module is the SEMIS for aviation maintenance SE, maintenance scheduling, maintenance documentation, history, and operational status, unless a waiver to utilize a different SE MIS is granted by HAF/A4LM. HAF/A4L has approved interim guidance for DPAS M&U documentation processes during this transition for SE maintained within DPAS M&U located at: https://usaf.dps.mil/:f:/r/teams/afdpassemis/Policy/Official%20DPAS%20M%26U%20Interim%20Guidance?csf=1&web=1&e=Td53fx. This interim guidance will be utilized until DPAS M&U is Fully Operational Capable (FOC).

7.1.2 AGE. AGE is defined as the CSE and PSE directly used in the servicing, maintenance, handling, and mission generation of Mission Design Series (MDS) related weapons systems based on applicable Allowance Source Codes (ASC). These items only fall within on-equipment flight line maintenance and off-equipment flight line maintenance supporting ASCs that are applicable to MDS related weapons systems.

NOTE

- AGE must be identified in MDS related weapons system Allowance Standards in the parts, sections, subsections, and columns specifically designated for AGE. Installations with unique MDS related weapons systems (e.g., new and/or emerging weapon and support systems) which do not have fully developed Allowance Standards will categorize SE items based on the AGE Flight Chief's discretion.
- The only exception to Allowance Standards that are applicable to MDS related weapons systems are SE items assigned to local Air Education and Training Command (AETC) units for Field Training Detachment (FTD) purposes.

7.1.2.1 Any like or similar SE items which are not directly used in the servicing, maintenance, handling, training, and mission generation of MDS related weapon systems is not to be considered AGE. Examples include, but are not limited to, Propulsion SE, Non-powered MMHE (with exception to Manually Operated Lift Truck, Launcher Module Handling Assembly & Bomblift Mounted Mechanical Ram), Low-Observable SE, Dock Stands, and equipment cited against ASC not applicable to AGE (e.g., Civil Engineering, Vehicle Maintenance, Security Forces, etc.).

7.1.2.2 Servicing and maintenance on user purchased equipment is the responsibility of the purchasing agency and will not be sustained or maintained by the AGE Flight. If servicing, sustainment or maintenance on SE items is disputed at the local level, the asset must be approved by the AGE Support Equipment Working Group prior to the AGE Flight servicing, sustaining or maintaining the asset.

7.1.3 TMDE. Consult TO 33K-1-100-2, TMDE Calibration Notes, Calibration Interval, Technical Order, and Work Unit Code Reference Guide, supporting PMEL or AFMETCAL to determine if an item of equipment is TMDE.

7.1.4 Training Equipment. Training equipment includes aircraft, missiles (with the exception of Air-to-Air and Air-to-Ground missiles), maintenance and operator training equipment in Federal Supply Group (FSG) 69; also included is all maintenance training equipment (trainers, bench training sets and standard Air Force material) used at resident training centers, training detachments or used in operational organizations for training purposes. Trainers that are used as primary aerospace vehicle/aerospace vehicle system trainers or aircrew academic training devices in FSG6930, Group I, will use the AFTO Form 781 series which are maintained in accordance with this TO.

7.1.5 Machinery/Shop Equipment. TO 34-1-3 provides general policy for the inspection and maintenance of commercial type shop machinery and equipment installed in organizational, intermediate, and depot maintenance facilities and other USAF industrial facilities. All discrepancy, maintenance, and inspection documentation on machinery/shop equipment will be performed in accordance with TO 34-1-3.

7.1.6 Propulsion Support Equipment. Propulsion Support Equipment (PSE) is defined as equipment that is used to facilitate the transportation, storage or maintenance of engine or propeller assemblies and their components. This equipment includes, but is not limited to, aircraft engine trailers, ground handling adapters, ground handling cradles, propeller trailers, hoisting adapters, aircraft maintenance fixtures, noise suppressors, engine test stands, aircraft engine fixtures, etc.

7.1.6.1 AFTO Form 244 is not required if PSE is controlled by the assigned home-station support section, issued prior to use, and have inspections tracked in TCMax®. An AFTO Form 244 must accompany PSE if the equipment is moved off home-station. Location/possession/assignment/serviceability of PSE will be serially tracked in Defense Property Accountability System (DPAS) Maintenance & Utilization Module.

7.2 AFTO FORM 244/245.

The AFTO Form 244 will be used to document SE discrepancies, corrective actions, record service, periodic and special inspection, record inspection status, and historical data including data on equipment contamination by chemical, biological or radiological agents. The AFTO Form 245 is a continuation form for Part V of the AFTO Form 244. It provides users with a means to document discrepancies and corrective actions as an extension of the AFTO Form 244.

7.2.1 AFTO Form 244 Usage. If Maintenance Information System (MIS) AFTO Form 244/245 capability exists (i.e., G081, IMDS, PCAMS), the MIS module may be used. Electronic AFTO Form 244/245s may be used in place of paper forms and may be filed electronically. Forms will be printed out and accompany SE when conditions in Paragraph 7.2.2 are met. Procedures provided throughout this chapter for documenting forms apply to both the electronic versions and hard copies.

7.2.1.1 Tracking programs such as TCMax®, may be used to track inspections.

NOTE

EXCEPTION: AGE must use an approved MIS. Use of a tracking program does not preclude use of an AFTO Form 244. See below for guidance concerning TMDE.

7.2.1.1.1 TMDE with recurring inspections (e.g., 90-day, 180-day, annual, etc.), as determined by the applicable inspection, engineering, and commercial technical manuals, work cards or checklists will have inspections tracked in the MIS tracking program or have an AFTO Form 244 per the following:

7.2.1.1.1.1 AFTO Forms 244 may be automated for non-dispatchable TMDE with recurring inspections.

7.2.1.1.1.2 Dispatchable TMDE with recurring inspections may have a hard copy AFTO Form 244. Ensure the identification information in the tracking program or MIS and on the AFTO Form 244 match.

7.2.1.1.1.3 Calibration and certification performed by a servicing PMEL are exempt from this requirement.

7.2.1.1.1.4 TMDE that requires PMEL certification only does not require an AFTO Form 244 and will be tracked in an approved tool accountability system. Non-dispatchable TMDE used in the PMEL will be tracked in PAMS only.

7.2.1.1.1.5 GP/CCs may determine additional specific uses of the AFTO Form 244 related to TMDE. GP/CC may approve local software products, such as Microsoft Excel, to track PMI intervals.

7.2.1.1.1.6 PMEL is not authorized to clear a Red X. The owning/using organization of the TMDE will ensure serviceability and clear the Red X condition after PMEL completed actions.

7.2.1.1.2 When a tracking program is used to track inspections, the tracking program may be referenced in Part III and Part V of the AFTO Form 244 (e.g., "See TCMax®")

NOTE

EXCEPTION: AGE scheduled inspection dates will be annotated on AFTO Form 244s or approved embedded electronic forms.

7.2.1.2 The AFTO Form 244 will be used on Vehicular SE. Vehicular SE does not include those special and general purpose vehicles assigned to Transportation, Civil Engineer, fuels activities, and those towing vehicles assigned to maintenance activities. Utilize AF Form 1800, Operators Inspection Guide and Trouble Report, to inspect deicers and high reach vehicles (Condor/Calavar). Reference AFI 24-302.

NOTE

AFTO Form 244 will not be used to track calibration due dates.

7.2.1.2.1 Unit purchased vehicles not supported by Vehicle Management may utilize the AFTO Form 244 to document discrepancies, corrective actions, record prior to use inspections, periodic inspects, and record inspection status. When a tracking program is used to track inspections, the tracking program may be referenced in Part III and Part V of the AFTO Form 244 (e.g., "See TCMax®").

7.2.1.3 The AFTO Form 244 is optional for use at Headquarters Aerospace Audio Visual units when using AFTO Form 95 for designated ground photographic equipment.

7.2.1.4 Use AFTO Form 244 or automated equivalent to document inspection requirements for comfort pallets and portable latrines.

7.2.1.5 When a new version of the AFTO Form 244 is released on ePubs, forms on equipment will be replaced through attrition. This replacement is determined by dates in Block 7, Period Cover.

7.2.2 AFTO Form 244 Applicability. The AFTO Form 244/245 will accompany all SE if any of the following conditions exist:

NOTE

F-35 SE will utilize approved MIS embedded electronic forms capabilities in accordance with applicable technical manuals.

7.2.2.1 The SE is dispatched for use by other agencies or work centers (e.g., commonly used powered and non-powered AGE, etc.).

7.2.2.2 The SE is due inspection and not within performing work center's complex.

7.2.2.3 The SE is on a Red X and not within owning work center's complex.

7.2.2.4 The SE is processed or stored for mobility, TDY or shipped/transferred between units (e.g. engine trailers, propeller dollies).

NOTE

EXCEPTION: ONLY when equipment use or size makes it hazardous or impractical for the form to accompany the equipment, the GP/CC must designate in writing equipment items meeting this criteria in order to maintain a separate file.

7.2.2.5 AFTO Form 244/245s not accompanying SE, as prescribed above, will be maintained in a separate file. These forms will be grouped together and kept in a file or binder in either the work center complex or in the production control/ support section having scheduling responsibility for the end item.

7.2.3 AFTO Form 244 Location. When AFTO Forms are located on the equipment they will be kept in a waterproof envelope, container or compartment in or on the equipment and will be readily available to user and maintenance personnel.

7.3 INSPECTION REQUIREMENTS.

NOTE

AGE periodic inspections are not considered overdue provided they are accomplished anytime during the due month regardless of the scheduled due date. Thereafter, a red dash must be placed in the applicable forms to inform the user that the inspection is past due.

Maintenance inspection requirements and accomplishment intervals for SE are identified in the applicable inspection, engineering, and commercial technical manuals, workcards or checklists. PMs are responsible for evaluating the inspection requirements and ensuring published guidance is available. The GP/CC approves inspection criteria for items of SE for which no inspection requirements are published and the possessing workcenter performs the inspections. Develop local inspection workcards/checklists as required, based on usage, location, and design of the item. However, when formal inspection workcards are published for similar equipment, those workcards will be used in lieu of locally developed workcards.

NOTE

EXCEPTION: F-35 SE will utilize ALIS embedded electronic forms capabilities in accordance with applicable technical manuals to document service inspections.

7.3.1 Servicing Inspection. This inspection is an equipment condition inspection outlined in the applicable inspection, engineering, and commercial technical manuals, workcards or checklists. This inspection will be accomplished in conjunction with equipment servicing, following major/minor maintenance (except bits and pieces and/or hardware that do not affect serviceability) or prior to placement on the ready-line. All service inspections will be documented on Part II of the AFTO Form 244.

7.3.2 Operator Inspection. This inspection is accomplished to ensure serviceability and safety of the equipment prior to use. It consists of a review of the forms (paper or electronic) for current status, and a visual inspection of the equipment for defects and adequate servicing. The operator inspection is the responsibility of the user. The operator inspection may be documented in Part II of the AFTO Form 244 at the option of the GP/CC. If during the operator inspection a defect is discovered, the operator will record the defect in Part V of the AFTO Form 244/245, and contact the equipment's owning work center or depot maintenance supervisor. GP/CC may require operator inspection prior to placement on dispatch/subpools.

7.3.3 Special Inspections. Special inspections are a type of scheduled, recurring inspections, typically at odd intervals that usually supplements other inspections and are accomplished because of special circumstances. Special inspections for SE are prescribed in the applicable inspection workcards. Special inspections which are accomplished upon accrual of specified operating hours or at expiration of a calendar period may be directed by TOs, checklists or workcards. Special inspections of a onetime or short duration nature may also be directed through TOs, TCTOs, Lead Command, MAJCOM or local directives. Document the special inspection completion on Part V and update the special inspection interval on Part III of the AFTO Form 244. In the event a condition exists (i.e.: mechanical failure, safety, serviceability, lack of needed parts) that prevents a special inspection from being accomplished on or before its due date, a red dash entry and statement indicating the inspection is due will be annotated in the AFTO Form 244/245, Block V. An inspection currently due must be accomplished as soon as the condition preventing its completion no longer exists, but not later than the next scheduled inspection, regardless of the type of inspection. Inspections not completed by the next scheduled inspection (regardless of type) will be upgraded to a Red X.

7.3.4 Scheduled Inspections and Lubrications. Inspection and lubrication requirements are accomplished upon accrual of specified operating hours or at expiration of a calendar period as directed by TOs, technical manuals, checklists or workcards.

7.3.4.1 For SE where the inspection at any time deems the item unserviceable, the unit will document accomplishment of the inspection in Part III of the AFTO Form 244 in accordance with Paragraph 7.6.3 and place the applicable red symbol in Part V in accordance with Paragraph 7.6.5.

7.3.4.1.1 An individual write-up is not required for items covered by the inspection work cards, provided the maintenance actions taken do not exceed associated steps required in the end-item TO. Maintenance actions not covered by the inspection work cards must be documented regardless of when they are discovered or completed.

7.3.4.2 For SE where the inspection does not deem the item unserviceable at any time, the Part III of the AFTO Form 244 will be updated in accordance with Paragraph 7.6.3 or approved embedded forms.

NOTE

EXCEPTION: F-35 SE will utilize ALIS embedded electronic forms capabilities and MM-PAIRS to document scheduled inspections.

7.3.4.3 In the event a condition exists (ie: mechanical failure, safety, serviceability, lack of needed parts) that prevents a scheduled inspection/lubrication from being accomplished on or before its due date, a red dash entry for the inspection will be annotated in the AFTO Form 244/245, Part V. An inspection currently due must be accomplished as soon as the condition preventing its completion no longer exists, but not later than the next scheduled major inspection (PH I, PH II, PE or equivalent). Inspections not completed by the next scheduled major inspection will be upgraded to a Red X. Exception: maintenance and inspection requirements on Munitions Materiel Handling Equipment (MMHE) and Support Equipment identified in the Master Nuclear Certification Listing must be completed no later than the maximum interval specified in the item specific technical order. For guidance on inspection and maintenance intervals on nuclear weapons test and handling equipment refer to TO 11N-35-51. For Cryogenics equipment, follow the applicable guidance as outlined in 37C2 series technical orders.

NOTE

Only during Contingency Operations (ie: Natural Disasters, declared National/State Emergencies, accidents, crises) or Wartime Conditions, the GP/CC or equivalent may defer portions of AGE recurring inspection requirements. Refer to equipment TOs, technical manuals, checklists or workcards for applicable specific guidance. When such deferments occur, AFTO 244/245, Part V shall be documented in accordance with Paragraph 7.3.4.3 of this publication.

7.3.4.4 MMHE Focal Point hand tools will be maintained in accordance with TO 32-1-101 unless otherwise noted in TO 35D-2-1 and 35D-2-2.

