TECHNICAL MANUAL

AEROSPACE EQUIPMENT MAINTENANCE INSPECTION, DOCUMENTATION, POLICIES, AND PROCEDURES

(ATOS)

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CHAPTER 1
GENERAL

1.1 PURPOSE.

1.1.1 This Technical Order (TO) establishes the policies and procedures for use of the 00-20 series TOs and provides weapon system and equipment maintenance inspection and documentation guidance. It also implements the policies of AFI 21-101, *Aircraft and Equipment Maintenance Management* ; AFI 11-301, *Aircrew Flight Equipment (AFE) Program*, and AFI 21-102, *Depot Maintenance Management.*

NOTE

Serviceability and documentation procedures for all conventional munitions and missiles managed in accordance with AFI 21-201, *Conventional Munitions Maintenance Management*, will be in accordance with T.O. 11A-1-10, *Air Force Munitions Surveillance Program and Serviceability Procedures.*

1.1.2 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, all related support equipment (SE). This technical order is applicable to all organizations maintaining this equipment.

1.1.3 Lead Commands may supplement 00-20 series TOs as required. 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. For the purpose of the 00-20 series TOs, the term AFMC Single Manager (SM) includes System Program Directors (SPD), Product Group Managers (PGM) and Supply Chain Managers (SCM).

1.1.4 Air Force agencies will not furnish maintenance data in any form to contractors unless the applicable Lead Command, Field Operating Agency, or Weapon System Manager, as appropriate, has granted approval. Operating activities will not perform any additional documentation requirements above those outlined in this TO without Lead Command and HQ USAF/A4LM approval.

1.1.5 In the 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 to ensure that the criteria of this TO is complied with.

1.1.6 Forward requests for waivers to this technical order through Lead Command channels to USAF/A4LM for approval. For Maintenance Data Documentation (MDD) system waivers, refer to TO 00-20-2, *Maintenance Data Documentation.* Provide a copy of the proposed waiver to HQ AFMC/A4UE.

1.2 RECOMMENDATIONS FOR TECHNICAL ORDER CHANGES.

All changes to this technical order must be forwarded through your Lead Command. Submit change requests using AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*, IAW TO 00-5-1, *AF Technical Order System.*

1.3 CONTRACT MAINTENANCE OPERATIONS.

1.3.1 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:

1.3.1.1 Sign exceptional releases.

1.3.1.2 Downgrade Red X or Red W conditions.

1.3.1.3 Sign off Red X or Red W symbol.

1.3.1.4 Certify operational capability.

1.3.1.5 Perform functional check flights (if applicable).

1.3.1.6 Update weight and balance records IAW TO 1-1-B-50, *Aircraft Weight and Balance*.

1.3.2 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 SE IAW AFI 21-101 and other applicable directives.

1.3.3 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.

CHAPTER 2
AEROSPACE VEHICLE INSPECTIONS

2.1 GENERAL.

2.1.1 Inspection intervals required for Air Force aerospace vehicles are prescribed in applicable Mission Design Series (MDS) specific -6 TO maintenance manuals, inspection work cards, 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 beyond what is authorized in aerospace vehicle specific technical manuals must be approved through the SM in coordination with the Lead Command.

2.1.2 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 Each SM determines minimum scheduled inspection requirements for assigned aerospace vehicles and ensures these requirements are kept current. These requirements are published in the MDS specific -6 TO and also in inspection work card decks, (e.g. pre-flight, basic post-flight, thru-flight, etc.). After initial publication, the SM may, in coordination with applicable Lead Command, delete Section I from MDS specific -6 TO if Section I contains the same inspection requirements as published in the inspection work card decks.

2.2.2 The basic sub-elements for the periodic, phase, isochronal, PDM, and aerospace vehicle manufacturer inspection concepts are as follows.

2.2.2.1 PERIODIC CONCEPT:

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

2.2.2.2 PHASE CONCEPT:

Pre-flight (PR)	Basic Post-Flight (BPO)
Pre-Launch Inspection (PLI) or Walk around (WAI)	Combined Pre-Flight (PR/BPO)
End of Runway (EOR)	Hourly Post-Flight (HPO)
Thru-Flight (TH)	Phase (PH)
Quick Turn (QT)	

2.2.2.3 ISOCHRONAL CONCEPT:

Pre-flight (PR)	Hourly Post-Flight (HPO)
End-of-Runway (EOR)	Home Station Check (HSC)
Thru-Flight (TH)	Minor (Min)

Quick Turn (QT)	Major (Maj)
Basic Post-Flight (BPO)	Combined Pre-Flight (PR/BPO)

2.2.2.4 PROGRAMMED DEPOT MAINTENANCE (PDM)

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

2.2.2.5 AEROSPACE VEHICLE MANUFACTURER INSPECTION CONCEPT

A Check	C Check
B Check	D Check

2.2.3 Lead Commands may authorize aerospace vehicles to use a modified inspection work card deck during contingencies, and increased readiness conditions. The SM designates and publishes work cards 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 work card deck upon termination of this period as directed by the Lead Command.

2.2.4 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 SM 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 SM and the Lead Command. Changes to prescribed inspection intervals, concepts or requirements will be made by the SM only after thorough analysis of data obtained from the Maintenance Information System (MIS) and from appropriate Reliability Centered Maintenance Analysis (RCMA).

2.2.5 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 SM, 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 Appendix A, are exempt from these requirements.

2.3 SPECIFIED FLYING PERIOD.

2.3.1 The specified flying period begins with the first flight and continues for a period of hours as specified by the Lead Command not to exceed 72 hours.

2.4 PRE-FLIGHT INSPECTIONS (PR).

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

2.4.2 A preflight will be required prior to the first flight of the flying period, or when the preflight validity period has expired.

2.4.3 Lead Commands, in conjunction with the aerospace vehicle SM, may select a 24-, 48- or 72-hour pre-flight validity period.

2.4.4 The pre-flight validity period ends when the selected time period in paragraph 2.4.3. has expired or when the specified flying period expires, whichever occurs first. Lead Commands or MDS specific technical orders may be more restrictive.

2.4.5 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, remain under the control of operations and be monitored by maintenance.

2.4.5.1 Accomplish a complete preflight inspection prior to sealing the aircraft.

2.4.5.2 A new pre-flight is not required during the alert period or as long as the aircraft is launched directly from alert status regardless of the pre-flight validity period.

2.4.5.3 Upon termination of alert status, accomplish a preflight if the preflight validity period expired.

2.4.6 Pre-Launch Inspection (PLI) or Walk-Around Inspection (WAI). The PLI and WAI are abbreviated pre-flights and will be accomplished as required by MDS-specific -6 TO and/or Lead Command supplement to this TO.

2.5 END-OF-RUNWAY INSPECTION (EOR).

2.5.1 The EOR inspection is a final visual and/or operational check of the aerospace vehicle. The SM in coordination with the Lead Command will list minimum inspection requirements in the applicable -6 TO and publish in an existing work card deck.

2.5.2 EOR is performed immediately prior to take-off at a designated location, usually near the end of the runway.

2.5.3 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.

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

2.6 THRU-FLIGHT INSPECTION (TH).

2.6.1 The TH inspection is a “between flights” inspection and will be accomplished after each flight when a turnaround sortie or a continuation flight is scheduled and a basic post-flight 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 inspection 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.

2.6.2 Certain aerospace vehicles have thru-flight inspection requirements identified by special characters in applicable work card decks. Other aerospace vehicles have separately published thru-flight inspection work card decks.

2.7 QUICK TURN INSPECTION (QT).

2.7.1 QTs are abbreviated thru-flight inspections authorized by MDS specific -6 TOs.

2.7.2 Lead Commands will publish QT guidance and may authorize QT inspections for aerospace vehicles resuming alert after flight or placing aerospace vehicles on alert at alert site locations.

2.8 BASIC POST-FLIGHT (BPO) INSPECTION.

2.8.1 The BPO inspection is a more thorough check than the pre-flight or the thru-flight inspections and is accomplished in accordance with the MDS specific -6 TO or maintenance manual for the aerospace vehicle.