7.3.5 In Process Inspection (IPI). An IPI is an additional inspection or verification step at a critical point in the installation, assembly or reassembly of a system, subsystem or component. These inspections are either TO, MAJCOM or locally directed and are accomplished by IPI certified personnel.

7.3.5.1 An IPI is accomplished by an IPI inspector other than the technician performing the task. The technician performing the task notifies an IPI inspector at the appropriate step. The technician who ultimately clears the original discrepancy will ensure all applicable IPIs were completed.

7.3.5.2 Some digital TOs include IPIs displayed as a step in the task. The IPI executes as a process within the TO. Once executed, a WCE/WES is automatically created in the digital aircraft forms detailing the IPI task description. In this case, the IPI requirement is fulfilled and the following procedures do not apply.

7.3.5.3 The IPI inspector who completes the IPI will indicate completion of the IPI (s) in the corrective action block of the original discrepancy by stating, ″Required IPI (insert IPI task title or IPI description or IPI step number) complied with.″ If more than one IPI is required to complete the task, IPI inspector must identify number of IPIs in corrective action block such as, ″Three required IPIs (insert IPI task title or IPI description or IPI step number of three IPIs) complied with.″ If there is no room in the corrective action block, the IPI inspector will document IPI as a separate entry in the AFTO Form 244. Place the IPI (s) on a Red X and reference the original discrepancy(s).

7.3.5.4 IPI for off-equipment will be accomplished as follows:

7.3.5.4.1 IPIs will be documented in the same manner as on-equipment IPIs utilizing the AFTO Form 350.

7.3.5.4.2 Document engine off-equipment IPIs in the engine work folder. IPI documentation in the MIS is not required for off-equipment engine work.

7.3.6 Preventative Maintenance (PM). PM requirements are expressed as calendar events (daily, weekly, monthly, semi-annual, annual). Daily and weekly requirements work out mathematically by adding 1 day or 1 week (7 days) to the completion date. Monthly intervals will be expressed using a calendar interval. For example, date c/w 20170101 (1 Jan 17); due period 20170201 (1 Feb 17). Multiples of monthly intervals will follow the same format. I.e., semi-annual date c/w 20170101 (1 Jan 17); due period 20170701 (1 July 17). Prescribed intervals will be completed using the following due periods:

Interval	Due Period
Semi-annual or greater	Within due month
Semi-monthly, monthly, bi-monthly, quarterly	Within due month
Weekly	Within due week
Daily	On due date

7.3.7 Inspection Frequency. Unless specified differently in applicable equipment publications, inspections identified as monthly and annual inspections will be considered as such and not a 30 or 365 day inspection. The next inspection must occur by the last day of the respective month. For example, a monthly inspection conducted on 4 February, the next inspection must be completed by 31 March. An annual inspection conducted on 4 February 2009, the next inspection must be completed by 28 February 2010.

7.3.7.1 If designated as a daily inspection (ex, 30 day, 365 day), then the days will be strictly adhered to their requirement. For example, an inspection completed on 05 Aug 2019, will be due NLT 4 Sept 2019.

7.3.8 Corrosion Inspection. Corrosion inspection is an equipment condition inspection outlined in TO 35-1-3, *Corrosion Prevention and Control, Cleaning, Painting, and Marking of USAF Support Equipment (SE)*, and will be accomplished in conjunction with annual periodic scheduled maintenance inspections. SE corrosion inspections will be scored using Categories (Cat) 1-4 as described in TO 35-1-3.

7.3.8.1 For SE where the corrosion inspection reveals findings of Cat 2, 3 or 4, the unit will document accomplishment of the inspection in Part III of the AFTO Form 244 IAW Paragraph 7.6.5, and input into the local MIS, unless an MIS tracking system is in place to document the current condition for prioritizing corrections. This discrepancy will indicate the corrosion scoring category and will remain open until corrected.

7.3.8.2 For SE where the inspection reveal no findings, the Part III of the AFTO Form 244 will be updated IAW Paragraph 7.6.3 or approved embedded forms.

7.3.8.3 Although depot policy may dictate variations in guidance, corrosion inspections must be completed annually.

7.4 WAR RESERVE MATERIAL (WRM) OR MOBILITY EQUIPMENT.

When SE is designated as WRM or mobility equipment, perform all inspections prior to storage. When WRM or mobility equipment is placed in deep (long term) storage, comply with inspection requirements in TO 35-1-4, in lieu of calendar inspections. While stored outside, reinspect SE at 18-month intervals; while stored inside, reinspect at 24-month intervals; while stored in a controlled environment (e.g., air-conditioned and humidity controlled), reinspect at 36-month intervals. The GP/CC may designate more frequent or detailed inspection requirements.

NOTE

If end item technical data specifically addresses WRM inspections that guidance will take precedence over the guidance found above.

7.5 SE DOCUMENT ADMINISTRATION.

7.5.1 General Requirements. When maintenance responsibilities are divided among two or more work centers, the owning work center will ensure applicable Work Center Events (WCE) are initiated in the MIS. If WCEs are initiated and maintained in the MIS, they are not required to be annotated in Part V of the AFTO Form 244. The using individual is

responsible for documenting the status and condition of the equipment as indicated on the AFTO Form 244/245. Ensure that documentation is entered in an approved MIS that feeds directly into REMIS. MIS must be approved by Lead Command and HQ AF A4L. When the form is closed out, it will be forwarded to the documentation section for filing disposition as prescribed in DAFI 21-101, AFI 33-322, and this TO.

NOTE

EXCEPTION: F-35 SE will utilize ALIS embedded electronic forms capabilities to document discrepancies in accordance with applicable technical manuals.

7.5.1.1 Ensure equipment forms and MIS documentation are complete, accurate, and accomplished for all maintenance and scheduled inspections.

7.5.1.2 If a discrepancy renders the equipment unsafe or unfit for use, document the discrepancy with a Red X in the MIS (if available) and in the symbol block on Part V of the AFTO Form 244/245.

7.5.1.3 Discrepancies that are discovered on SE which do not impair the operation or use of the equipment will either be corrected by the SE repair activity, owning workcenter or trainer maintenance personnel during the inspection or a discrepancy entered in the maintenance record.

7.5.1.4 When maintaining, managing, and storing engine support and removal/installation/transportation equipment and trailers, make sure to properly report status in accordance with AFI 21-103 and MAJCOM supplements. In addition:

7.5.1.4.1 Track all removal/installation/transportation trailers and adapters in an approved MIS.

7.6 AFTO FORM 244/245 DOCUMENTATION.

See Figure 7-1

7.6.1 AFTO Form 244, Part I. Identifies the SE for which the form is maintained.

a. Block 1: Enter the nomenclature/model number.

b. Block 2: Enter the assigned AF registration/serial number. Leave blank if not applicable.

c. Block 3: Enter the identification number (a locally defined equipment-type identifier or Support Equipment Identification (SEID)), if assigned. Leave blank if not assigned.

d. Block 4: Enter the field number. Leave blank if not applicable.

e. Block 5: Enter the Work Unit Code (WUC) or Logistics Control Number (LCN) if one is assigned. Leave blank if not applicable.

f. Block 6: Enter the assigned organization/workcenter or depot Resource Control Center (RCC).

g. Block 7: Enter the date the form was initiated to the left of the word TO. Once the form is closed out or the equipment is turned into supply/salvage, and a new form initiated, enter the date to the right of the word TO.

h. Block 8: Leave blank if not applicable. This block may be used for MAJCOM or GP/CC specific requirements.

7.6.2 AFTO Form 244, Part II. Provides a means to document servicing inspections. Prior to use inspections are not documented unless required by the GP/CC or another publication.

a. TIME column: Enter the time (in 24-hour military time) the service/prior to use inspection was accomplished. If the unit is equipped with a running time meter, the metered time shall be entered in place of the time of day. For SE inspected at hourly intervals, enter the daily/accumulated time.

b. INSP INIT column: Enter assigned employee number of the individual completing the inspection. If not assigned an employee number the individual will use their first initial, middle initial (optional only if individual does not have a second given name), and last initial.

c. DATE column. Enter the date the inspection was accomplished.

7.6.3 AFTO Form 244, Part III. Provides a means to document scheduled inspections.

a. INSPECTION REQUIREMENT column: Enter the type of inspection due, e.g., PH 1, PH 2, PE, special wheel bearing, wheel packing, lubrication etc. If directed by the GP/CC, include specific inspections for DIPE, other than operator inspections which may be documented in Part II.

b. INTERVAL column: Enter the next scheduled inspection interval, e.g., 30-, 60-, and 180-day or 500-hour, etc.

c. DATE DUE column: Upon completion of an inspection, enter the next inspection due in the next open date due block.

d. DATE COMPL column: Enter the hour/date inspection was completed.

7.6.4 AFTO Form 244, Part IV. Provides a means to document a supervisory review of the form, if required by the GP/CC.

a. EMPLOYEE NUMBER column: Enter reviewer's employee number (or first name initial, last name and grade if no employee number).

b. DATE column: Enter the date the review was accomplished.

7.6.5 AFTO Form 244/245, Part V. Provides a means to document equipment discrepancies, corrective actions, and special inspection completion. The following conditions will be recorded in this part of the form:

7.6.5.1 Required TO maintenance action, including inspection and lubrication requirements where the inspection deems the item unserviceable in accordance with Paragraph 7.3.4. A condition exists that prevents a scheduled inspection/lubrication from being accomplished and an overdue inspection, including portions of inspections not accomplished during the scheduled inspection (e.g., workcard and/or workcard items not completed by the end of the due period).

7.6.5.2 Overdue time change, Master Configuration List (MCLs) and TCTOs.

7.6.5.3 Discrepancies discovered by the operator during operation of the system/equipment.

7.6.5.4 PART V will be completed as follows:

a. Block 9, T.O.: Enter the TO number, manufacturer's manual number/title or Joint Technical Data (JTD) module that covers the item identified in Block 1.

b. Block 10, NSN: Enter the assigned national stock number or part number for item identified in block 1. Leave blank if not applicable.

c. Blocks 11 and 12: These blocks are left blank, unless usage is required by organization.

d. DATE DISCOVERED column: Enter the date the discrepancy is discovered per Paragraph 3.5.

e. DISCOVERED BY column: The individual discovering the discrepancy will print their minimum signature and employee number per Paragraph 3.6.

f. SUP DOC NUMBER column: Enter the base supply document number(s). This block is not required for units using MIS and is a GP/CC option for all others. When two or more supply document numbers are needed to adequately define base supply support for repairing a discrepancy, add all additional supply document numbers needed to correct the discrepancy after the statement of the discrepancy. If necessary, use of the next open DISCREPANCY block is authorized. If the next block is used all adjacent blocks will be lined through. As these requisitions from base supply are received by the requester, draw a single line through the document number to show its receipt.

g. SYMBOL column: Enter the applicable red symbol for the discrepancy.

h. DISCREPANCY column: Enter the discrepancy or maintenance action required. Only one defect will be entered in each block for each job control or work order number; however, use as many blocks as necessary to completely describe a single discrepancy.

i. JOB CON/W.O. NO. column: Enter the job control or work order number assigned to the discrepancy. EXCEPTION: Tracking programs used to track inspections/equipment, job control number/work order numbers are not required.

j. CORRECTIVE ACTION column: Enter the description of the corrective action taken. For Red X discrepancies, include a sufficient technical data or governing directive reference to determine the work performed, (e.g., AFI, owner/user manual, TO number and paragraph/figure number for TOs, function number/fault code for MIS based TOs). IPE is excluded from this requirement since the TO reference is listed on the equipment. GP/CCs may specify additional minimum TO reference. If more space is needed to make this entry, use the next open block.

k. DATE CORRECTED column: Enter the date the discrepancy is corrected.

l. CORRECTED BY column: The individual clearing a Red Diagonal will enter their minimum signature and employee number in this block and last name initial over the red symbol in the symbol column. The individual correcting a Red X discrepancy will enter their minimum signature and employee number in this block.

NOTE

- FOR AFTO FORM 244 ONLY: Individuals who sign the CORRECTED BY block for a Red X condition are not required to be qualified/certified on the task provided they are, at a minimum, opened on that task in their training records.
- FOR AFTO FORM 244 ONLY: In order to maintain integrity of the two-person verification concept, when an inspection or periodic maintenance requires the entry of a Red X, both the CORRECTED BY and INSPECTED BY blocks will be signed off to clear the Red X.

m. INSPECTED BY column: The individual authorized to clear a Red Dash or Red X symbols will enter his/her minimum signature and employee number in this block and last name initial over the red symbol in the symbol column.

NOTE

Individuals using an electronic AFTO Form 244, that prohibits initialing over the red symbol, will enter their minimum signature and employee number and NOT initial over the red symbol in the SYMBOL column.

7.6.6 AFTO Form 245. This optional form provides a continuation to Part V of the AFTO Form 244. This form will be completed using the same instructions as provided for Part V of the AFTO Form 244.

7.6.7 Disposition Instructions. After the AFTO Form 244/245 is closed out, forward the old form to the responsible documentation activity for filing and disposition. Disposition of AFTO Form 244/245 should be addressed according to the AFRIMS Table 21-11 Rule 15.00 and 16.00. Disposition of all forms and documents will be accomplished IAW AFI 33-322. If organizations use an electronic data base that captures all the information on the AFTO Form 244/245, retention of the form is not required as determined by GP/CC. Forms will be destroyed IAW Paragraph 3.10.1.1. If the AFTO Form 244 is missing, lost or damaged, create a new form with the words “OLD FORMS LOST” written on top margin of the front side of the form with brief explanation, if known.

7.6.8 Closing Out AFTO Form 244/245. The AFTO Form 244/245 will be closed out and a new form initiated when additional recording space is required. The following procedures apply:

7.6.8.1 On the new forms transcribe entries in block 1 through block 6 from the old form and enter the current date in block 7 to the left of the word TO. Enter all carried forward inspections due in Part III and all carried forward discrepancies and information in Part V from the old form. When carrying the discovered by block forward, print the name and employee number of the individual who originally discovered the discrepancy.

7.6.8.2 When closing out the old AFTO Form 244/245, enter the current date in block 7 to the right of the word TO. The individual carrying forward entries, enters “CF” (carried forward) followed by their first and last name initials in the DATE COMPL block of Part III. In Part V enter “CF” and minimum signature in the corrective action block for each open discrepancy carried forward.

7.6.8.3 Designation of SE as “formerly contaminated” with chemical, biological or radiological agents will be carried forward with information regarding the contamination date, type of agent, decontamination date, type of decontaminants, and decontamination procedures. Equipment markings will ensure that all handlers of the formerly contaminated parts are aware of possible residual contamination hazards. SE not repaired and replaced must be destroyed as hazardous material (currently by incineration). See AFTTP (1) 3-2.37.