2.8.2 This inspection 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.

2.8.3 Maintenance personnel will perform a BPO after the last flight of a specified flying period or a combined pre-flight/BPO prior to the next flying period if the aerospace vehicle has flown.

2.9 COMBINED PRE-FLIGHT/BASIC POST-FLIGHT (PR/BPO) INSPECTION.

2.9.1 This inspection consolidates the requirements of the pre-flight and basic post-flight 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.

2.10 HOUR POST-FLIGHT INSPECTION (HPO).

2.10.1 The HPO inspection is accomplished at equally spaced intervals as specified in the applicable MDS specific -6 TO.

2.10.2 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.

2.11 PERIODIC INSPECTION (PE).

2.11.1 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.

2.12 PHASE INSPECTIONS (PH).

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

2.12.2 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.

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

2.12.4 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 Lead Command and SM. Upon completion of the extended mission, normal scheduling of the phase packages will be resumed.

2.13 ISOCHRONAL INSPECTION (ISO).

2.13.1 The ISO concept translates flying hour utilization rates into calendar periods, usually expressed in days. The SM 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 SM, in conjunction with the Lead Command, determines the necessary adjustments.

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

2.13.3 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.

2.13.4 Lead Commands, with SM 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, *Maintenance Assistance*), extended fuel repair and TCTO kit proofing. The GP/CC establishes procedures to ensure these aircraft are placed in storage in accordance with TO 1-1-17, *Storage of Aircraft and Missile Systems*, when required.

2.13.4.1 Send requests for ISO schedule deviations to the Lead Command 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:

2.13.4.1.1 MDS

2.13.4.1.2 Serial Number

2.13.4.1.3 Reason for Request

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

2.13.4.1.5 Actual Inspection Due Date

2.13.4.1.6 Requested Inspection Date

2.13.4.1.7 Completion Date of the post-dock for the last Isochronal Inspection

2.13.4.1.8 Number of PDM Days Since Last Inspection

2.13.4.1.9 Total days in unscheduled depot level maintenance (UDLM)

2.13.4.1.10 Special Inspections Due

2.13.4.1.11 Time Change Items Due (Item, Date Due/Time Remaining)

2.13.4.1.12 Outstanding TCTOs (only those affected by the extension)

2.13.4.1.13 Airframe Hours Since Last Inspection

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

2.13.5 Aerospace vehicles in Possessed Purpose Code "DJ" (as determined by Air Force Data Dictionary, ADE AE-710), 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.

2.13.6 Isochronal inspections for ground launched missiles and 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

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

2.14 MINOR (MIN) ISO.

2.14.1 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.

2.14.2 The MIN inspection is due upon accrual of the number of calendar days established as the inspection interval in the MDS.

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

2.15 MAJOR (MAJ) ISO.

2.15.1 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.

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

2.16 HOME STATION CHECK (HSC) INSPECTION.

The HSC is an inspection 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 Lead Command 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 2.13.4.1 thru 2.13.4.1.14 for submittal requirements. Since the HSC is an integral part of the isochronal concept, compute this date from the completion of the last HSC/isochronal inspection. Accomplish the inspection in conjunction with minor and major inspections.

2.17 PROGRAMMED DEPOT MAINTENANCE (PDM).

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

2.17.2 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 SM grants an extension.

2.18 AEROSPACE VEHICLE MANUFACTURER INSPECTIONS.

2.18.1 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.

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

2.18.3 Lead Commands, with SM concurrence, approve deviations to schedules if letter check inspections cannot be met IAW MDS-specific -6 TO requirements.

2.18.4 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.

2.19 NO-FLY CALENDAR INSPECTIONS.

2.19.1 Thirty (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.

2.19.1.1 If no BPO inspection exists, perform a pre-flight 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.

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

2.19.2 Ninety (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), accomplish the following before the aerospace vehicle is returned to operational status if no -6 or -2 TO requirements exist:

2.19.2.1 Perform a BPO or equivalent inspection.

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

2.19.2.3 Accomplish all lubrication requirements.

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

2.20 TRANSFER INSPECTIONS.

See Chapter 8.

2.21 ACCEPTANCE INSPECTIONS.

The Lead Command will determine if an acceptance inspection is required on all newly assigned or organic/contract depot repaired vehicles/engines and equipment prior to being placed in service. If required, the Lead Command will determine the scope of these inspections. These inspections may be performed at the depot, alternate location or home station.

2.22 ONE TIME INSPECTIONS (OTI).

2.22.1 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.

2.22.2 When an unsafe condition or materiel 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:

2.22.2.1 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.

2.22.2.2 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, *USAF Material Deficiency Reporting and Investigation*. When units restrict usage of similar systems, initiate a local OTI and report findings to Lead Command for determination of fleet-wide OTI requirements.

2.22.3 Process and manage Lead Command or local OTIs with the same procedures as a TCTO. OTIs are issued with a data code consisting of a unique alpha prefix and a six character sequence number. Lead Command 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 Lead Command 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.

2.22.4 For local OTIs, seven characters will identify the originating wing, year issued and a sequence number (e.g., XXXYY03: XXX for unit designation, YY for two digit year, and 03 for the third OTI in the year). If your unit has only two digits, precede it with a zero. The data code is used to report and control OTI compliance. QA will track and issue local OTI numbers.

2.22.5 OTI Contents. Minimum contents include statements of:

2.22.5.1 Title.

2.22.5.2 Applicable Equipment

2.22.5.3 Date OTI was issued.

2.22.5.4 Compliance period/Type or category (i.e., Immediate, Urgent, Routine).

2.22.5.5 Remove from service date.

2.22.5.6 Rescission date.

2.22.5.7 By whom to be accomplished (AFSC and man-hours required).

2.22.5.8 Tools required.

2.22.5.9 How work is to be accomplished (give detailed and specific step-by-step instructions).

2.22.5.10 Operational checks (if required to verify operational status, list TO references).

2.22.5.11 Record actions.

2.22.5.12 Compliance reporting (MAJCOMs may require periodic status).

2.22.5.13 OPR (the OTI's drafter; include name and telephone number).

2.22.5.14 OTI Distribution. OTIs are sent to all applicable organizations.

2.23 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, Lead Command, or locally directed and are accomplished by IPI certified personnel.

2.23.1 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.

2.23.2 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 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.

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

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

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

2.23.3.3 Tactical missile IPIs are documented in the TMRS. Ensure the step that requires the IPI and the employee number are identified on the documentation.

2.24 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.

2.25 INSPECTION WORK CARDS (AFTO FORM 26).

2.25.1 Inspection work cards 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 work card 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 work cards permits the supervisor to assign a technician to a certain work area to do a specific task or series of tasks. The SM, in collaboration with Lead Commands, will prepare and update inspection work cards. MDS specific -6 TO inspection work cards may include varying calendar inspection periods (7-day, 15-day, etc.) as determined by the weapon system SM and Lead Command.

2.25.2 When the arrangement of published work cards 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 Lead Command directives.

2.25.3 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.

2.25.4 AFTO FORM 26, AEROSPACE VEHICLE INSPECTION WORK CARD (Figure 2-1) permit local preparation of replacement work cards for those that become unserviceable. Local reproduction of the forms is authorized. These forms are also provided to permit the preparation of additional work cards for special installed equipment and covered by the published card set. These forms also aid in preparation for complete inspection work card sets for equipment of nonstandard configuration, or which are in service in limited quantities, and do not have published inspection work card sets. Activities possessing equipment or the categories mentioned above must contact the SM to determine whether published work card sets will or will not be provided before any action is taken to prepare complete inspection work card sets locally.

2.26 INSPECTION RESPONSIBILITY FOR WORK ACCOMPLISHED BY DEPOT OR CONTRACTOR FIELD TEAMS (DFT/CFT).

2.26.1 When modifications are accomplished on AEROSPACE EQUIPMENT by depot or contractor field teams, the following policies apply to inspection of work accomplished:

2.26.2 The ALC is responsible for inspecting the work of their DFT/CFT. If depot QA personnel do not accompany DFT/CFT, the ALC negotiates with the Lead Command to perform QA inspections and will include this in the workload agreement.

2.26.3 Acceptance of DFT/CFT work by base maintenance personnel is in accordance with agreements made between the ALC and the Lead Command representatives during the pre-contract conference (AFI 21-102).

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 IMT 26, 20000201, *V-5* **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 IMT 26, 20000201, *V5* **PREVIOUS EDITION IS OBSOLETE**

H1007905

Figure 2-1. AFTO Form 26, Aerospace Vehicle Inspection Work Card

CHAPTER 3
AEROSPACE EQUIPMENT FORMS DOCUMENTATION

3.1 GENERAL.

3.1.1 This chapter prescribes general requirements and procedures for aerospace equipment forms documentation. It specifies filing, disposition, and general documentation requirements. 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.

3.1.1.1 AFTO FORM 46, PREPOSITIONED LIFE SUPPORT EQUIPMENT (ALERTS generated authorized).

3.1.1.2 AFTO FORM 95, SIGNIFICANT HISTORICAL DATA.

3.1.1.3 AFTO FORM 244, INDUSTRIAL SUPPORT EQUIPMENT RECORD.

3.1.1.4 AFTO FORM 427, AEROSPACE VEHICLE INTEGRAL FUEL TANK REPAIR HISTORICAL DATA.

3.1.1.5 AFTO FORM 428, B-1B AIRCRAFT INTEGRAL FUEL TANK REPAIR HISTORY RECORD.

3.1.1.6 AFTO FORM 781, ARMS AIRCREW MISSION FLIGHT DATA DOCUMENT.

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

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

3.1.1.9 AFTO FORM 781F, AEROSPACE VEHICLE FLIGHT REPORT AND MAINTENANCE DOCUMENT.

3.1.1.10 AFTO FORM 781H, AEROSPACE VEHICLE STATUS AND MAINTENANCE DOCUMENT.

3.1.1.11 AFTO FORM 781J, AEROSPACE VEHICLE-ENGINE FLIGHT DOCUMENT.

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

3.1.1.13 AFTO FORM 781N, J-79 ENGINE RUNUP RECORD.

3.1.1.14 DD FORM 1896, DOD JET FUEL IDENTAPLATE.

3.1.1.15 DD FORM 2026, OIL ANALYSIS RECORD.

3.2 MAINTENANCE INFORMATION SYSTEMS (MIS).

MIS refers to the automated maintenance information systems including Integrated Maintenance Data Systems (IMDS), Reliability and Maintainability Information System (REMIS), G081, Comprehensive Engine Management System (CEMS), PMEL Automated Management System (PAMS), Automated Life-sustaining Equipment & Record Tracking System (ALERTS), Automated Life Support Management System (ALSMS), Defense Repair Information Logistics System (DRILS), and and Reliability, Availability, Maintainability Logistics Support System for Pods (RAMPOD). These systems must be developed and used meeting the intent of documentation requirements contained in this publication. Use of systems other than those listed above require Lead Command and HQ AF A4l approval. EXCEPTION F-22 IMIS and F-35 ALIS will utilize embedded electronic forms capabilities in accordance with applicable T.O.'s. 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. REMIS is the system of record for all maintenance data documentation.

3.3 AUTOMATED FORMS.

Use of automated forms is mandatory. As a minimum, AFTO Forms 781A, 781J, 781K, and 95's generated by the MIS will constitute fully automated forms. (EXCEPTION: F-22 IMIS and F-35 ALIS utilize embedded forms capabilities.) Manual forms produced by a computer program do not meet the intent of automated forms. Use of ALERTS generated AFTO form 46 is authorized. Other automated products may be used for process controls and/or AFTO Form 244 documentation (e.g.

Process Control Automated Management System (PCAMS)). Permanently grounded Ground Instructional Training Aircraft (GITA) are not required to use automated forms.

3.4 FORMS ENTRIES.

3.4.1 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 or stamp), unless otherwise specified.

3.4.2 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 Technical Orders 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 The minimum signature for maintenance document purposes required by the 00-20- series TOs consists of the first name initial, last name, and employee number (omit employee number from signature if form has specified block for employee number), or USERID or equivalent/FAA certification number. Electronic signatures may be used in lieu of these requirements.

3.6.2 Minimum signature for aircrews consists of the written first name initial, last name and when applicable, crew position. For Mobility Air Forces (MAF) units, add flying squadron number, i.e., 00022 for 22AS or 00319 for 319AS. Electronic signatures may be used in lieu of these requirements.

3.6.3 Contractors/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 (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 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. EXCEPTION: Transfer of F-22 IMIS and F-35 ALIS electronic documentation is facilitated by contracted system 715 administrators and PS&D.

NOTE

See Chapter 8 for more specifics on transfer of aerospace vehicles.

3.8.2 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 SM for disposition instructions with an information copy to the Lead Command.

3.9 FILING.

3.9.1 File and dispose of all forms IAW AFMAN 33-363, *Management of Records Schedule.*

3.9.2 The file may include hard or electronic copies.

3.9.3 Computer generated forms in these files may contain a difference in format, but must contain all required information.

3.9.4 Examples of documents in a historical file are, but not limited to:

3.9.4.1 AFTO FORMS 781 series.

3.9.4.2 AFTO FORMS 95, 244, and 427 or 428.

3.9.4.3 Non-destructive Inspection (NDI) documents or resume reports that are current, and X- ray films, if applicable.

3.9.4.4 Functional check flight checklist/worksheets.

3.9.5 Establish and maintain an individual historical file, in accordance with AFMAN 33-363 and AFI 21-101 for each aerospace vehicle or equipment.

3.10 DISPOSITION OF DOCUMENTS.

3.10.1 Dispose of all form IAW AFMAN 33-363, *Management of Records Schedule*, and this technical order.

3.10.2 When a ground launched missile is expended or destroyed, forward historical documents to the SM within 10 working days after the occurrence. In the event an accident investigation board, not related to AFI 51-503, Aerospace Accident Investigations, impounds documents of a ground launched missile, forward the documents to the SM within 10 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.

3.10.3 Disposal of 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 AFMAN 33-363.

3.11 MAINTENANCE OF DOCUMENTS DURING EXTENDED STORAGE.

3.11.1 Maintain documents with aerospace equipment, in the appropriate documentation activity, or MIS for items in extended storage IAW TO 1-1-17 or other directives. Update maintenance and historical files for aerospace equipment being returned to service.

3.11.2 While aerospace equipment is in extended storage, the responsible activity will record all applicable time compliance technical orders (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.

3.11.2.1 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 ECMS/TCTO data reflecting current applicability.

3.11.3 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.

3.11.4 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 waivers in the aerospace vehicle or equipment's historical documents.

3.12 AIR CARD/FUEL IDENTIPLATE.

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

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

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

3.13.2 With HQ 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.

3.13.3 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.

3.13.4 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.

When a depot receives an aerospace vehicle, the depot will:

3.14.1 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.

3.14.2 Transfer all AFTO Form 781K entries to WCD and enter the statement, “All preceding open discrepancies 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. The end result must be a complete audit trail in the 781 series forms.

3.14.3 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.

3.14.4 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.

3.14.5 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 9.1.5 will be entered into REMIS 796 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, insert AFTO FORM 781B bearing the appropriate information and insert in the front side of the front cover of the AFTO FORMS 781 binder. The information on this form identifies the assigned security classification and the equipment or documents by their title or nomenclature unless this information is classified. (e.g. confidential documents for the ratio carried in the aerospace vehicle). If the equipment or documents are not keyed and do not maintain a Cryptographic Controlled Item (CCI) classification status, the form will not be displayed on the front side of the front cover of the binder, store it in the backside of the front cover for future classifying purposes. In lieu of using AFTO FORM 781B this information may be electronically formatted on the AFTO FORM 781F. This form must be removed and replaced when the classified equipment is no longer installed. Stamp or mark this form 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.