NOTE

A Red C indicates the equipment has been contaminated by a chemical, biological, radiological agent, environmental or infestation.

INDUSTRIAL/SUPPORT EQUIPMENT RECORD

I. ITEM IDENTIFICATION

1. NOMENCLATURE/MODEL	2. REGISTRATION/SERIAL NO.
3. ID NO.	4. FIELD NO. (*If applicable*)
6. ORGN WC ASSIGNED	7. PERIOD COVER TO

5. WORK UNIT CODE

8.

II. NON-SCHEDULED INSPECTION

TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT
DATE		DATE		DATE		DATE		DATE	

III. SCHEDULED INSPECTION

INSPECTION REQUIREMENT	INTERVAL	DATE DUE	DATE COMPL	DATE DUE	DATE COMPL

IV. SUPERVISORY REVIEW

EMPLOY NO	DATE	EMPLOY NO	DATE	EMPLOY NO	DATE

AFTO FORM 244, 20170421 PREVIOUS EDITIONS ARE OBSOLETE

Page 1 of 2

G1603887

Figure 7-1. AFTO FORM 244, Industrial/Support Equipment Record (Front)

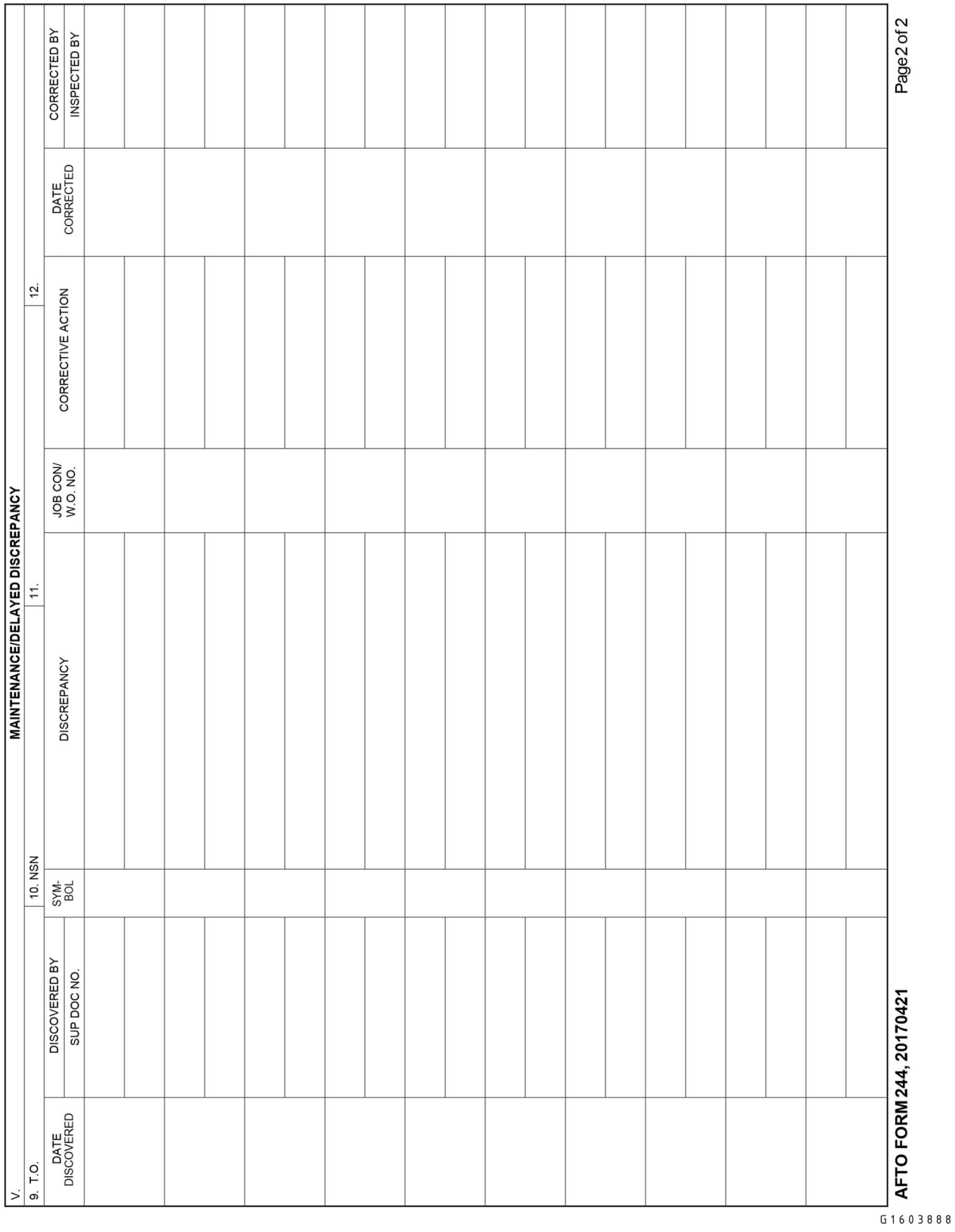


Figure 7-2. AFTO FORM 244, Industrial/Support Equipment Record (Reverse)

INDUSTRIAL SUPPORT EQUIPMENT RECORD
(Continuation)

V. MAINTENANCE/DELAYED DISCREPANCY

9. T.O.	10. NSN		11.	12.	
DATE DISCOVERED	DISCOVERED BY SUP DOC NO.	SYMBOL	DISCREPANCY	JOB CON/ CORRECTIVE ACTION	DATE CORRECTED	CORRECTED BY INSPECTED BY

PREVIOUS EDITION IS OBSOLETE

AFTO FORM 245, 20210427

G1603889

Figure 7-3. AFTO FORM 245, Industrial Support Equipment (Continuation) (Front)

FORM COMPLETION INSTRUCTIONS AS DEFINED IN TECHNICAL ORDER
Reference TO 00-20-1

PART V WILL BE COMPLETED AS FOLLOWS:

BLOCK 9 - TO:

Enter the TO number, manufacturer's manual number/title or Joint Technical Data (JTD) module that covers the item identified in Block 1.

BLOCK 10 - NSN:

Enter the assigned national stock number or part number for item identified in block 1. Leave blank if not applicable.

BLOCK 11 and BLOCK 12:

These blocks are left blank, unless approved for use by GP/CC.

DATE DISCOVERED COLUMN:

In this column, enter the date the discrepancy is discovered.

DISCOVERED BY:

In this column, the individual discovering the discrepancy will print his/her minimum signature and employee number.

SUP DOC NUMBER:

In this column, enter the base supply document number(s). This block is not required for units that use MIS and is a GP/CC option for all others. When two or more supply document numbers are needed to adequately define base supply support for repairing a discrepancy, add all additional supply document numbers needed to correct the discrepancy after the statement of the discrepancy. If necessary, use of the next open DISCREPANCY block is authorized. If the next block is used all adjacent blocks will be lined through. As these requisitions from base supply are received by the requester, draw a single line through the document number to show its receipt.

SYMBOL:

In this column, enter the applicable Red symbol for the discrepancy.

DISCREPANCY:

In this column, enter the discrepancy or maintenance action required. Only one defect will be entered in each block for each job control or work order number; however, use as many blocks as necessary to completely describe a single discrepancy.

JOB CON/W.O. NUMBER:

In this column, enter the job control or work order number assigned to the discrepancy.

CORRECTIVE ACTION:

CORRECTIVE ACTION - In this column, enter the description of the corrective action taken. For Red X discrepancies, include a sufficient technical data reference to determine the work performed, (e.g. TO number and paragraph/figure number for conventional TOs, function number/fault code for MIS based TOs). IPE is excluded from this requirement since the TO reference is listed on the equipment. GP/CCs may specify additional minimum TO reference. If more space is needed to make this entry, use the next open block.

DATE CORRECTED:

In this column, enter the date the discrepancy is corrected.

CORRECTED BY:

In this column, the individual who corrects the discrepancy will enter his/her minimum signature and employee number in this block.

INSPECTED BY:

In this column, the individual clearing a red - (dash) or the individual authorized by the GP/CC to clear red X symbols will enter his/her Minimum signature and employee number in this block and last name initial over the Red symbol in the symbol column.

AFTO FORM 245, 20210427

G1603890

Figure 7-4. AFTO FORM 245, Industrial Support Equipment (Continuation) (Reverse)

CHAPTER 8
TRANSFER, STORAGE, AND DEPOT MAINTENANCE

8.1 TRANSFERRING AEROSPACE VEHICLES.

8.1.1 Requirements. Headquarters Air Force Materiel Command (AFMC) manages the assignment of aerospace vehicles as directed by HQ USAF. When a transfer is directed, it will be made within 30 days of receipt of notification by the MAJCOM to which the aerospace vehicle is assigned. If additional time is required to affect the transfer, forward a request for authority to delay the transfer for a specific number of days to the AF Aerospace Vehicle Distribution Office (AVDO) in accordance with AFI 21-103, stating reasons for the delay. Refer to DAFI 21-101 for additional requirements for aerospace vehicle transfer requirements.

8.1.1.1 Tactical movement of complete combat elements and temporary loans of aerospace vehicles between Air Force organizations do not come under the provisions of this technical order. Responsibility for condition, maintenance, and documentation, in the case of temporary loans, will be as agreed to by the commanders concerned.

8.1.1.2 After completing the pre-transfer maintenance, including Functional Check Flights (FCF) if required, the possessing activity will notify the gaining unit of its availability for transfer and will restrict the aerospace vehicle from further use. The aerospace vehicle will be maintained in suitable condition to prevent delay of the ferry or transfer flight.

8.1.1.3 List installed guns on AF Form 2692, regardless of whether or not they are listed in the -21 technical order. When the losing maintenance activity is transferring aerospace vehicles with small weapon(s) (50 caliber or under), they will notify Logistics Readiness Squadron, Materiel Management Flight, Customer Support Section, Equipment Accountability Element, of the weapon(s) serial number(s) being transferred.

8.1.1.4 When transferring aerospace vehicles to agencies outside the Air Force, AFMC will issue special instructions for Time Compliance Technical Order (TCTO) compliance and maintenance requirements for the transfer. When Aeronautical Systems Center (ASC) or AFMC aerospace vehicles are placed on bailment to contractors, special instructions necessary for the preparation of the vehicle for delivery to the bailee (recipient) and its return to the Air Force will be included in the bailment agreement.

8.1.1.5 Aerospace vehicles, being prepared for return to service after removal from storage by MAJCOM other than AFMC, will not be processed through AFMC depot facilities unless inspections indicate that depot maintenance is required. All required maintenance will be accomplished by the MAJCOM removing the aerospace vehicle from storage. Depot maintenance requirements will be negotiated with AFMC.

8.1.1.6 Aerospace vehicles directed to be transferred while at a depot/contractor facility will be returned to the losing organization upon completion of the work for the accomplishment of the transfer inspection and maintenance, unless the using commands and the PM agree that transfer requirements will be accomplished by the depot facility. For missiles, the depot/contractor accomplishes the transfer inspection.

8.1.1.7 When AFMC depot/contractor facilities perform transfer requirements for a losing organization, they will report all accountable equipment shortages to the losing organization. The AFMC/contractor facility will include a copy of the reported shortages with the aerospace vehicle historical documents/depot work package. The losing organization will be responsible for the shipment of shortages to the gaining organization without delay. All shipments will be clearly marked and identified as equipment shortages for the aerospace vehicle type and serial number transferred. When the losing organization is unable to supply all reported equipment shortages, corrective action will be the responsibility of the MAJCOM.

8.1.1.8 The AFTO Form 345 (Figure 8-1 and Figure 8-2), outlines requirements to be accomplished in conjunction with the transfer. Use of the AFTO Form 345 is optional for missile units. Complete this form and forward the original with the aerospace vehicle and retain the duplicate. Form entries are self- explanatory and serve as a certification of the requirements listed. List any special requirements individually under item 14. If applicable, waivers outlined in subsequent paragraphs will be listed in block 15, REMARKS, with a reference to the authorizing agreement.

8.1.1.8.1 Ensure the maintenance group commander (or equivalent) certifies each transferred aerospace vehicle for condition, completeness of equipment (to include aerospace vehicle Data Plate), and serviceability; annotate this certification on the AFTO Form 345.

8.1.1.9 When aerospace vehicles are transferred from one AF organization to another, the losing organization accomplishes the following:

8.1.1.9.1 Ensure all correctable discrepancies are cleared (except transfer to Aerospace Maintenance and Regeneration Group (AMARG)).

8.1.1.9.2 If over 50 percent of the inspection time has elapsed by the established transfer date, then accomplish the next scheduled hourly post-flight, phase, periodic, minor or major inspection on the aerospace vehicle or missile. Accomplish inspections as prescribed in the applicable -6 TO, maintenance manual or workcard set, including scheduled/special inspections and TCIs as required. Exception: MDS Lead Command may modify the 50% rule in a signed agreement between the participating MAJCOMs.

8.1.1.9.3 If parts are not available and valid delayed discrepancies exist, include these discrepancies with the historical documents that are transferred.

8.1.1.9.4 Determine if depot maintenance is required, and if so, arrange for its accomplishment in accordance with Paragraph 8.1.1.10.

8.1.1.9.5 Comply with all outstanding TCTOs for kits on-hand or obtainable. If the TCTO cannot be accomplished by the established transfer date or requisitioned kits have not been received, comply with the provisions of TO 00-5-15.

8.1.1.9.6 Change the engines as required under the provisions of TO 2-1-18.

8.1.1.9.7 Accomplish a Functional Check Flight (FCF) when required in accordance with the MDS specific -6 TO, maintenance manual or when required by a TCTO.

8.1.1.9.8 Ensure all associated equipment is transferred with the aerospace vehicle and properly account for equipment shortages.

8.1.1.9.9 Ensure open discrepancies requiring parts include the applicable TO references (e.g., illustrated parts breakdown technical order number, figure, and index).

8.1.1.9.10 Perform a complete document review of the transferring aerospace vehicle and associated equipment, to include historical records. Make corrections as required.

8.1.1.9.11 Due to varying circumstances and conditions, the following deviations are authorized:

8.1.1.9.11.1 A MAJCOM having jurisdiction over both the losing and gaining organization may waive or modify any or all of the above requirements.

8.1.1.9.11.2 For transfers from one MAJCOM to another, the gaining MAJCOM may waive any or all of the requirements stated above or modify them under agreement with the losing command.

8.1.1.10 If the aerospace vehicle requires unprogrammed depot/contractor work prior to transfer, or the losing organization requires maintenance assistance, arrangements will be made by the losing organization with the appropriate PM under the provisions of TO 00-25-107. In the event the aerospace vehicle must be delivered to a depot/contractor facility for work accomplishment, the losing organization will accomplish all of the requirements of Paragraph 8.1.1.9, prior to delivery of the aerospace vehicle. The losing MAJCOM in coordination with the PM may waive, modify or request certain requirements of Paragraph 8.1.1.9 to be accomplished by the depot/contractor facility.