CHAPTER 4
SYMBOLS AND THEIR USE

4.1 GENERAL.

4.1.1 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.

4.1.2 The Red X represents the most serious possible condition. The Red W 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 are printed in black, but must be overwritten in Red.

4.2 RED X.

4.2.1 A Red X indicates that the aerospace vehicle, equipment, or SE is considered unsafe or unserviceable 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.

4.2.1.1 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.

4.2.2 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.

4.2.3 Use a Red X (NOTE: Not all inclusive):

4.2.3.1 When aerospace equipment is considered unsafe, unserviceable, or non-airworthy. EXCEPTION: Dash 21 Equipment normally installed for ground handling addressed in pre-launch work cards/checklists do not require Red X documentation (e.g. pitot covers, gear pins, engine plugs/covers/fan stops, canopy struts and intake inspection mats).

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

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

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

4.2.3.5 When an egress final is required.

4.2.3.6 When installed AFE inspections are overdue. EXCEPTION: Those item(s) overdue while an aerospace vehicle is on alert status, away from home station, or not required for safe flight or operation (such as when life rafts are overdue but no over water mission is scheduled). These are placed on a Red Dash until the aerospace vehicle goes off alert status, returns to home station, or AFE mission requirements change.

4.2.3.7 When time change life sustaining items are overdue. 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.

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

4.2.3.9 When a scheduled inspection renders the aerospace equipment unsafe or unserviceable. An individual Red X is not required for items covered by the work cards.

4.2.3.10 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 Material 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, *General*

Instructions Applicable to Nuclear Weapons. For Cryogenics equipment, follow the applicable guidance as outlined in 37C2 series technical orders.

4.2.3.11 When aerospace vehicle weight and balance is unknown.

4.2.3.12 To indicate a FO inspection is required when maintenance has been performed in or around the air intake or exhaust areas of jet or gas turbine engines. NOTE: Work card and TO inlet and exhaust inspections (e.g. PR/BPO/TH) do not require a Red X entry.

4.2.3.13 When impounding aerospace equipment.

4.3 RED DASH (NOT APPLICABLE TO GROUND-LAUNCHED MISSILES).

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

4.3.2 Use a Red Dash: (Not all Inclusive)

4.3.2.1 When an accessory replacement, operational check, or Functional Check Flight (FCF) is due.

4.3.2.2 When an aerospace equipment inspection is due IAW 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. EXCEPTION: The inspection will not be postponed if prohibited by applicable -6 TO or equipment manual. See paragraph 4.2.3.10.

4.3.2.3 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.

4.3.2.4 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.

4.3.2.5 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 SM.

4.4 RED DIAGONAL.

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

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

4.4.3 Use a Red Diagonal (not all inclusive).

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

4.5 CLEARING RED SYMBOL ENTRIES.

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

4.5.2 Inspectors who are authorized to clear Red X symbols will enter their last name initial in black over the symbol in the symbol 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. Work accomplished by an inspector will require a check by another inspector.

4.5.3 When aerospace equipment is 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 symbol block.

4.5.4 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 symbol block and their minimum signature in the "INSPECTED BY" block.

4.5.5 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 symbol block and their minimum signature in the "CORRECTED BY" block.

4.5.6 When operations are conducted in locations where qualified maintenance personnel are not available, the home station GP/CC 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.

4.5.7 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 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.

4.6.2 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 of the person who made the entry, and entering his/her own minimum signature above the "DISCOVERED BY" block.

4.6.3 When a Red Dash is upgraded to a Red X, close out the original Red Dash with the remark, "Symbol upgraded to a Red X, see page _____, item _____" in the "CORRECTIVE ACTION" block and reenter the discrepancy on a Red X in the next open discrepancy block and reference the original Red Dash entry using the, "see page _____, item _____" format.

4.6.4 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.

4.6.5 To defer/waive accomplishment of an immediate or urgent action TCTO or commercial equivalent, submit requests to the SM, through the Lead Command. When waiver/deferral of a TCTO or commercial equivalent is approved downgrade the Red X to a Red Dash symbol IAW 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.

4.6.6 Symbols/initials once entered will never be erased with the exception of erroneous MIS entries related to scheduled maintenance (special inspection, time changes, and TCTOs). Correct erroneously entered symbols/initials as follows:

4.6.6.1 When a Red Dash or Red Diagonal 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 in the "CORRECTED BY" or "INSPECTED BY" block as applicable and initial over the symbol.

4.6.6.2 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 paragraph 4.6.6.1. 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.

4.6.6.3 When an initial is entered in error, clear the discrepancy IAW paragraph 4.6.6.1 or paragraph 4.6.6.2.

4.6.6.4 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" and clear the discrepancy IAW paragraph 4.6.6.1 or paragraph 4.6.6.2.

4.6.6.5 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 Time Compliance Technical Orders. 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 Time Compliance Technical Order completion are properly managed.

4.7 DOWNGRADING A RED X FOR ONE-TIME FLIGHT.

4.7.1 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 his/her designated official, the SM, 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 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 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" block.

4.7.1.2 In the next open block of the AFTO Form 781A, enter a Red Diagonal in the "SYMBOL" 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).

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

4.8 RED W (GROUND-LAUNCHED MISSILE USE ONLY).

4.8.1 A Red W symbol for ground launched missiles 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.

4.8.2 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.

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

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 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 entries on these forms are accurate. 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 The AFTO FORMS 781, 781A, 781F, 781H and 781K are mandatory for trainers in the 6930 Federal Stock Class (FSC), GP/CCs may approve the use of additional 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 781 series forms with other FSC trainers.

5.2.2 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 FORMS WITHIN THE BINDER.

AFTO FORMS 781, 781A, 781F, 781H, 781J, and 781K are mandatory for aerospace vehicles and are maintained in the aerospace vehicle forms binder. GP/CCs may approve the use of additional 781 series forms. Arrangement of forms in the binder are as follows: AFTO Forms 781F, 781, 781H, 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.

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

5.4.1 FCFs and Operational Checks, to include leak 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 will be part of the maintenance action. Document in the “CORRECTIVE ACTION” block by including a statement such as “OP CK GOOD.” If a malfunction is detected during the operational check, document the finding (for example, sign off the write-up as “OP CK 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, record the prescribing TO number and 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 and the operational check entries must refer to each other by entering “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 OP CK fails, the aircrew member will enter the remarks “OP CK BAD”, enter minimum signature in the “INSPECTED BY” block, initial over the symbol and enter 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 “SYMBOL” 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 filed in the historical file and disposed of in accordance with AFMAN 33-363.

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, Preparation For Shipment and Storage of Gas Turbine Engines, 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, AFORMS AIRCREW/MISSION FLIGHT DATA DOCUMENT (FIGURE 5-1 AND FIGURE 5-2).

5.6.1 The AFTO FORM 781 is the source document for recording individual flying time, sorties and/or events for input into the MIS and ARMS.

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

5.6.2.1 Block 2, “MDS.” Enter the mission, design and series (MDS) designators from block 12 of the AFTO Form 781F.

5.6.2.2 Block 3, “SERIAL NUMBER.” Enter the aerospace vehicle serial number. Example: 85-11428, 65-0966.

5.6.2.3 Block 4, “Unit CHARGED FOR FLY HOURS/HOSM-CODE.” Enter the organization to which the aerospace vehicle is possessed, with the command designation in parenthesis (e.g., 374 AW (AMC). Enter the four-letter code of the Host Operation System Management (HOSM) which services the organization, (supplied by the unit operations officer) to which the original forms must be sent for processing and filing.

5.6.2.4 Block 5, “LOCATION.” Enter the base to which the aerospace vehicle is assigned.

5.6.3 The aircraft commander will ensure completion of all other blocks required by AFI 11-401, Aviation Management.

5.6.4 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.

5.6.5 The ARMS input operator will complete block 41 in accordance with AFI 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	FULL STOP	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	SEC 24	INSTR 25	EVAL 26	OTHER 27	TOTALS TIME 28	SRTY 29	FLIGHT CONDITIONS NIGHT (P/S/I/E) 30	INS (P/I/E) 31	SIM INS (P/I/E) 32	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)*	41. SARM REVIEW	42. ARMS INPUT DATE	INITIALS	ARMS AUDIT DATE	INITIALS
	a. b. c. d. e. f.					

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, 20080911 **PREVIOUS EDITION IS OBSOLETE** **ARMS AIRCREW/MISSION FLIGHT DATA DOCUMENT**

H0303702

Figure 5-1. AFTO FORM 781, AFORMS 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. (CONTINUED) **AIRCREW DATA**

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

44 REMARKS OTHER THAN FLIGHT DISCREPANCIES

AFTO FORM 781, 20080911

H0303703

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

5.7 AFTO FORM 781A, MAINTENANCE DISCREPANCY AND WORK DOCUMENT (FIGURE 5-3 AND FIGURE 5-4).

5.7.1 Use the AFTO Form 781A to document each discrepancy discovered. For aircraft that have sustained battle damage see TO 1-1H-39, *General Aircraft Battle Damage Repair (ABDR)* for documentation procedures.

NOTE

Each time a maintainer is called to address a reported maintenance discrepancy; whether or not the discrepancy corrects itself, that discrepancy will be documented in the aircraft forms (do not document operator error discrepancies). This documentation will be performed regardless of the timing of the action in the generation, launching or recovering of the aircraft.

5.7.2 Maintenance personnel or aircrew trainer technician/operator will ensure that 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). Maintenance or aircrew trainer technician/operator will complete blocks 2 through 5.

5.7.2.1 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 781A's at the work-center).

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

5.7.3.1 Minimum heading requirements for double-sided AFTO Form 781A forms will be: *From, MDS, 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, and Serial number and Page Number* on all pages. When closing the forms out the following additional headings are also mandatory: *To and Of __ Pages.*

5.7.3.2 "FROM." Enter the date the form was initiated. Example: YYYYMMDD.

5.7.3.3 "TO." When closing out a set of forms enter the date the form was closed out and removed from the binder. 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.

5.7.3.4 "MDS." Enter the aerospace vehicle mission, design, and series designator. Example: C-130H.

5.7.3.5 "SERIAL NUMBER." Enter the aerospace vehicle serial number. Example 85-1428, 65-14828.

5.7.3.6 "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.

5.7.3.7 "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.

5.7.3.8 "SYM BLOCK." Enter the proper symbol of each discrepancy documented.

5.7.3.9 "JCN." Enter the job control number.

5.7.3.10 "DATE DISC." Print the date discrepancy is discovered.

5.7.3.11 "DOC NUMBER." Enter the supply document number, if part(s) is/are back-ordered.

5.7.3.12 "CF 781A," "XF 781K." When a new AFTO Form 781A is initiated, uncorrected discrepancies will be carried forward to a new AFTO Form 781A and discrepancies other than Red X items may be transferred to the AFTO Form 781K. When an individual transcribes a discrepancy to the AFTO Form 781K or a new AFTO Form 781A, in addition to checking the appropriate block, they will also sign the "CORRECTED BY" block with their minimum signature. Downgraded Red Xs will never be transferred to the AFTO Form 781K.

5.7.3.12.1 "CF 781A." When a discrepancy is carried forward to a new AFTO Form 781A, the individual transcribing the discrepancy will place a check mark in the CF 781A box. Transcribe the SYM, JCN, original date discovered, discrepancy

and, if applicable, the supply document number. The individual transcribing the discrepancy will print the name and employee number of the individual who made the initial entry.

5.7.3.12.2 "XF 781K." If the discrepancy is to be transferred to the AFTO Form 781K, place a check mark in the XF 781K box. Transcribe the SYM, JCN, original discrepancy and, if applicable, the supply document number.

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

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

5.7.3.14 "WUC/REFERENCE DESIGNATOR (GP/CC option)." Use this block, if applicable to document Work Unit Code information or the appropriate Reference Designator.

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

5.7.3.16 "DISCREPANCY."

5.7.3.16.1 Prior to entering new discrepancies, review the forms to prevent duplication.

5.7.3.16.2 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.

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

5.7.3.16.3.1 Quick access panels/doors/plugs/caps opened or removed for servicing and inspection (PR/BPO, TH, etc.) as specified in servicing and inspection TOs, do not need to be documented if closed/reinstalled upon servicing or inspection completion. Lead Commands will supplement this guidance providing documentation guidance per MDS addressing the leaving of these quick access panels/doors open/removed for next launch.

5.7.3.16.3.2 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. Fuel servicing documentation is not required on the AFTO Form 781A.

5.7.3.16.3.3 Panels/doors removed/opened except those identified in paragraph 5.7.3.16.3.1 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 the see page __, item __ format. 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.

5.7.3.16.3.3.1 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, signature and employee number of individual who installed the panel and signature and employee number of individual who performed applicable IPI's. Local panel sheets will be treated the same as aerospace vehicle documents and filed with the inspection historical documents.

5.7.3.16.4 Whenever a 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 following the 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.

5.7.3.16.5 AF Form 1492, Warning Tag will be used during maintenance actions as required by MDS specific technical data, and/or local procedures. The tag is designed to preclude the inadvertent activation of a system that should not be activated. They 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 5.7.3.16.4. Do not use the AF Form 979, Danger Tag, for on-equipment aircraft maintenance.

5.7.3.16.5.1 Warning tags will be documented on a Red X as part of the original discrepancy or as a separate discrepancy. Use the perforated bottom portion of the tag to provide a "cross-check" with the aircraft forms. Insert this portion of the tag through the aircraft forms binder ring, aligned with its corresponding entry. Warning tag(s) must match an AFTO Form 781A entry.

5.7.3.16.5.1.1 If documented in the original "DISCREPANCY" block, enter the n 1165 umber of Warning Tag(s) installed and an applicable NOTE. For example, five each Warning Tags installed NOTE: DO NOT OPERATE LANDING GEAR. If warning tag(s) are removed prior to clearing the discrepancy, document tag(s) removal in the "CORRECTIVE ACTION" block by indicating the tag(s) removed and the minimum signature and date of the individual removing the tag(s).

5.7.3.16.5.1.2 If documenting warning tags as a separate discrepancy, enter a Red X, number of Warning Tag(s) installed and an applicable NOTE. For example, five each Warning Tags installed NOTE: DO NOT OPERATE LANDING GEAR. Reference the original discrepancy using see page ____ item____ format. If warning tags are removed prior to clearing the discrepancy, document tag(s) removal in the "CORRECTIVE ACTION" block by indicating the tag(s) removed and the minimum signature and date of the individual removing the tag(s). See paragraph 4.5.3 for further Red X clearing guidance.

5.7.3.16.6 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 Tech Order, Lead Command, or locally directed and are accomplished by IPI certified personnel.

5.7.3.16.7 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.

5.7.3.16.7.1 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 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.

5.7.3.16.7.2 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 IPI 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).

5.7.3.16.7.3 In the event an IPI is performed by an IPI inspector not actively assisting in the completion of the maintenance task, the IPI will be documented in the corrective action block as "Required IPI (insert IPI task title or IPI description or IPI step number) complied with" and IPI inspectors minimum signature. Document completion of the IPI (s) before leaving the job site.

5.7.3.16.8 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.):

5.7.3.16.8.1 The technician(s) will document and sign off the TO steps accomplished prior to the maintenance action(s) being stopped. Example: Lt MLG Strut repack steps 1 thru 25 CW IAW 1C-5B-5-5JG-2, Sec 5-2 (reference the page __, item __ of original entry).

5.7.3.16.8.2 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 IAW 1C-5B-5- 5JG-2, Sect 5-2, steps 26 thru 30 NCW (reference original entry).

5.7.3.16.8.3 Keep the original discrepancy and job control number (JCN) open until the entire maintenance action is completed, since subsequent discrepancy corrective actions only document partial completion. Do not transcribe aerospace vehicles forms until all tasks associated with the original discrepancy are completed.