8.1.1.11 Losing organizations preparing aerospace vehicles for overseas transfer will provide the AFMC facility, where aerospace vehicles will be staged or shipped, at least 30 days advance notification of each aerospace vehicle to be processed. This requirement is exempt from Report Control Symbol (RCS) licensing.

8.1.1.12 AFMC depot facilities preparing aerospace vehicles and missiles for transfer will accomplish all work necessary to ensure they are in a serviceable condition. If these aerospace vehicles are equipped with engines that have been in storage, the engines may be used, provided the depot facility complies with all existing TCTOs applicable to the engine and engine accessories. Aerospace vehicles and missiles will not be reported as available for transfer until all applicable requirements are completed or until waivers have been authorized. Depot facilities preparing aerospace vehicles removed from storage for subsequent delivery to using activities initiate or complete the maintenance documents prior to delivery.

AEROSPACE VEHICLE TRANSFER INSPECTION CHECKLIST AND CERTIFICATION	1. MDS	2. SERIAL NUMBER	3. TRANSFERRING ORGANIZATION	4. DATE COMPLETED

ITEM NO A	TASK OR FUNCTION B	DATE ACCOMPLISHED C	ACCOMPLISHED BY (*Signature and Grade*) D	INSPECTED OR CERTIFIED BY (*Signature and Grade*) E
1	PERFORM TRANSFER INSPECTION AS REQUIRED BY TO 00-20-1 OR OBTAIN AUTHORITY FOR DEVIATION FROM HIGHER HEADQUARTERS.			
2	CHANGE ENGINES WHEN REQUIRED (*TO 2-1-18*).			
3	COMPLETE TRANSFER INSPECTION (*TO 00-20-1*).			
4	PREPARE LOOSE EQUIPMENT FOR SHIPMENT. LIST ITEMS ON DD FORM 1149. FORWARD COPIES 1 THRU 7 TO THE TRANSPORTATION OFFICE. SHIPPING ACTIVITY TO RETAIN COPY OF DD FORM 1149			
5	TCTO KITS SHIPPED WITH AIRCRAFT ON AF FORM 2692 FOR TCTO KITS			
6	SIGN TRANSFER BLOCK ON AF FORM 2692			
7	FORWARD ALL HISTORICAL DOCUMENTS IN ACCORDANCE WITH TO 00-20-1.			
8	REMOVE COMMAND INSIGNIA IF THE VEHICLE IS BEING TRANSFERRED OUT OF THE COMMAND			
9	AIRCRAFT TECHNICAL ORDER FILE. -1 TO AND 06 WORK UNIT CODE MANUAL. ALSO -2, 04, -6, AND -9 IF BEING MAINTAINED (*TO 00-5-1*).			
10	COMPLETE AFTO FORM 290 LISTING ALL DOCUMENTS, AND TCTO KITS. HAVE PILOT SIGN AND RETAIN ONE COPY AT TIME OF PICK UP (*TO 00-20-1*).			
11	INITIATE COORDINATION MESSAGE AT THE TIME AND DATE THAT AIRCRAFT IS PICKED UP BY DELIVERY CREW			
12	SUBMIT "AEROSPACE VEHICLES MOVEMENT REPORT" WHEN MOVEMENT OR ASSIGNMENT TO ANOTHER MAJOR COMMAND IS DIRECTED BY HQ USAF ESTABLISHED PROJECTS			
13	FORWARD AF FORMS 2414 FOR ALL PARTS ON REQUISITIONS.			
14	COMMAND AND LOCAL REQUIREMENTS (*Identify*).			

AFTO FORM 345, 20140814 ***(IMT-V1)*** **PREVIOUS EDITION IS OBSOLETE**

G1603891

Figure 8-1. AFTO FORM 345, Aerospace Vehicle Transfer Inspection Checklist and Certification (Front)

ITEM NO A	TASK OR FUNCTION B	DATE ACCOMPLISHED C	ACCOMPLISHED BY (*Signature and Grade*) D	INSPECTED OR CERTIFIED BY (*Signature and Grade*) E
14. (Cont'd)				
15. REMARKS				

AFTO FORM 345, 20140814 ***(IMT-V1) (Reverse)***

G1603892

Figure 8-2. AFTO FORM 345, Aerospace Vehicle Transfer Inspection Checklist and Certification (Reverse)

8.1.2 AFTO Form 290, Aerospace Vehicle Delivery Receipt. Use the AFTO Form 290 (Figure 8-3) to transfer aerospace vehicles and to furnish a record of selected equipment that will be transferred with the aerospace vehicles.

8.1.2.1 AFTO Form 290 serves as a vehicle receipt for delivery pilots or transporters and as a receipt for aerospace vehicles, selected equipment, and paperwork checklist. The form:

- Is not required if aerospace vehicles are moved by airlift or surface transportation.
- May be used in addition to the (required) DD Form 1149, if directed by AFMC.
- Lists the only items required to be physically checked by the delivery aircrew, transporter or the gaining organizations.

8.1.2.2 Prepare the form using the following guidelines:

8.1.2.2.1 The losing organization (such as the AVDO) at factories, depots, modification centers, bases, etc.) or the delivery control officer prepares this form. The losing organization fills in the heading of the form, including:

a. AIRCRAFT/MISSILE MODEL

b. SERIAL NUMBER

c. ACCOUNT/CONTRACT NO.

d. PROJECT AND/OR PRIORITY

e. FLT/TRANSPORTATION ORDER NO. (when known)

f. CLASSIFIED MATERIAL INSTALLED ON AIRCRAFT/MISSILE: List classified equipment installed. Enter “None” if no classified material is installed.

g. RECEIVING ORGANIZATION

h. RELEASED BY (Unit, Base, and Command).

i. PICKUP POINT

j. PICKUP DATE

k. Column B: List the quantity of each item placed on each vehicle.

8.1.2.3 Upon accepting the aerospace vehicle for delivery, including responsibility for paperwork and equipment listed in column B of the checklist, the authorized representative of the Transporting/Ferrying organization will sign the delivery receipt in the space provided. The representative indicates that each item has been checked by placing a check in column C and initials at the bottom of the column.

8.1.2.3.1 In many cases, the aircrew or transporter is the authorized representative of the gaining organization. In this case, they will complete the AFTO Form 290 just before departing with the aerospace vehicle.

8.1.2.3.2 Delivery control or transportation officers at factories or modification centers are responsible for checking the items listed and signing the AFTO Form 290.

8.1.2.3.3 Space is provided on AFTO Form 290 for three intermediate stops, where the aircrew or transporter does not stay with the aerospace vehicle or missile and needs to be relieved of the responsibility for the items on the checklist.

8.1.2.3.3.1 If more than three intermediate stops are made, use an additional set of forms and attach them to the first form.

8.1.2.3.3.2 Immediately after the aerospace vehicle arrives at such an activity, the authorized activity representative and the aircrew or transporter checks the items.

8.1.2.3.3.3 The activity representative places a check in the first open intermediate activity IN column and initials at the bottom of the column if all items shown in column B, or subsequently noted, are present.

8.1.2.3.3.4 If an item is missing, the authorized activity representative enters the correct figure in the IN column, and the aircrew or transporter initials the corrected figure and explains in the remarks section of the form. After all items are checked, the activity commander is responsible for guarding against loss of such equipment or papers.

8.1.2.3.3.5 The aircrew or transporter checks the items in the checklist before the vehicle leaves. The aircrew or transporter checks the proper intermediate activity OUT column, and initials at the bottom of the OUT column. The activity representative also initials this column. Any difference must be explained by the activity representative in the remarks section of the form, together with their signature, grade, and activity.

8.1.2.3.3.6 When the aerospace vehicle arrives at the end destination, the authorized representative of the gaining organization checks column J and initials at the bottom of the column if all items shown in column B, or subsequently noted, are present.

8.1.2.3.4 If an item is missing, the representative enters the corrected figure IN and the aircrew or transporter initials the corrected figure and explains in the remarks section of the form.

8.1.2.3.5 The authorized representative of the gaining organization then signs the receipt in the space provided on the form.

8.1.2.4 Copies are prepared by the losing organization and distributed as follows:

a. Copy 1 - Home station.

b. Copy 2 - Aircrew or transporter.

c. Copy 3 - Recipient.

d. Copy 4 - Losing organization.

e. Copy 5 - Air Force Plant representative or chief of the Defense Contract Administration Services Offices (DCASO) where the contractor facility is located, marked for the property administrator. This copy is required if aerospace vehicles are delivered to the contractor facility.

8.1.2.5 Reducing the number of copies is permissible according to the needs of the individual command or by mutual agreement between commands concerned.

FORM COMPLETION INSTRUCTIONS DEFINED IN TO 00-20-1

AEROSPACE VEHICLE DELIVERY RECEIPT				DATE
1. All items shown below must be present before delivery a. Weight and Balance Handbook *(Needed if required by TO 1-1B-40 or 1-1B-50)* b. Load Adjuster *(Needed if applicable to transferred aircraft)*			2. Ferry pilot/transporter receiving aircraft/missile will personally check all forms 3. Recipient organization will check all aircraft/missile forms upon delivery of the 4. DISTRIBUTION OF THIS FORM: Copy 1 to home station; copy 2 for pilot/transporter; copy 3 for recipient; copy 4 for releasing organization; copy 5 to contract/facility property administrator.	
AIRCRAFT/MISSILE	SERIAL NUMBER	ACCOUNT/CONTRACT	PROJECT AND/OR PRIORITY	FLT/TRANSPORTATION ORDER NO. *(When Known)*
CLASSIFIED MATERIAL INSTALLED ON AIRCRAFT/MISSILE				
RECEIVING ORGANIZAITON		DELIVERY POINT		
RELEASED BY *(Unit, Base, and Command)*		PICKUP POINT		PICKUP DATE

PAPERWORK CHECKLIST *(For aircraft/missile shown above)*	NO. PLACED ON AIRCRAFT/ MISSILE BY RELEASING	*(Check Appropriate Columns)*							
		RECEIVED BY PILOT/ TRANS	IN	OUT	IN	OUT	IN	OUT	RECEIVED BY RECIPIENT
A	B	C	D	E	F	G	H	I	J
AF FORM 2692		☐	☐	☐	☐	☐	☐	☐	
AFTO FORMS 781, 781A, 781C, 781D, 781H, 781J and 781K - AIRCRAFT		☐	☐	☐	☐	☐	☐	☐	
AFTO FORM 781E - AIRCRAFT		☐	☐	☐	☐	☐	☐	☐	
AFTO FORMS 244 AND 245 - MISSILES		☐	☐	☐	☐	☐	☐	☐	
TCTO RECORDS AS PRESCRIBED BY TO 00-20-1		☐	☐	☐	☐	☐	☐	☐	
AFTO FORM 95 AND AFTO FORM 781E - AIRCRAFT ENGINES		☐	☐	☐	☐	☐	☐	☐	
AFTO FORM 44 - TURBO JET ENGINES		☐	☐	☐	☐	☐	☐	☐	
WIEGHT AND BALANCE HANDBOOK - AIRCRAFT		☐	☐	☐	☐	☐	☐	☐	
LOAD ADJUSTER - AIRCRAFT		☐	☐	☐	☐	☐	☐	☐	
AFTO FORM 345 *(T.O. 00-20-1)*		☐	☐	☐	☐	☐	☐	☐	
AFTO FORM 95 FOR COMPONENTS LISTED IN TO 00-20-1		☐	☐	☐	☐	☐	☐	☐	
(List applicable components below)		☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	

TRANSPORTING/FERRYING ORGANIZATION RECEIPT			
I ACKNOWLEDGE RECEIPT OF AIRCRAFT/MISSILE WITH CONTENTS, AS NOTED ABOVE AND WITH AIRCRAFT/MISSILE PAPERWORK LISTED IN COLUMN "B"			
FERRYING/TRANSPORTING	TYPED NAME OF AUTHORIZED PERSON	SIGNATURE	DATE
RECIPIENT ORGANIZATION RECEIPT			
I ACKNOWLEDGE RECEIPT OF AIRCRAFT/MISSILE WITH CONTENTS, AS NOTED ABOVE AND WITH AIRCRAFT/MISSILE PAPERWORK LISTED IN COLUMN "B"			
RECIPIENT ORGANIZATION	TYPED NAME OF AUTHORIZED PERSON	SIGNATURE	DATE

AFTO FORM 290, 20180516 **PREVIOUS EDITION IS OBSOLETE**

G1603893

Figure 8-3. AFTO FORM 290, Aerospace Vehicle Delivery Receipt

8.1.3 AMARG Desert Operations and Maintenance Storage Activities. Procedures governing corrosion control, preservation, maintenance in preservation, represervation, de-preservation of aircraft and related equipment of aircraft, engines, and auxiliary power units, stored at AMARG can be found in TO 1-1-686.

8.1.3.1 Personnel performing maintenance on assets in storage will use the technical data extracts per TO 00-5-1. General safety precautions and instructions must be understood and applied during these maintenance operations to ensure personnel safety and protection of equipment.

8.1.3.2 In-storage maintenance begins once an aircraft system is breeched/deactivated (e.g., electrical, hydraulic, fuel systems) and continues until such systems are reactivated and landing gear systems are restored to operational condition.

WARNING

Mechanics must coordinate any steps that cannot be safely performed with their supervisor to ensure safe operations.

8.1.3.2.1 Mechanics performing AMARG Desert Operations and Maintenance will follow technical guidance as closely as possible to accomplish the operation on the Work Control Document (WCD). Steps may be omitted during maintenance operations when assets are in non-standard configurations, safety is not compromised and does not affect task completion. Only trained and certified technicians are permitted to omit steps when necessary. Specific AMARG Desert Operation training will be completed and documented for technicians utilizing this guidance.

8.1.3.3 Specific AMARG Desert Operation training will be developed locally by AMARG and scheduled and tracked in Training Scheduling System-Production Acceptance Certification. Training will include unique AMARG Reclamation, Demilitarization and Disposal conditions and environmental concerns.

8.1.3.4 When aerospace vehicles are transferred from one AF organization to another, the losing organization accomplishes the procedures in Paragraph 8.1.1.9. See Paragraph 8.1.6 for preparation of aerospace vehicle to be transferred for inactive long-term storage at AMARG.

8.1.4 Preparation of Aerospace Vehicles for Delivery to a Depot/Contractor Facility.

8.1.4.1 The losing organization will prepare aerospace vehicles, scheduled for delivery to a depot/contractor facility for modification and/or maintenance, in accordance with the following guidance:

8.1.4.1.1 Perform all work necessary to place the aerospace vehicles in an airworthy or transportable condition for delivery to the facility. Remove munitions unless a specific agreement is established between the base and the facility.

8.1.4.1.2 If the aerospace vehicle is to be returned to the same MAJCOM, only that equipment affected by the modification and/or maintenance need accompany the aerospace vehicle. The losing organization will comply with AFI 21-103 requirements.

8.1.4.1.3 Comply with the requirements in the modification and/or maintenance work specification and workload agreement which apply to the possessing unit. The work specification and workload agreement are a negotiated contract between the possessing MAJCOM and the ALC responsible for establishing the work requirement. The depot/contractor accomplishes those items contained in the work specifications. Additional requirements are identified on AFTO Form 103.

8.1.4.2 TCTO kits on hand at base level, which will be installed by the facility, (as agreed to between the PM and the using MAJCOM), will be forwarded to the facility. When kits are forwarded, they will either accompany the aerospace vehicle or be properly identified with the aerospace vehicle serial number and made available to the facility in time to avoid unnecessary delays in-processing.

8.1.4.3 Bases transferring aerospace vehicles that have been in storage to depot facilities may attach any local documents that were used during the aerospace vehicle's storage period for recording applicable TCTOs to the aerospace vehicle forms. If attached, it will be noted on the AFTO Form 781A or other appropriate forms.

8.1.4.4 Forward a copy of the automated products with an aerospace vehicle, engine or engine module which is being transferred to a depot for PDM, MOD or ACI. The automated products will be identified by work load agreements. The aerospace vehicle or engine records section ensures all information which affects the aerospace vehicle, engine or engine module historical records, such as accessory and TCIs, are documented on the automated product.

8.1.4.5 When all pertinent aerospace vehicle, engine or engine module historical information has been documented on the automated products, the aerospace vehicle or engine scheduling branch chief certifies that all entries are complete. When the aerospace vehicle, engine or engine module (as applicable) returns to the unit of assignment, forward the certified automated products to the aerospace vehicle or engine records section where the MIS data file will be updated based on the information provided by the automated products. Depots will retain a copy in the depot aerospace vehicle or engine records section for 180 days.

8.1.5 Preparation of Aerospace Vehicle for Transfer by One-Time Flight. When instructions are received for transfer of an operational or a stored aerospace vehicle by ″one-time flight,″ the transferring (losing) organization will conduct a thorough inspection of the aerospace vehicle, installed engines, and equipment that is essential for a safe transfer flight. The activity preparing the aerospace vehicle will determine the extent of inspection requirements. The transferring organization will:

8.1.5.1 Accomplish the necessary work required to place the aerospace vehicles in an airworthy condition, including TCTOs for which the time limit has expired. If required, the transferring (losing) organization may request authority from the PM to waive compliance for TCTOs.

8.1.5.2 The GP/CC will consider an FCF to verify work accomplished under Paragraph 8.1.5.1 and to verify the condition of all essential flight systems to ensure that the aerospace vehicle is airworthy for the intended one-time flight. Such FCFs will be accomplished under the provisions of TO 1-1-300 and the applicable portions of the FCF checklists, -6 TO, maintenance manual, and DAFI 21-101.

8.1.6 Preparation of Aerospace Vehicle to be Transferred for Inactive Long-Term Storage. Transfer of aircraft for long-term storage will be accomplished in accordance with this TO, AFI 21-103, and established Workload Agreement (WLA) and Statement of Work (SOW) between program office and 309 AMARG.

8.1.6.1 Prior to transfer, losing organization will coordinate with 309 AMARG Business Office to:

8.1.6.1.1 Ensure an approved AF Form 913, has been received by 309 AMARG.

8.1.6.1.2 Ensure WLA and SOW has been approved and all requirements complied with.

8.1.6.1.3 Ensure funds are in place to receive and prepare aircraft for storage.

8.1.6.1.4 Schedule arrival date and time.

8.1.6.1.5 Email photograph of aircraft data plate and its location to 309AMARG.AVDO@us.af.mil.

8.1.6.1.6 Forward a digital copy of MIS automated products with an aerospace vehicle, engine or engine module which is being transferred for storage. The losing organization must ensure all information which affects the aerospace vehicle, engine or engine module historical records, such as accessories, modifications and TCIs, are documented. Automated products should accompany the permanent records or may be emailed to 309AMARG.OBWS.RECORDS@us.af.mil.

8.1.6.2 AFTO Form 290 will be accomplished in accordance with Paragraph 8.1.2.

8.1.6.2.1 Classified equipment shall be removed prior to transfer to storage, unless required for safety of flight. Annotate removal on AFTO Form 781A.

8.1.6.3 Aircraft/Missile Equipment Inventory (-21) Disposition.

8.1.6.3.1 Section I, Maintenance Safety and Protection Equipment: All items shall remain with the aircraft for safe storage. Missing items should be identified on AF Form 2692.

8.1.6.3.2 Section II, Alternate Mission Equipment: Not required with aircraft, but may be installed. Installed items should be addressed in SOW.

8.1.6.3.3 Section III, Crew and Passenger Support Equipment: Only as required for transfer flight. No additional aircrew flight equipment should accompany aircraft (e.g., rafts)

8.1.6.4 Aircraft data plates are required upon storage induction. Assets missing data plates will be reported to Security Forces and coordinated with losing organization and program office for replacement. Asset will be received and secured by 309 AMARG, but will not proceed with induction and preservation until valid data plate is received.

8.1.7 Preparation of Aerospace Vehicle to be Transferred Sold or Disposed. The Foreign Military Sales agreement, AFMC guidance, and/or AFI 23-101, provide direction for preparation of aerospace vehicles for transfer or disposal.

8.1.7.1 Unless otherwise specified, aerospace vehicles directed for flight delivery to a civilian or federal agency will be prepared for One-Time Flight in accordance with the provisions of Paragraph 8.1.5.

CHAPTER 9
MAINTENANCE HISTORICAL DOCUMENTATION

9.1 GENERAL.

This chapter prescribes the requirements for historical documentation. Historical Documentation is the permanent record of significant maintenance actions on aerospace equipment.

9.1.1 Historical Documentation Requirements. Historical documentation requirements are applicable to field, organic, and contractor depot-level activities. Item Managers (IMs) or PMs determine which items in the MDS specific -6 TO need historical reporting.

9.1.1.1 Ship historical documents with the aerospace equipment or component to disposal, storage activity, next using activity or depot, unless otherwise directed.

9.1.1.2 Historical documentation will be made in the MIS whenever available. When not available use the AFTO Form 95 process explained in Paragraph 9.3.1. Automate the AFTO Form 95 in the Maintenance Information System (MIS) as soon as it is available. Discard the hardcopy form once information is input into the MIS.

9.1.1.3 Document the following historical events:

9.1.1.3.1 TCTO compliance. Document TCTO non-compliance due to modified or removed systems in which an AF Form 1067, was approved. All AF Forms 1067 must be maintained in the aerospace equipment's historical files. In the absence of an MIS and/or inability to etch/mark TCTO completion directly onto the equipment, TCTO completion will be permanently documented on an AFTO Form 95.

9.1.1.3.2 Time Change Items (TCI).

9.1.1.3.3 Data on damage to fracture critical structure including fatigue-related damage, the location and extent of the damage, repairs accomplished, repair authority, repairing activity, and date of repair. Include data concerning special requirements, procedures, and intervals.

9.1.1.3.4 Removal and replacement of aerospace equipment fracture critical structure including fixed wings and stabilizers.

9.1.1.3.5 Remarks concerning special service test equipment installed or removed.

9.1.1.3.6 Data on severe corrosion, its location, extent, and treatment accomplished or required.

9.1.1.3.7 Circumstances regarding mishaps, the extent of damage, and repairs accomplished.

9.1.1.3.8 Weather damage to aerospace equipment.

9.1.1.3.9 Data on overstresses and hard landings.

9.1.1.3.10 Engine removal or installation for fuel contamination in both the aircraft and engine historical records with amount, kind of contamination, and applicable special inspection requirements.

9.1.1.3.11 Replacement of time recording devices. Record the operating time from the removed meter, and the time on the new meter if more than zero.

9.1.1.3.12 Data on chemical, biological or radiological contamination including contamination date, type of contaminate, decontamination date, type of decontaminants, and decontamination procedures used. Records will be maintained for the lifecycle of the equipment (including removed/installed parts).

9.1.1.4 Historical Engine Documentation. Requirements are as follows:

9.1.1.4.1 Enter the aerospace vehicle serial number, vehicle total time, and engine position on the engine record at time of installation. If the engine is not zero time, include the previous operating time.

9.1.1.4.2 Upon engine removal, enter the new vehicle total-time and engine-time since overhaul on the engine record.

9.1.1.4.3 Enter the engine time at removal or the time at transfer if different on the engine record.

9.1.1.4.4 Bases with modular engines record the Total Operating Time and a new total low 2239 cycle fatigue. Report the engine cycles when the compressor or compressor disks are removed. Cycle records are only applicable to those engines noted in the MDS specific -6 TO. The method for determining cycles is outlined in the -1 or -2 manuals.

9.1.1.4.5 Set the engine Time Since Overhaul (TSO) to zero on the historical records for engines processed through the organic or contractor depot for overhaul.

9.1.1.4.6 Do not zero engine components having a maximum life based on cycles or time in the MDS specific -6 TO.

9.1.1.4.7 Record entries for foreign object damage, internal damage, overspeed, overtemperature or removal of components for maximum service life.

9.1.1.4.8 Record removal and replacement of engine accessories, defined as class A-2 and B-2 accessories by this TO, in the engine historical record.

9.1.1.4.9 Supplemental historical records are required for engine components listed in the MDS specific -6 TO. These supplemental records must remain with the engine while the components are installed and must be updated and forwarded when the component is removed. These records must contain the total operating time for the component and the cycles, as applicable. The supplemental record must contain the engine serial number as well as the component serial number.

9.1.1.4.10 Document the total accumulated cycle entry for each record immediately following, and on the same line as the total time. This line should read as follows: TT _____, TSO _____, Cycles _____.

9.1.1.4.11 For modular engines, record a line entry indicating the reason for a test stand run and the results.

9.1.1.4.12 Initiate a historical documentation record for Quick Engine Change (QEC) kits for applicable aerospace vehicles.

9.1.1.4.13 When engines are shipped to or from the depot, the maintenance facility that preserves the engine ensures that all basic engine components have been accounted for. Make an entry verifying that the basic items listed in TO 2J-1-24 have been included. This will include the name, rank, base, office symbol, and telephone extension of the person making the verification. Make a separate entry for all missing items listing the National Stock Number (NSN), nomenclature, disposition of the removed part, and justification for the missing part not being included.

9.1.1.4.14 Document pertinent manufacturing data for jet engine turbine wheels.

9.1.1.4.15 Documentation is mandatory for certain selected afterburner/augmentors/jet engines as indicated by the applicable MDS specific -6 TO scheduled inspection and maintenance. Document in units where jet engines, jet engine adjustable nozzles or thrust reversers are involved in frequent rotation from one aerospace vehicle to another. When documenting afterburner data for the J-79-15/17, the installation and operating time data section will reflect sorties rather than time in the applicable blocks.

9.1.1.4.16 Record the built-up engine weight and the weight of afterburners/augmentors. Consult TO 1-1B-50 for the listing of certain aerospace vehicles that do not require an entry in CHART C of the weight and balance book for engines or afterburner/augmentors.

9.1.1.5 In-Flight Engine Shutdowns. Requirements are as follows:

a. Low oil pressure: Include how long the engine operated at that pressure and how long engines wind milled.

b. Overtemps: Include maximum temperature and how long the engine operated at that temperature.

c. Compressor stalls, rollbacks, seizures, and flameouts: Describe the conditions when they occurred.

9.1.1.6 Engine Transfers. When transferring engines between units or centralized repair facilities, document all basic engine components accounted for as prescribed in TO 2J-1-24, to include QEC kit items accounted for in the applicable -10.

9.1.1.7 Pylon Historical Reporting. Requirements are as follows:

9.1.1.7.1 Enter the total accumulated equivalent power cycles at the time of pylon removal. Equivalent power cycles are cumulative for the life of the pylon and are carried forward at overhaul or modification.

9.1.1.7.2 Enter all other significant data concerning inspection results, waivers, repairs, and configuration changes when not recorded in automated systems.

9.1.1.8 Propeller Historical Reporting. Requirements are as follows:

9.1.1.8.1 For propeller components indicated by the -6 TO, document the following information when installed on the aircraft: aircraft serial number, aircraft time, and engine position.

9.1.1.8.2 For propeller blades, record the hub serial number at time of assembly.

9.1.1.8.3 For all installations and removals, record the propeller end item serial number, end item time since overhaul, and time since overhaul for all components.

9.1.1.8.4 Record any TCTOs, special inspections or maintenance actions performed that could have a future bearing on propeller or propeller component operation.

9.1.1.9 Landing Gear and Strut Historical Reporting. Requirements are as follows:

9.1.1.9.1 For gear installation, show the aircraft serial number, gear position, date installed, airframe time, and airframe landings.

9.1.1.9.2 For strut installation, show total hours installed, landings accumulated, and total time since overhaul.

9.1.1.9.3 Field level seal replacement, assembly and disassembly of landing gear struts/oleos are considered historical events and must be annotated on the AFTO Form 95.

9.1.1.10 Helicopter Components Historical Reporting. Specified (per applicable aircraft technical data) requirements are as follows:

9.1.1.10.1 Will contain both the operating time for the aircraft and the components.

9.1.1.11 KC-135 Boom Historical Reporting. Requirements are as follows:

9.1.1.11.1 Whenever a MDS specific -6 TO inspection is required, document inspection and results on boom AFTO Form 95. Upon installation of boom, document new boom serial number on aircraft AFTO Form 95, and aircraft tail number on new boom AFTO Form 95.

9.1.1.12 KC-135 MPRS Pod Historical Reporting. Requirements are as follows:

9.1.1.12.1 Document all Line Replaceable Unit (LRU) changes, TCTOs, installation/removal on aircraft, etc. on pod AFTO Form 95 (G081-9037).

9.1.1.13 Guns and Gun Barrels. Historical reporting will contain the number of rounds fired.

9.1.1.14 Munitions Materiel Handling Equipment. Requirements are as follows:

9.1.1.14.1 Document all replacement of major components or sub components that are deemed defective or damaged beyond normal wear and tear.

9.1.1.14.2 Document all TCTO, one-time inspection, and special inspections.

9.1.1.15 Depot and contract maintenance are required to document all NWRM and classified items removed (e.g., cannibalized, reclaimed, harvested) from reparable Next Higher Level Assemblies (NHA) assets on AFTO Form 95. Utilize an existing AFTO Form 95 or generate a new one when required. At a minimum, the national stock number, part number, serial number and quantity of each item reclaimed or cannibalized from each NHA asset, will be recorded on the AFTO Form 95.