5.7.3.16.8.4 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.

5.7.3.16.9 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. 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 and the documents routed with the 781 series forms package and filed with the inspection historical documents.

5.7.3.16.9.1 When accomplishing paperless scheduled inspections all discrepancies will be entered directly into the MIS.

5.7.3.16.10 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 will be made to the original discrepancy by using the see page ____, item ____ format. 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 do not need to be documented separately.

5.7.3.16.11 Identify Repeat/Recurring discrepancies by entering “Repeat/Recurring” in the “DISCREPANCY” block.

5.7.3.16.12 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.

5.7.3.17 “DISCOVERED BY.” Print first name initial and last name for each discrepancy recorded.

5.7.3.17.1 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.).

5.7.3.18 “EMPLOYEE NO/USERID.” Maintenance personnel will enter their employee/USERID/FAA certification number or equivalent.

5.7.3.18.1 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.).

5.7.3.19 “CORRECTIVE ACTION.” When a discrepancy on the AFTO Form 781A is completed, document the corrective action taken.

5.7.3.19.1 For Red X discrepancies, include a complete TO reference to determine the work performed, (e.g. TO number and paragraph/figure number for conventional TOs, function number/fault code for MIDAS based TOs, SSSN (System/Sub-System/Subject Number) or equivalent reference), in the “CORRECTIVE ACTION” block.P

5.7.3.19.2 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 page __, item __”.

5.7.3.19.2.1 AFTO Form 781A entries for temporary repair of fuel leaks will include the following information in the discrepancy block: (1) tank, (2) wing station or X-Y plot, (3) leak classification and (4) cause, if known.

5.7.3.19.3 AFTO Form 781A entries for the unscheduled replacement of a 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.

5.7.3.19.4 To clear a previously complied with (PCW) discrepancy, print “PCW”, see forms dated FROM___, TO___ (from the old forms), Page ___, Item ___, in the “CORRECTIVE ACTION” block of the new set of forms. The individual will then print their minimum signature in the “CORRECTED BY” block and initial over the symbol in the “SYMBOL” block. A Red X PCW discrepancy does not require a Red X qualified individual since there is no maintenance action.

5.7.3.19.4.1 Duplicate discrepancies occur when 2 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.

5.7.3.19.5 "CORRECTED BY," "INSPECTED BY" and "EMPLOYEE NUMBER."

5.7.3.19.5.1 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 in the "EMPLOYEE NUMBER" block. The "INSPECTED BY" block will be left blank.

5.7.3.19.5.2 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 in the "EMPLOYEE NUMBER" block. The "CORRECTED BY" block will be left blank.

5.7.3.19.5.3 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 in the "EMPLOYEE NUMBER" block. The inspector will then enter their minimum signature in the "INSPECTED BY" block and their employee number in the "EMPLOYEE NUMBER" block.

NOTE

See paragraph 4.5 for additional discrepancy clearing requirements.

5.7.3.19.6 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 IAW paragraph 4.5.

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, 20080108 **MAINTENANCE DISCREPANCY AND WORK DOCUMENT**

H0303704

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

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 IMT 26, 20000201, *V-5* **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 IMT 26, 20000201, *V5* **PREVIOUS EDITION IS OBSOLETE**

H0303705

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

5.8 AFTO FORM 781B, COMMUNICATIONS SECURITY (COMSEC) EQUIPMENT RECORD (FIGURE 5-5).

5.8.1 This form is designed to provide COMSEC equipment status. 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 AFRIMS @ https://www.my.af.mil/gcss-af61a/afrims/afrims/. The 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:

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

5.8.2.1 "ITEM." Enter the nomenclature of the equipment installed.

5.8.2.2 "SERIAL NUMBER." Enter the serial number of the COMSEC equipment item.

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

5.8.2.4 "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.

5.8.2.5 "SIGNATURE AND EMP 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.

5.8.2.6 "DATE REMOVED." Enter the date the COMSEC equipment item is removed.

5.8.2.7 "SIGNATURE AND EMPLOYEE NUMBER." Enter the signature and employee/FAA certification number of the person who removed the item, or verified removal.

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

AFTO FORM 781B, 20080108 PREVIOUS EDITION IS OBSOLETE COMMUNICATION SECURITY EQUIPMENT RECORD

H0303706

Figure 5-5. AFTO FORM 781B, Communication Security (COMSEC) Equipment Record

5.9 AFTO FORM 781C, AVIONICS CONFIGURATION AND LOAD STATUS DOCUMENT (FIGURE 5-6 AND FIGURE 5-7).

5.9.1 The form provides avionics configuration and load status and is used when directed by the GP/CC. Maintenance personnel remove the completed AFTO Form 781C and dispose of it in accordance with AFMAN 33-363. 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.

5.9.2 The following entries are required:

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

5.9.2.2 "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.

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

5.9.2.4 "QUANTITY." Enter the quantity of the item installed.

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

5.9.2.6 "COMPARTMENT." If applicable, enter the compartment in which the item is installed.

5.9.2.7 "WEIGHT." Enter the weight of the item.

5.9.2.8 "SYS CHECKED DATE AND TIME." Enter the date and time operational checks were performed prior to or after installation of the equipment. Example: 20010911 will be entered on the top line and 0945 on the lower line to indicate 11 September 2001 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.

5.9.2.9 "OPERATIONAL STATUS." Make an entry in this block indicating the item is either operational 1306 (OP) or non-operational (NON-OP).

5.9.2.10 "SIGNATURE AND EMPLOYEE NUMBER." The maintenance person responsible for the overall condition of the listed item enters their minimum signature. 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).

5.9.2.11 "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.

FROM | TO | MDS | SERIAL

ITEM	TYPE / SIZE	QUANTITY	POSITION	COMPARTMENT	WEIGHT	SYS CHECKED / DATE AND TIME	OPERATIONAL STATUS	SIGNATURE / EMPLOYEE NUMBER

ITEM	TYPE / SIZE	QUANTITY	POSITION	COMPARTMENT	WEIGHT	SYS CHECKED DATE AND TIME	OPERATIONAL STATUS	SIGNATURE EMPLOYEE NUMBER

5.10 AFTO FORM 781F, AEROSPACE VEHICLE FLIGHT REPORT AND MAINTENANCE DOCUMENT (FIGURE 5-8 AND FIGURE 5-9).

5.10.1 A completed AFTO Form 781F is always displayed at the front of the AFTO Form in the 781-series 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.

5.10.2 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.

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

5.10.3.1 BLOCK 1, "DEDICATED CREW CHIEF (DCC) PROGRAM is a MXG/CC Option." Enter the name and grade of the aerospace vehicle dedicated crew chief.

5.10.3.2 BLOCK 2, "ASST CC PROGRAM is a MXG/CC Option." Enter the name(s) and grade(s) of the assistant aerospace vehicle crew chief(s).

5.10.3.3 BLOCK 3, Blank. Use of this block is GP/CC option.

5.10.3.4 BLOCK 4, "DOD ACTIVITY ADDRESS CODE (DoDAC)." Enter the DoD activity address code of the base fuels accounts (FP) at the possessing base (Contact local LRS customer service for the appropriate DoDAC).

5.10.3.5 BLOCK 5, "CUSTOMER ID CODE." Enter the customer ID code, using the two-digit MAJOR COMMAND Code from TO 00-20-2 Appendix B.

5.10.3.6 BLOCKS 6, "MISSION DESIGN SERIES." Enter the aerospace vehicle mission, design, and series designator. Example: C-17A (For ATDs see paragraph 5.2.2).

5.10.3.7 BLOCK 7, "SERIAL NUMBER." Enter the aerospace vehicle serial number. Example: 85-1428, 65-14828.

5.10.3.8 BLOCK 8, "ORGANIZATION." Enter the designation of the organization to which the aerospace vehicle is assigned. Example: 437 AW.

5.10.3.9 BLOCK 9, "LOCATION." Enter the location of the organization to which the aerospace vehicle is assigned. Example: Charleston AFB, SC. Overseas organizations enter their APO/FPO number in this block.