9.1.1.16 Temporary Fuel Leak Repair Historical Reporting. Document data regarding temporary repair of fuel leaks in integral wing tanks on the AFTO Form 427 and AFTO Form 428, as prescribed in TO 1-1-3.

9.2 NON-AUTOMATED PROCEDURES.

9.2.1 AFTO Forms. When MIS is not available, use the AFTO Forms described in this section to collect data manually. Use enough detail to update the MIS.

9.2.1.1 Aerospace vehicles and engines maintained under FAA rules may use Airframe and Engine Log Books in lieu of automated history or AFTO Form 95 as long as their use is consistent. When any system or item is being shipped to any non-Air Force agency to include Defense Reutilization and Marketing Office (DRMO), include a hard copy of the historical documentation to comply with Flight Safety Critical Aerospace Vehicle Parts (FSCAP) Program. A historical printout from REMIS or CEMS suffices for this requirement. Applicable information provided in non-USAF log books or documents not prescribed for Air Force use will be verified and transferred to appropriate Air Force documents. Aerospace vehicles maintained to FAA certification may use FAA log books. Except when directed by PM, Air Force organizations are not required to maintain Navy log books.

9.3 AFTO FORM 95, SIGNIFICANT HISTORICAL DATA RECORD.

(Figure 9-1.) The AFTO Form 95 is a document for maintaining a permanent history of significant maintenance actions on end items of equipment as determined by the PM. Include data on equipment contamination by chemical, biological or radiological agents, annotating date and type of contamination, date and type of decontamination, and decontaminant used. This information will portray those conditions that could have a bearing on future maintenance or tracking of the aerospace equipment.

9.3.1 AFTO Form 95 Entries. Document the AFTO Form 95 as follows:

9.3.1.1 PAGE____ OF PAGES____: Enter the appropriate page numbers.

9.3.1.2 Block 1, MISSION DESIGN SERIES/TYPE, MODEL AND SERIES/PART NUMBER: Enter the MDS or type designator of the aerospace equipment. Enter the part number assigned to the item. For quick-engine change kits, enter the term “QEC.” For helicopter blades and tail rotors enter the NSN and part number.

9.3.1.3 Block 2, MANUFACTURER: Enter the name of the manufacturer. For helicopter blades and tail rotor blades, the date of manufacture will follow the name.

9.3.1.4 Block 3, SERIAL NUMBER: When assigned, enter the serial number of the item identified in block 1. Example: 95-1428 or 89-1429.

9.3.1.5 Block 4, ACCEPTANCE DATE: Enter date the equipment was accepted by the Air Force. If unknown, enter “unknown.”

9.3.1.6 Column A, DATE: Enter the date the maintenance action or inspection is accomplished.

9.3.1.7 Column B, REMARKS: Enter the applicable information, using as many lines as necessary, to document significant data. If documenting TCI information in this section, ensure part number, serial number, and if applicable, lot number is included. If needed, enter TCTO completion.

9.3.1.8 Column C, ORGANIZATION: Enter the organization that accomplished the maintenance or inspection.

9.3.2 AFTO Form 95 Special Applications. The MAJCOM or GP/CC may prescribe additional uses of the AFTO Form 95. Forms prepared and maintained for MAJCOM or GP/CC requirements will accompany the equipment upon transfer. However, upon review of the forms package, dispose of these forms in accordance with AFI 33-322, if not required. When such forms are forwarded with the equipment to overhaul facilities, update by the overhaul facility is not mandatory.

9.4 MAINTENANCE AND DISPOSITION OF HISTORICAL RECORDS.

9.4.1 Weapon System or Component Overhaul. Overhaul activity personnel will, at the completion of a weapon system or component overhaul, initiate an appropriate historical record or bring the existing form up to date in accordance with the instructions outlined in this chapter. Enclose the historical records with the weapon system or component for forwarding or attach it to the system or component.

9.4.2 Incorrect Historical Records. If a system or component is received without the correct historical records, initiate a new form. Request the missing form in accordance with this TO. If historical records are found separated from the aerospace equipment to which it belongs and the location of the aerospace equipment is unknown, mail the records immediately to the managing IM. No historical records will be destroyed by any activity or person except when specifically authorized to do so by IM.

9.4.3 Completed Historical Records. Retain completed historical records on file and forward with the weapon system documents when the aerospace vehicle is transferred or the component is removed and shipped to an overhaul facility. Dispose in accordance with AFI 33-322.

9.4.3.1 Historical records shall accompany demilitarized aircraft turned in to DLA Disposition Services (DLA-DS) for disposal in accordance with DOD 4160.21-M, Chapter 4.

9.4.4 Annual Review. Review historical records annually and document completion in the MIS with the name of the individual performing the review. Automated AFTO Form 95s must also be reconciled within MIS annually. Annual reviews are not required on assets in inactive long-term storage. Historical documents will be updated with current activity prior to return to active service.

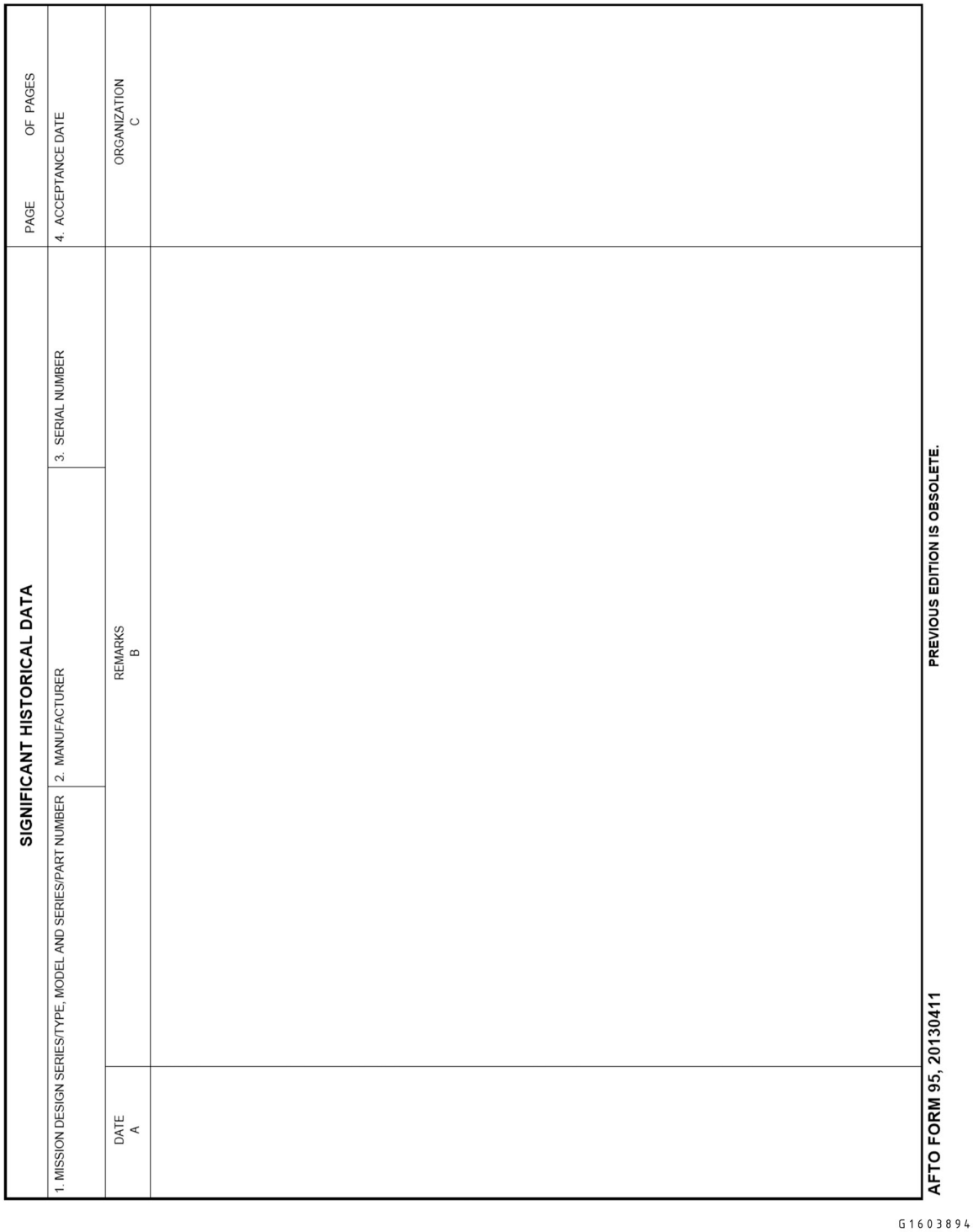


Figure 9-1. AFTO FORM 95, Significant Historical Data (Front)

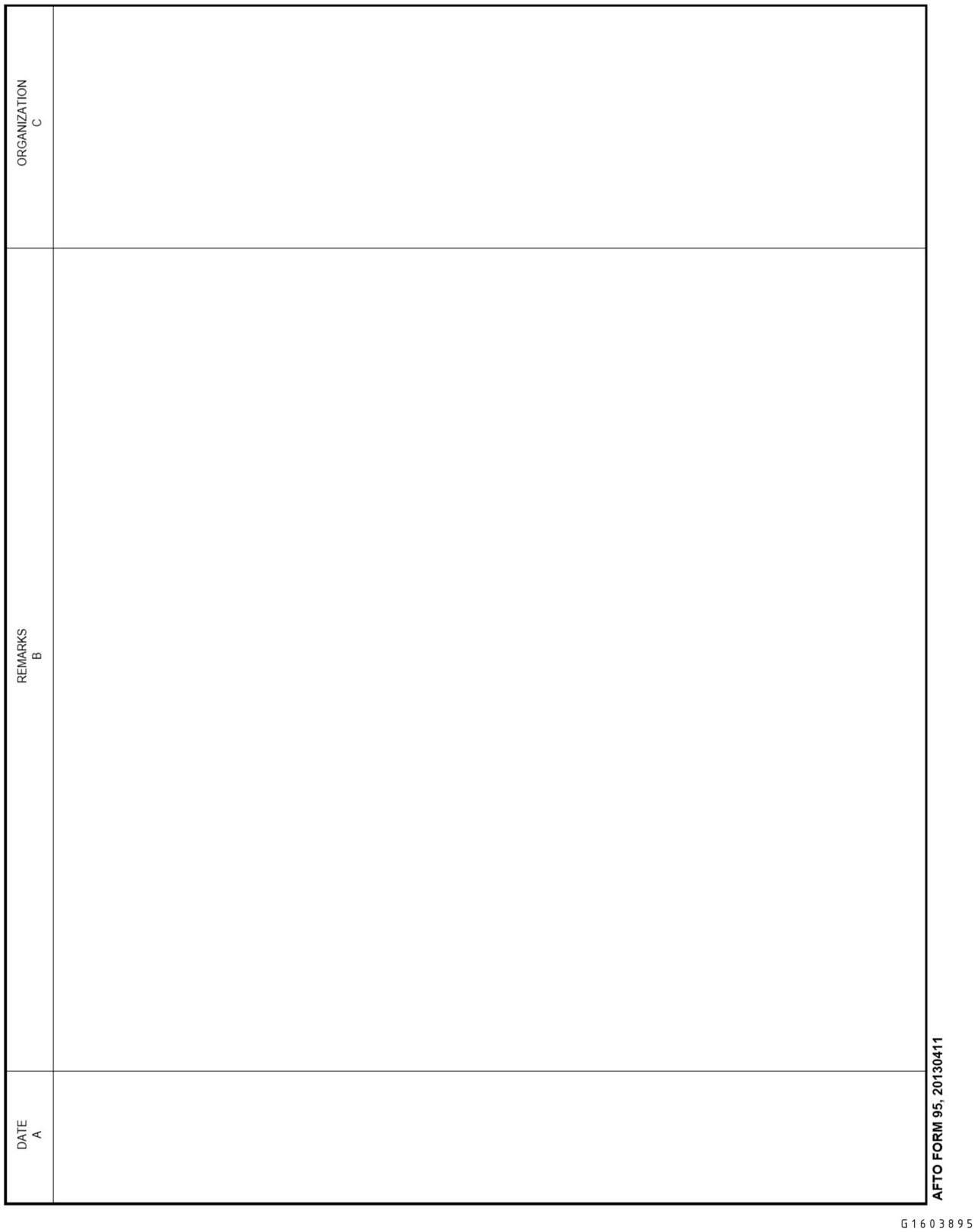


Figure 9-2. AFTO FORM 95, Significant Historical Data (Back)

CHAPTER 10

INTERCONTINENTAL BALLISTIC MISSILE (ICBM) FACILITY AND SUPPORT EQUIPMENT INSPECTIONS

10.1 GENERAL.

10.1.1 Inspection Intervals. For the ICBM weapon system (to include support equipment, RPIE, and trainers), inspection intervals are prescribed in the applicable -6 manuals and inspection workcards. Inspection intervals for Commercial-Off-The-Shelf (COTS) support equipment are derived from the commercial owner's manual. Inspections are designed to ensure that equipment is properly serviced and safe for use. The responsibility for the safe operation of Air Force equipment rests with the using activity.

10.1.1.1 The unit may increase the frequency or scope of scheduled inspections or individual inspection requirements when required for temporary situations.

10.1.1.2 All isochronal inspection requirements will be documented in the Integrated Maintenance Data System (IMDS).

10.1.1.3 All locally developed inspection requirements and inspection workcards will be published and controlled in accordance with TO 00-5-1.

10.1.1.4 When a new inspection requirement is established and published it will be scheduled for completion in conjunction with the next scheduled inspection for that component unless otherwise specified by the PM. If a previous maintenance action has complied with the new requirement, the new inspection will be scheduled in its normal cycle or interval from the date of the last maintenance action.

10.1.1.5 Special inspections should be scheduled to be accomplished concurrently with a scheduled inspection or maintenance requirement whenever practical.

10.2 INSPECTION REQUIREMENTS.

10.2.1 Scheduled Inspections. Each PM determines minimum scheduled inspection requirements for assigned weapon systems and Support Equipment (SE) and ensures these requirements are kept current. These requirements are published in the MDS specific -6 TO and inspection workcard decks.

10.2.2 Modified Inspection Workcards. Lead Commands may authorize a modified inspection workcard deck during contingencies and increased readiness conditions. The PM designates and publishes workcards in conjunction with the Lead Command for use during these periods. Construct contingency decks to ensure all items impacting safety or reducing reliability are inspected. Return to the accomplishment of normal inspection workcard deck criteria upon termination of contingency and/or when maintenance operations/conditions at contingency location have stabilized or as directed by the Lead Command.

10.3 INSPECTION TYPES.

10.3.1 Pre-Issue Inspection. This is an inspection on SE to ensure serviceability and safety of equipment prior to issue for use. It includes a review of Maintenance Information System (MIS) status and a visual check for equipment defects and proper servicing. Inspections will be accomplished well in advance of dispatch requirements by Vehicle and Equipment Section personnel to avoid cancellation or delays to scheduled maintenance. Documentation of pre-issue inspections is not required but defects discovered will be recorded in IMDS.

10.3.2 Isochronal (ISO) Inspections. The isochronal process permits inspections to be due at equal intervals throughout the total inspection cycle, regardless of when the inspections were actually accomplished. Units will use an isochronal inspection system in accordance with the applicable -6 technical orders. Isochronal inspections will be scheduled during the due period. Once the due day and date have been established they will remain constant and not be contingent on the actual accomplishment of the inspection. Isochronal inspections are based on calendar intervals using the following due periods:

Interval	Due Period
Semi-annual or greater	Within due month
Semi-monthly, monthly, bi-monthly, quarterly	Within due month
Weekly	Within due week
Daily	On due date

NOTE

Weekly intervals begin on Sunday and semi-monthly intervals begin on the first and sixteenth of the month.

10.3.3 Periodic Inspection. This inspection is accomplished upon accrual of specified operating and/or power-on hours.

10.3.4 Special Inspection. This is an inspection of a one-time or short duration nature that usually supplement other inspections and are accomplished because of special circumstances.

10.3.5 Trainer Daily Inspection. This inspection is required by trainer operation and maintenance manuals and will be scheduled and performed on each day of trainer use. The daily inspection is the responsibility of the using instructor.

10.3.6 Acceptance Inspection. Acceptance inspections will be conducted in accordance with Paragraph 2.4.18.

10.3.7 One Time Inspection (OTI). OTIs are used to verify the existence of suspected equipment conditions or malfunctions. All OTIs are conducted in accordance with Paragraph 2.4.19.

10.4 DOCUMENTATION.

10.4.1 Isochronal Inspections. ISO inspections must be documented in IMDS. Weapon system components, SE and RPIE that are operating properly and are not used in lifting, lowering, handling, transporting or checkout of nuclear weapons, will not be removed from service as a sole result of an overdue inspection unless a malfunction, unsatisfactory or unsafe condition exists. If the due period is exceeded and the inspection has not been completed, document as follows:

10.4.1.1 If an ISO inspection on nuclear certified support equipment or safety support equipment (self-contained breathing apparatus, work cage, man-lift item, etc.) is not completed within the due period the inspection will be upgraded to a Red X.

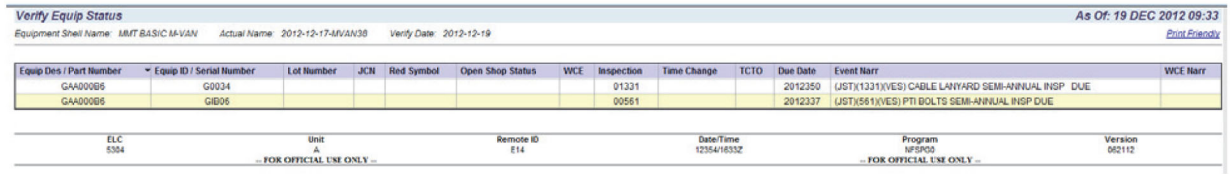
10.4.1.2 If an ISO inspection is started, but not completed, on other than nuclear certified or safety support equipment, those workcards and workcard items not completed will be documented as a follow-on Work Center Event/Work Event Separator (WCE/WES). The follow up WCE/WES narrative will state the workcard number(s) and the step(s) that need to be accomplished as well as a brief narrative for explanation (e.g., W/C 1-007, Step 1, functional checkout requires accomplishment). The first WCE/WES will not be closed until all follow up WCEs/WESs are closed.

10.4.1.3 Overdue ISO inspections not completed by the end of the inspection's due period will be prioritized in accordance with AFMAN 21-202, *Missile Maintenance Management*.

10.4.1.4 ICBM units will not use the AFTO Form 244 to track discrepancies and inspections on ICBM support equipment tracked and issued using IMDS. Inspections and Red X conditions are validated as part of the equipment issue/receipt process in IMDS.

10.4.1.4.1 All equipment issued for field use will be verified in IMDS using the Verify Equip Status screen to inform team chiefs of any Red X conditions or scheduled inspections on equipment issued for dispatch (See Figure 10-1).

10.4.1.4.2 If the IMDS Verify Equip Status (VES) function returns "No Data Found," VES will annotate the load list with the following statement: "No inspections due or Red X conditions on issued equipment."



Verify Equip Status — As Of: 19 DEC 2012 09:33

Equipment Shell Name: MMT BASIC M-VAN Actual Name: 2012-12-17-MVAN38 Verify Date: 2012-12-19 Print Friendly

Equip Des / Part Number	Equip ID / Serial Number	Lot Number	JCN	Red Symbol	Open Shop Status	WCE	Inspection	Time Change	TCTO	Due Date	Event Narr	WCE Narr
GAA000B6	G0034						01331			2012350	(JST)(1331)(VES) CABLE LANYARD SEMI-ANNUAL INSP DUE	
GAA000B6	GIB06						00561			2012337	(JST)(561)(VES) PTI BOLTS SEMI-ANNUAL INSP DUE	

ELC	Unit	Remote ID	Date/Time	Program	Version
5304	A	E14	12354/16332	NFSP00	062112

-- FOR OFFICIAL USE ONLY -- -- FOR OFFICIAL USE ONLY --

G1603896

Figure 10-1. IMDS Verify Equip Status

10.5 DEVIATIONS.

10.5.1 Deviation Approvals. AFGSC, with PM concurrence, approves deviations to schedules when ISO schedules cannot be met. Send requests for ISO schedule deviations to AFGSC/A4MI. Provide the following information when requesting ISO deviations:

10.5.1.1 Item Nomenclature

10.5.1.2 Serial Number or Site Identifier

10.5.1.3 Reason for Request

10.5.1.4 Type of Inspection

10.5.1.5 Actual Inspection Due Date

10.5.1.6 Requested Inspection Date

10.5.1.7 Completion Date of the last Isochronal Inspection

10.5.1.8 Special Inspections Due

10.5.1.9 Time Change Items Due (Item, Date Due/Time Remaining)

10.5.1.10 Outstanding TCTOs (only those affected by the extension)

APPENDIX A
APPLICABLE TECHNICAL ORDERS AND SUPPORTING DIRECTIVES

A.1 APPLICABLE TECHNICAL ORDERS.

Technical orders related to this publication are:

TO Number	Title
TO 00-5-1	AIR FORCE TECHNICAL ORDER SYSTEM
TO 00-5-15	AF TIME COMPLIANCE TECHNICAL ORDER SYSTEM
TO 00-20-2	MAINTENANCE DATA DOCUMENTATION
TO 00-20-3	MAINTENANCE PROCESSING OF REPARABLE PROPERTY AND THE REPAIR CYCLE ASSET CONTROL SYSTEM
TO 00-20-9	FORECASTING REPLACEMENT REQUIREMENTS FOR SELECTED CALENDAR TIME CHANGE ITEMS
TO 00-20-14	AIR FORCE METROLOGY AND CALIBRATION PROGRAM
TO 00-25-4	DEPOT MAINTENANCE OF AEROSPACE VEHICLES AND TRAINING
TO 00-25-107	MAINTENANCE ASSISTANCE
TO 00-35D-54	USAF DEFICIENCY REPORTING, INVESTIGATION, AND RESOLUTION
TO 1-1-3	INSPECTION AND REPAIR OF INTEGRAL TANKS AND FUEL CELLS
TO 1-1-300	ACCEPTANCE/FUNCTIONAL CHECK FLIGHT AND MAINTENANCE OPERATIONS CHECKS
TO 1-1B-50	AIR FORCE WEIGHT AND BALANCE PROGRAM
TO 1-1H-39	AIRCRAFT BATTLE DAMAGE REPAIR MANUAL - GENERAL
TO 1-1-17	STORAGE OF AEROSPACE VEHICLE AND MISSILE SYSTEMS APPLICABLE DASH
TO 2-1-18	ACFT ENG OPERATING LIMITS AND FACTORS OPERATING LIMITS AND PIPELINE TIMES
TO 2J-1-18	PREPARATION FOR SHIPMENT AND STORAGE OF GAR TURBINE ENGINES
TO 2J-1-24	EQUIPMENT COMPRISING A COMPLETE BASIC GAS TURBINE ENGINES
TO 11A-1-33	HANDLING AND MAINTENANCE OF EXPLOSIVE LOADED AIRCRAFT
TO 11N-35-51	GENERAL INSTRUCTIONS APPLICABLE TO NUCLEAR WEAPONS TO 33K-1-100-2 TMDE CALIBRATION NOTES, CALIBRATION INTERVAL, TECHNICAL ORDER, AND WORK UNIT CODE REFERENCE GUIDE ADDENDUM
TO 21M-1-101	RELIABILITY ASSET MONITORING (RAM) SYSTEM
TO 33K-1-100-2	CALIBRATION PROCEDURE FOR MAINTENANCE DATA COLLECTION CODES AND CALIBRATION MEASUREMENT SUMMARIES
TO 34-1-3	INSPECTION AND MAINTENANCE MACHINERY AND SHOP EQUIPMENT
TO 35-1-4	PROCESSING AND INSP OF SUPPORT EQUIPMENT FOR STORAGE AND SHIPMENT
TO 42B2-1-1	USE AND GRADES OF AIRCRAFT ENGINE LUBRICATING OILS

A.2 SUPPORTING DIRECTIVES.

Additional publications pertaining to the USAF equipment maintenance program which prescribe Air Force policies are as follows:

Publication	Title
AFI 11-301V1	AIRCREW FLIGHT EQUIPMENT (AFE) PROGRAM
AFI 21-103	EQUIPMENT INVENTORY, STATUS, AND UTILIZATION REPORTING

Publication	Title
AFI 23-101	AIR FORCE MATERIEL MANAGEMENT
AFI 24-302	VEHICLE MANAGEMENT
AFI 33-322	RECORDS MANAGEMENT AND INFORMATION GOVERNANCE PROGRAM
AFI 51-307	AEROSPACE AND GROUND ACCIDENT INVESTIGATIONS
AFMAN 10-2503	OPERATIONS IN A CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, AND HIGH-YIELD EXPLOSIVE (CBRNE) ENVIRONMENT
AFMAN 21-202	MISSILE MAINTENANCE MANAGEMENT
AFMCI 21-100	DEPOT MAINTENANCE MANAGEMENT
AFSCMAN 21-102	DEPOT MAINTENANCE MANAGEMENT
AFTTP (1) 3-2.33	MULTISERVICE PROCEDURES FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) DEFENSE OF THEATER FIXED SITES, PORTS, AND AIRFIELDS
DAFI 21-101	AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT
DAFI 63-140	AIRCRAFT STRUCTURAL INTEGRITY PROGRAM AND AIR AND SPACE EQUIPMENT STRUCTURAL MANAGEMENT
DAFMAN 11-401	AVIATION MANAGEMENT
DAFMAN 91-203	AIR FORCE OCCUPATIONAL SAFETY, FIRE, AND HEALTH STANDARDS
DODI 5230.24	DISTRIBUTION STATEMENTS ON TECHNICAL DOCUMENTS
MIL-HDBK-516	AIRWORTHINESS CERTIFICATION CRITERIA
MIL-STD-1530	DOD STANDARD PRACTICE AIRCRAFT STRUCTURAL INTEGRITY PROGRAM

APPENDIX B
ACRONYMS

B.1 LIST OF ACRONYMS.

A/C	-	Aircraft Commander
ACI	-	Analytical Condition Inspection
AFE	-	Aircrew Flight Equipment
AGE	-	Aerospace Ground Equipment
AFRIMS	-	Air Force Records Information Management System
AFSC	-	Air Force Specialty Code
AIR Card	-	Aviation Into-plane Reimbursement Card
ALC	-	Air Logistics Complex
ALIS	-	Autonomic Logistics Information System
AME	-	Alternate Mission Equipment
AMST	-	Agile Munitions Support Tool
AOR	-	Area of Responsibility
APO/FPO	-	Army Post Office/Fleet Post Office
APU	-	Auxiliary Power Units
ARMS	-	Aircrew Resource Management System
ASIP	-	Aircrafts Structural Integrity Program
ATD	-	Aircrew Training Device
ATS	-	Automated Test Systems
AVDO	-	Aerospace Vehicle Distribution Office
AVE	-	Aerospace Vehicle Equipment
BPO	-	Basic Post-Flight
CAD	-	Cartridge Actuated Device
C-AvSE	-	Common Aviation Support Equipment
CEMS	-	Comprehensive Engine Management System
CFT	-	Contract Field Team
CI	-	Configuration Item
COMSEC	-	Communications Security
CONUS	-	Continental United States
CRI	-	Condition Replacement Item
CSD	-	Constant Speed Drive
DCASO	-	Defense Contract Administration Services Offices
DCC	-	Dedicated Crew Chief
DFT	-	Depot Field Team
DIPE	-	Depot Industrial Plant Equipment
DoDAC	-	DoD Activity Address Code
DOI	-	Date of Installation
DOM	-	Date of Manufacture
DPAS	-	Defense Property Accountability System
DR	-	Deficiency Report
DRILS	-	Defense Repair Information Logistics System
DRMO	-	Defense Reutilization and Marketing Office
ECMS	-	Engine Configuration Management System
EHR	-	Event History Recorder