5.10.3.10 BLOCK 10, "STATION CODE." Enter ' the assigned station code corresponding to the location shown in block 15.

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, 20100726 **PREVIOUS EDITION IS OBSOLETE** **AEROSPACE VEHICLE IDENTIFICATION DOCUMENT**

H0303713

Figure 5-8. AFTO FORM 781F, Aerospace Vehicle Flight Status Report Maintenance Document

5.11 AFTO FORM 781G, GENERAL MISSION CLASSIFICATION-MISSION (FIGURE 5-10 AND FIGURE 5-11).

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.

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**

H0303715

Figure 5-9. AFTO FORM 781G, General Mission Classifications-Mission

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**

H0303716

Figure 5-10. AFTO FORM 781G, General Mission Classifications-Mission (Reverse)

5.12 AFTO FORM 781H, AEROSPACE VEHICLE FLIGHT STATUS AND MAINTENANCE DOCUMENT (FIGURE 5-12 AND FIGURE 5-13).

5.12.1 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.

5.12.2 Prepare a new AFTO Form 781H when 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.

5.12.2.1 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:

5.12.2.1.1 The aircrew documents the airframe time, full stop landings, total landings, cartridge/JFS starts, and engine cycles, as required, in blocks 9, 10, 11 and 12 of the AFTO Form 781H, at the completion of each sortie.

5.12.2.1.2 For missile carrier aerospace vehicles (e.g. ALCM and CALCM), the aircrew will ensure the designated aircrew member posts the missile airframe time and/or engine operating time on individual missile AFTO FORMS 781H carried aboard the aerospace vehicle.

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

5.12.2.2.1 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.

5.12.2.2.2 BLOCK 1, "FROM." Enter the year, month, and day of the beginning date for the use of this form, in the following format YYYYMMDD.

5.12.2.2.3 BLOCK 2, "TO." Enter the ending date for the use of this form.

5.12.2.2.4 BLOCK 3, "MDS." Enter the aerospace vehicle mission, design, and series designator. Example: C-130H.

5.12.2.2.5 BLOCK 4, "SERIAL NUMBER." Enter the aerospace vehicle serial number. Example: 85-1500, 65-0966.

5.12.2.2.6 BLOCK 5, "CERTIFICATION OF PRE-FLIGHT (PR), BASIC POST-FLIGHT (BPO), COMBINED (PR/BPO) AND THRU-FLIGHT (TH), QUICK TURN (QT), WALK AROUND INSPECTION (WAI), PRE-LAUNCH INSPECTION (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. Lead Commands have the option of using Zulu time. When initiating a new form, transfer the time and date of the completed inspection (provided the PR or TH validity period has not expired) and carry forward the individual's minimum signature who accomplished the inspection by printing in block 5 of the new form. The individual transcribing the entries enters the abbreviations "CF" 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:

5.12.2.2.6.1 "TYPE." Enter the abbreviation of the type inspection.

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

5.12.2.2.6.3 "COMPLETED DATE, TIME." Enter the date in YYYYMMDD format, and time of completion.

5.12.2.2.7 BLOCK 6, "STATUS DATA." Entries will be:

5.12.2.2.7.1 "STATUS TODAY." Enter symbols in the "STATUS TODAY" block to reflect current status of the aerospace vehicle. A black last name initial indicates no known discrepancies which require a symbol exists; 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 block.

5.12.2.2.7.2 "BOX NUMBER." This column is used to record the box number of the "STATUS TODAY" column for which a exceptional/conditional release is being signed. This entry is the responsibility of the authorized individual who signs the exceptional release.

5.12.2.2.7.3 "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.

5.12.2.2.7.3.1 A list of personnel designated to sign the exceptional release will be approved by the GP/CC. These personnel must be officer, SNCO, or their civilian equivalent, aircraft maintainers. 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 Lead Command for approval. Such request must fully justify the need for the waiver and identify actions being taken or planned to resolve the problem.

5.12.2.2.7.3.2 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 781H has to be removed as outlined in paragraph 5.12.2. 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, senior NCO, 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:

5.12.2.2.7.3.3 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 his/her 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 TA supervisor for not less than 90 days and disposed of in accordance with AFMAN 33-363.

5.12.2.2.7.3.4 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.

5.12.2.2.7.3.5 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.

5.12.2.2.7.3.6 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 his/her 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.

5.12.2.2.8 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. Add these entries for a new total entry in the "TOTAL" block at the end of the specified flying period.

5.12.2.2.9 BLOCK 8, "LANDINGS." Use this block to record previous "FULL STOP" and "TOTAL" landings on aerospace vehicles for which maintenance or inspection of the landing gear system or components is based on a specified number of landings. 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.

5.12.2.2.10 BLOCK 9, "CARTRIDGE/JET FUEL STARTER (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 "CARTRIDGE/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 11, "PREVIOUS" of the new AFTO Form 781H.

5.12.2.2.11 BLOCK 10, "ENGINE CYCLE DOCUMENTATION." For selected engines listed in TO 00-25-254-1 Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures, 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.

NOTE

When blocks 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.

5.12.2.2.12 BLOCK 11, "SERVICING DATA." Servicing data is grouped into four basic categories: FUEL, OIL, OXYGEN AND NITROGEN/WATER. Line through all unused blocks in a servicing number row. For example, if only fuel is checked or serviced, line through oil, oxy, and nitrogen/water blocks not used in the servicing number row (this will ensure that no additional entries are made on a service line that has been certified in block 14). Specific entries are as follows:

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

5.12.2.2.12.2 "QTY SRVCD." Enter the total quantity of fuel (liters, gallons, or pounds) 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 will 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 block. 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.

5.12.2.2.12.3 "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.

5.12.2.2.12.4 "OIL (HALF-PINTS, PINTS, QUARTS, GALLONS, OR LITERS)." 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" block. If no servicing is required, enter a "0" (zero) in the "SER" block 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. Line out the non-applicable words of the title of this block 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. 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 rows 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 #.

5.12.2.2.12.5 "OXY PRESS OR QTY." In the OXY PRESS OR QTY line, enter the oxygen system pressure or quantity The individual making the check will ensure the pressure or quantity is at or above the minimum prescribed in the applicable -2 TO. Line out the non-applicable portion of the title. Leave this block blank for aerospace vehicles not equipped with oxygen.

5.12.2.2.12.6 "NITROGEN/WATER." In the nitrogen/water servicing 1490 line, enter the nitrogen/water quantity. If this block is not used, the GP/CC may designate its use for other purposes. For example, F-16 units may use this block to document hydrazine (H-70) quantity.

5.12.2.2.12.7 "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 13. Leave all servicing blocks blank.

5.12.2.2.13 BLOCK 12, "SERVICING CERTIFICATION." The individual who performs or supervises the servicing, draining, or "in-tanks" check of items in block 11 enters his/her minimum signature in the "BY" block corresponding with the numbered servicing or draining entries 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, the words "in-flight" or "hot pit" will be entered in the "AT" block and the date will be entered in the "DATE" block to certify any in flight or hot pit servicing accomplished.

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		

7. AIRFRAME TIME		8. LANDINGS		9. CART/JFS STARTS				10. ENGINE CYCLE DOCUMENTATION							
		FULL STOP	TOTAL	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															
FLIGHTS 1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
TOTAL															

AFTO FORM 781H, 20100726 PREVIOUS EDITION IS OBSOLETE AEROSPACE VEHICLE FLIGHT STATUS AND MAINTENANCE

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Figure 5-11. 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 Accompished)*											
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, 20100726

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Figure 5-12. AFTO FORM 781H, Aerospace Vehicle Flight Status and Maintenance Document (Reverse)

5.13 AFTO FORM 781J, AEROSPACE VEHICLE ENGINE FLIGHT DOCUMENT (FIGURE 5-14 AND FIGURE 5-15).

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.

5.13.1 "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.

5.13.2 "MDS." Enter the aerospace vehicle mission, design and series designator. Example: C-130H.040.4.