EMS	-	Engine Monitoring System
EOR	-	End-of-Runway
E-TEMP	-	Electronic Temporary Extension Management System
ETIMS	-	Enhanced Technical Information Management System
ETTR	-	Engine Time Temperature Recorder
FAA	-	Federal Aviation Administration
FCF	-	Functional Check Flight
FERMS	-	Flight Equipment Records Management System
FO	-	Foreign Object
FOM	-	Facilitate Other Maintenance
FSC	-	Federal Stock Class
FSCAP	-	Flight Safety Critical Aerospace Vehicle Parts
FSE	-	Flight Support Equipment
FSG	-	Federal Stock Group
GACP	-	Global Ammunition Control Point
GCS	-	Ground Control Station
GEO-LOC	-	Geographic Location
GITA	-	Ground Instructional Training Aircraft
HPO	-	Hourly Post-Flight
HSC	-	Home Station Check
IAW	-	In Accordance With
ICBM	-	Intercontinental Ballistic Missile
IMDS	-	Integrated Maintenance Data System
IMIS	-	Integrated Maintenance Information System
IPI	-	In Process Inspection
ISO	-	Isochronal Inspection
JCN	-	Job Control Number
JFS	-	Jet Fuel Starter
LRS	-	Logistics Readiness Squadron
LRU	-	Line Replaceable Unit
JST	-	Job Standard
MAF	-	Mobility Air Forces
MAJ	-	Major
MCL	-	Master Configuration List
MDD	-	Maintenance Data Documentation
MDS	-	Mission, Design, Series
MEL	-	Minimum Equipment List
MESL	-	Minimum Essential Subsystem List
MIDAS	-	Maintenance Integrated Data Access System
MIN	-	Minor
MIS	-	Maintenance Information System
MMHE	-	Munitions Materiel Handling Equipment
NCO	-	Non-Commissioned Office
NIE	-	Normally Installed Equipment
NON-OP	-	Non-Operational
NSN	-	National Stock Number
OP	-	Operational
OTI	-	One Time Inspection
PAD	-	Propellant Actuated Device
PAO	-	Polyalphaolefin
PAMS	-	PMEL Automated Management System
PCAMS	-	Process Control Automated Management System

PCW	-	Previously Complied With
PDM	-	Programmed Depot Maintenance
PDSC	-	Pre-Departure Service Check
PE	-	Periodic
PGM	-	Product Group Manager
PH	-	Phase
PLI	-	Pre-Launch Inspection
PM	-	Program Manager
PMEL	-	Precision Measurement Equipment Laboratory
PSE	-	Peculiar Support Equipment
PR	-	Pre-Flight
PR/BPO	-	Combined Pre-Flight
PWG	-	Product Working Group
RPIE	-	Real Property Installed Equipment
QA	-	Quality Assurance
QEC	-	Quick Engine Change
QT	-	Quick-turn
RAM	-	Reliability Asset Monitoring System
RAMPOD	-	Reliability, Availability, Maintainability Logistics Support System for Pods
RCC	-	Resource Control Center
RCMA	-	Reliability Centered Maintenance Analysis
RCS	-	Report Control Symbol
REMIS	-	Reliability and Maintainability Information System
RPA	-	Remotely Piloted Aircraft
SCM	-	Supply Chain Manager
SE	-	Support Equipment
SLE	-	Service Life Extension
SLEP	-	Service Life Extension Program
SNCO	-	Senior Non-Commissioned Officer
TCI	-	Time Change Item
TCM	-	Technical Content Manager (cover page)
TCTO	-	Time Compliance Technical Order
TH	-	Thru-Flight
TM	-	Technical Manager
TM	-	Technical Manual
TMDE	-	Test Measurement and Diagnostic Equipment
TO	-	Technical Order
TSCO	-	Time Since Complete Overhaul
TT	-	Total Time
UDLM	-	Unscheduled Depot Level Maintenance
WAI	-	Walk-Around Inspection
WCD	-	Work Control Document
WCE	-	Work Center Event
WES	-	Work Event Separator
WUC	-	Work Unit Code
WRM		War Reserve Material

GLOSSARY

A

ACCESSORY — A self-contained unit mounted on a higher assembly or is installed in a weapon system or end item of equipment. It is designed to perform a specific function; such as, generating electrical power, producing hydraulic or oil pressure or to apply these sources of power for actuating doors, mechanisms, and flight control surfaces.

AEROSPACE VEHICLE — Any vehicle that is designed to operate in the atmosphere and/or space environment.

AEROSPACE EQUIPMENT — Weapon systems and equipment including aerospace vehicles, equipment, missiles, nuclear weapons, Test Measurement and Diagnostic Equipment (TMDE), ground Communications-Electronics (C-E) equipment, trainers, equipment, and all related support equipment (SE).

AIRCREW FLIGHT EQUIPMENT (AFE) — Individual items worn by, attached to, used by or provided for aircrew and passengers to maintain life, health, function, and safety during flight and to provide for escape, descent, survival, and recovery.

ASSEMBLY — A unit which is normally removed and replaced as a single item, consisting of accessories and components that collectively perform a specific functional operation. Examples of assemblies are: engines, guidance and control packages, gearboxes, hydro-electrical, mechanical actuators, and communications equipment operating assembly (OA) groups.

B

BENCH CHECK — This term includes any off-equipment action by maintenance in determining the condition status of an item and the determination of capability or lack of capability to return an item removed for a malfunction or an alleged malfunction, to a serviceable status. It also includes repair action when the repair is accomplished concurrently with the bench check.

BITS AND PIECES — Items that are normally treated as one piece of hardware or are physically constructed of two or more pieces joined together in a way that prevents disassembly without destruction or impairment of the designed use. Examples of such items are nuts, bolts, screws, gaskets, seals, bearings, brushes, gears, fuses, light bulbs, tubes, capacitors, and resistors.

C

CLASS A-1 AND B-1 ACCESSORIES (AEROSPACE VEHICLE, AIR-LAUNCHED MISSILE, AND SE ENGINE ITEMS ONLY) — Externally mounted engine accessories and components of turbojet engines, which when installed, constitute a complete basic engine as prescribed in TO 2J-1-24. Return these accessories with the engine to an overhaul facility in accordance with instructions in the above referenced TOs.

CLASS A-2 AND B-2 ACCESSORIES (AEROSPACE VEHICLE, AIR-LAUNCHED MISSILE, AND SE ENGINE ITEMS ONLY) — Externally mounted engine accessories and components of reciprocating and turbojet engines, which are not a part of the basic engine but are a part of the engine quick-change power pack, and for which a replacement time is specified in the aerospace vehicle, missile or SE inspection requirements manual.

COMMONALITY — Applies to materiel or systems that possess like and interchangeable characteristics enabling each to be utilized or operated and maintained, by personnel trained on the others without additional specialized training. Has interchangeable repair parts and/or components.

COMMON ITEM — Any item of materiel required for use by more than one activity and is a readily available commercial item. Items used by two or more military services of similar manufacture or fabrication that may vary between the services as to color or shape. Any part or component that is required in the assembly of two or more complete end-items.

COMMON AVIATION SUPPORT EQUIPMENT (C-AVSE) — Aerospace maintenance support equipment that is used across multiple weapon systems (may align under any of the following functional categories: Aerospace Ground Equipment (AGE); Test, Measurement and Diagnostic Equipment (TMDE); Automated Test Systems (ATS); Propulsion Support Equipment, i.e.: hush houses/test cells/trailers; and Munition Materiel Handling Equipment (MMHE). Typically centrally funded and centrally managed.

COMPONENT — An item (assembly, subassembly or part) which serves as one of the parts of a whole.

CONFIGURATION — The functional and/or physical characteristics of hardware and software as set forth in technical documentation and achieved in a product.

CONFIGURATION CONTROL — The systematic evaluation coordination, and approval or disapproval of all approved changes in the configuration of a base-lined CI, and implementation of approved changes.

CONFIGURATION IDENTIFICATION — The current approved or conditionally approved technical documentation for a configuration item as set forth in specifications, drawings and associated lists, and documents referenced therein.

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.

CONFIGURATION MANAGEMENT — A discipline applying technical and administrative direction and surveillance to:
Identify and document the functional and physical characteristics of a CI.
Control changes to those characteristics.
Record and report change processing and implementation status.

D

DEPOT INDUSTRIAL PLANT EQUIPMENT (DIPE) — Depot Industrial Plant Equipment is known as equipment utilized in a depot industrial maintenance area as outlined in AFSCMAN 21-102.

DISPATCHABLE TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE) — TMDE issued out and is designed to be used outside the owning/issuing workcenter.

E

ELECTRONIC CIRCUIT BREAKERS (ECB) — An ECB is a software controlled programmable microprocessor. An ECB functions like a traditional mechanical CB by opening electrical circuits when amperage rating has been exceeded. Technicians operate (open/close) ECBs remotely via touch pad/touch screen. Strapping is an electronic safeguard that is activated/deactivated through software commands to prevent inadvertent/unauthorized closing of an ECB.

END ITEM OF EQUIPMENT — An entity of hardware which is not to be installed in another piece of equipment. The end item for airborne units is the aerospace vehicle itself. For SE, it is that configuration of hardware not installed in, nor physically attached to another piece of equipment to the extent that it loses its end item identity. Engines will also be considered as an end item when they are in a removed status. Selected systems that do not meet the above criteria but have been selected to be treated as such by the Maintenance Data Documentation (MDD) Product Working Group (PWG) in the maintenance information systems e.g., guns, ejection systems, EA PODs.

ENGINE CONFIGURATION MANAGEMENT SYSTEM (ECMS). — A compliance accounting system for TCTOs issued against selected aerospace vehicle engines, missile engines, and auxiliary power units (APU).

F

FAMILY OF SYSTEMS — A grouping having some common characteristics(s). For example, each system in a family of systems may belong to a domain or product line, each having a level of commonality and unique variants.

FUNCTIONAL CHECK — A functional check accomplished prior to use, on serviceable items withdrawn from supply stocks, and checks performed in the maintenance shops on repaired and over hauled items and on non-failure items that are removed for scheduled bench check and/or calibration.

G

G081 — G081 provides a maintenance management system and a logistics command and control system for the MAF fleets. It provides fleet-wide visibility of status and location of aerospace vehicle, discrepancy history, TCTO status, MDD history, personnel, back shop production control, training, SE, and AGE.

I

INTEGRATED MAINTENANCE DATA SYSTEM (IMDS) — An automated maintenance information system for aerospace vehicle, engine, trainer, SE, missile, TMDE, and communications-electronic maintenance data. IMDS provides support for home base, deployed operations and depot level maintenance data.

L

LINE REPLACEABLE UNIT (LRU) — An item that is normally removed and replaced as a single unit to correct a deficiency or malfunction on an end item of equipment.

M

MINIMUM EQUIPMENT LIST — Established minimum requirement for essential maintenance assets to include engines, pods, AGE, vehicles, etc.

MINIMUM ESSENTIAL SUBSYSTEMS LIST (MESL) — MESLs lay the groundwork for reporting the status of aerospace vehicle capability. MESLs list the minimum essential systems and subsystems that must function on an aerospace vehicle for it to perform specifically assigned unit wartime, training, test or other missions.

MUNITIONS MATERIEL HANDLING EQUIPMENT (MMHE) — Powered or non powered equipment specifically designed to interface with and/or support munitions shipping, storing, assembly/disassembly, transporting, loading or unloading operations. MMHE must be certified by either the Nuclear or Non-nuclear certification board. Nuclear certified items are certified for non-nuclear use.

O

OPERATIONAL CHECK — A functional check of an accessory, component or system accomplished in its installed environment to ensure proper installation and operation.

OVERHAUL — The disassembly, cleaning, inspection, repair or replacement of parts or components; reassembly; and test of any item or accessory in accordance with applicable technical orders, directives or authorized manufacturers publications to provide an operationally safe reliable item.

P

PECULIAR SUPPORT EQUIPMENT (PSE) — Aerospace maintenance support equipment that is used by only a singular Mission Design Series (may align under any of the following functional categories; Aerospace Ground Equipment (AGE); Test, Measurement and Diagnostic Equipment (TMDE); Automated Test Systems (ATS); Propulsion Support Equipment, i.e.: hush houses/test cells/trailers; and Munition Materiel Handling Equipment (MMHE). Typically funded and managed by using Mission Design Series Program Office.

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.

PROPULSION SUPPORT EQUIPMENT — Propulsion SE are those support equipment items used to transport, store, maintain, remove/replace engine components, download, test, troubleshoot, repair, and analyze aircraft engine data to identify or isolate actual or potential malfunctions or decide if they meet operational specifications established in technical documents. This equipment includes, but is not limited to, aircraft engine trailers, ground handling adapters, ground handling cradles, propeller trailers, hoisting adapters, aircraft maintenance fixtures, noise suppressors, engine test stands, borescopes, aircraft engine fixtures, and engine download devices, etc.

R

READY LINE — Designated parking area for AGE that is ready for use. Prior to parking AGE on the ready line a service inspection shall be performed and annotated in Part II of the AFTO Form 244. Ready lines are established by the AGE Flight Chief (or equivalent) as needed, in coordination with OSS's/Support Unit's Airfield Operations Flight. The terms READY LINE and SUB-POOL are not synonymous. See SUB-POOL for definition.

REAL PROPERTY INSTALLED EQUIPMENT (RPIE) — Items of equipment attached to or installed in real property. This equipment is normally programmed, procured, funded, and installed through the USAF military construction program. Real property installed equipment also includes missile support subsystems or items which are predominately composed of common standard commercial type items.

S

SUB-POOL — Designated, temporary holding area used as a pick-up/drop-off point for AGE. AGE is not required to be fully serviced when parked in a sub-pool. Additionally, a current service inspection is not required to be signed off in Part II of the AFTO Form 244. GP/CC may require an operator inspection to be annotated in Part II of the AFTO Form 244 prior to placement in a sub-pool. AGE Flight is responsible for monitoring sub-pools at least once per standard length shift (each work center that co-utilizes sub-pools is responsible for monitoring their own equipment). Sub-pools are established by the AGE Flight Chief (or equivalent) as needed, in coordination with OSS's/Support Unit's Airfield Operations Flight. The terms SUB-POOL and READY LINE are not synonymous. See READY LINE for definition.

SCHEDULED MAINTENANCE — Known or predictable maintenance requirements that can be planned or programmed for accomplishment on short and long-range schedules. This includes accomplishing recurring scheduled maintenance inspection and servicing, complying with TCTOs other than the immediate action category, accomplishing scheduled time change item replacements, and correcting delayed or deferred discrepancies. It also includes modification and renovation projects that are programmed for depot accomplishment.

SERIALLY CONTROLLED ITEMS — Those items of equipment selected by the PM for which it is necessary to maintain TCTO configuration accounting and/or location information by item serial number to provide operating time data and status for logistics management and weapon system compatibility purposes.

T

TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE) — TMDE are those devices used to maintain, evaluate, measure, calibrate, test, inspect, diagnose or otherwise examine materials, supplies, equipment, and systems to identify or isolate actual or potential malfunction or decide if they meet operational specifications established in technical documents. This category includes aerospace vehicle/engine test cells, shop test stands, NDI equipment, electrical test sets, Precision Measurement Equipment (PME), weapon systems or aerospace vehicle mockups, generator load banks, and associated electrical/electronic supporting equipment, hydraulic test stands stationary, cabin leakage testers, etc.

V

VEHICULAR SUPPORT EQUIPMENT (VSE) — Support equipment that can move under its own power but is not made to be driven off the flightline. Examples of VSE are tugs, cargo transporters, powered boarding stairs, and deicers.

INDEX

INDEX - CONTINUED

INDEX - CONTINUED

INDEX - CONTINUED

L

M

INDEX - CONTINUED

INDEX - CONTINUED