5.13.3 "SERIAL NUMBER." Enter the aerospace vehicle serial number. Example: 85-1428, 65-14828.

5.13.4 "PAGE-OF-PAGES." Enter the page number and the total number of pages.

5.13.5 "DATE." Enter the date on which the aerospace vehicle flies in the first open line.

5.13.6 "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 forward" row. The last entry in this column corresponds with the "total row" entry in block 9 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.

5.13.7 "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).

5.13.8 "OIL ADDED." In the first "OIL ADDED" block, 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.

5.13.8.1 Line through non-applicable measurements in the header "AIRCRAFT AND ENGINE OPERATING TIME, CYCLE AND OIL ADDED" (half-pints, pints, quarts).

5.13.8.2 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 13, "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 to each engine to facilitate accurate documentation in the 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 781H.

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

5.13.9 "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.

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

5.13.11 "ENGINE TIME" and "CYCLES."

5.13.11.1 Engine time will reflect engine total hours accumulated throughout the life of the engine. 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.

5.13.11.2 On aerospace vehicles that have engine-recording devices installed, the engine time need not be entered in the time columns. Line out the "Engine Time" in the No. 1 engine 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.

5.13.11.3 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" block. 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.

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

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

5.13.14 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.

FROM	TO	MDS	SERIAL NO.	PAGE OF PAGES

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

DATE	AIRFRAME TIME	OIL SAMPLE (X)	OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # 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 FORWARD														

AFTO FORM 781J, 20080108 **PREVIOUS EDITION IS OBSOLETE** **AEROSPACE VEHICLE - ENGINE FLIGHT DOCUMENT**

H0303719

Figure 5-13. AFTO FORM 781J, Aerospace Vehicle Engine Flight Document

FROM	TO	MDS	SERIAL NO	PAGE OF PAGES

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

DATE	AIRFRAME TIME	OIL SAMPLE (X)	OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # OIL CHANGE TIME		OIL ADDED	ENGINE POS # 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 FORWARD														

AFTO FORM 781J, 20080108

H0303720

Figure 5-14. AFTO FORM 781J, Aerospace Vehicle Engine Flight Document (Reverse)

5.14 AFTO FORM 781K, AEROSPACE VEHICLE INSPECTION, ENGINE DATA, CALENDAR INSPECTION, AND DELAYED DISCREPANCY DOCUMENT (FIGURE 5-16 AND FIGURE 5-17).

5.14.1 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 781H (paragraphs 5.12.3.2 through 5.12.3.5).

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

5.14.3 BLOCK A, "AEROSPACE INSPECTION STATUS." Use the spaces to the right of the title "NEXT PERIODIC, MAJOR, OR PHASED INSPECTION DUE NUMBER." 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 HSC and 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 "NEXT DUE" entries and enter the new "COMPL" and "NEXT DUE" time.

5.14.4 BLOCK B, "ENGINE DATA." This block is provided to record engine position, serial number, and engine change due time. In the space provided for "ENG SER NUMBER," enter the serial number of each engine in the space provided to the right of the applicable "PSN" 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.

5.14.5 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. For control purposes, load all installed aircrew flight equipment items in the MIS.

5.14.6 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 781K to the 781A upon notification of applicability in anticipation of immediate accomplishment. List open TCTOs grounding within 120 days and any part/component in overfly. Mandatory entries are: SYM, JCN, TCTO Number, Doc Number, and Ground Date/Time (date TCTO grounds). 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.

5.14.6.1 Enter symbols in the "SYM" block of the AFTO Form 781K, to reflect the seriousness of the particular discrepancy. Some rules concerning symbol entries are:

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

5.14.6.1.2 When the symbol for a time compliance technical order (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.

5.14.6.1.3 If a symbol is entered in error, the person making the entry will enter the following statement in the "DELAYED DISCREPANCY OR TCTO NUMBER AND PUBLICATION DATE block": "Symbol entered in error, discrepancy and correct symbol reentered on page ____, item ____." The person will enter their employee number in the appropriate block. Then reenter the discrepancy, with the correct symbol, on the next open line.

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

5.14.6.3 Enter the delayed discrepancy narrative or TCTO number date, and short title in the “DELAYED DISCREPANCY 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.

5.14.6.4 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.

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

5.14.6.6 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. 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.

5.14.7 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 transcribing action, the transcriber will enter their minimum signature in the “SIGNATURE and EMPLOYEE NUMBER” space at the bottom of block D.

5.14.8 When an entry is transferred, the person accomplishing the transfer will enter their employee number 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 8.3.

FROM	TO	MDS	SERIAL NUMBER

A. AEROSPACE INSPECTION STATUS						B. ENGINE DATA					
NEXT PERIODIC, MAJOR, OR PHASED INSPECTION						PSN	ENG SER NO	ENG CHANGE DUE TIME	PSN	ENG SER NO	ENG CHANGE DUE TIME
TYPE	COMPL	NEXT DUE	COMPL	NEXT DUE		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

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, 20080108

H1000322

Figure 5-16. AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document (Reverse)

5.15 AFTO FORM 781M, STATUS SYMBOLS AND FUNCTIONAL SYSTEM CODES (FIGURE 5-18 AND FIGURE 5-19).

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.

SYSTEM NUMBERS, GENERAL GROUPING, AND SYSTEM TITLES

AIRCRAFT SUPPORT GENERAL

01 Ground Handling, Servicing and Related Tasks.

02 Aircraft Cleaning - Includes washing, decontamination corrosion

03 "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.

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

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

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

07 Preparation and Maintenance of Records.

08 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

50 Cockpit Management Systems

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

58 MILSTAR Terminal Segment

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

78 Electronic Countermeasures

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

AFTO FORM 781M, 20080108 PREVIOUS EDITION IS OBSOLETE **STATUS SYMBOLS AND FUNCTIONAL SYSTEM CODES**

H0303724

Figure 5-17. 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 that a required inspection has not been performed. **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, 20080108

H0303725

Figure 5-18. AFTO FORM 781M, Status Symbols and Functional System Codes (Reverse)

5.16 AFTO FORM 781N, J-79 ENGINE RUNUP RECORD (FIGURE 5-20).

The AFTO FORM 781N is maintained in the aerospace vehicle forms binder for aerospace vehicle equipped with the J-79 engine. Complete the 781N in accordance with the TOs referenced in the form.

DATE

ENGINE S/N

ENGINE TIME TSN/TSO

REASON FOR RUN

ENGINE INSPECTED FOR FOD

ENGINE RIGGING CHECKED

EGT HARNESS AND COCKPIT IND CHECK

OAT_____ °C _____ °F

NOTE

INSURE THE FOLLOWING REQUIREMENTS ARE/HAVE BEEN ACCOMPLISHED

a. T.O. IF-4(R)C-2-8, Fig 2-22, 2-23, 2-24
b T O. IF-4C-2-8, Fig 2-22, 2-23, 2-24
c. T.O IF-4D-2-8, Fig 2-22, 2-23, 2-24
d. T O. IF-4E-2-8, Fig 2-22, 2-23, 2-24

RUN DATA

START	FUEL FLOW		PPH
	LITE-OFF TIME		Sec
	MAX EGT		°F
IDLE	RPM	% INDICATOR	% JET-CAL
	EGT	°C INDICATOR	°C JET-CAL
	FUEL FLOW		PPH
	OIL PRESS		PSI
	NOZ POSITION		
MILITARY	*(T5 Shorting Switch Installed)*		
	RPM	% INDICATOR	% JET-CAL
	EGT	°C INDICATOR	°C JET-CAL

ADJUST RPM PER T.O 1F-4( ) 2-8 SECTION 4.

ADJUST EGT TO 625 ± 10°C PER T.O 1F-4C/D-2-8
ADJUST T5 TO 590°C PER T.O 1F-4-E/G-2-8

MILITARY *(System Normal)*

RPM	% INDICATOR	% JET-CAL
EGT	°C INDICATOR	°C JET-CAL
FUEL FLOW		PPH
OIL PRESS		PSI
NOZ POSITION		

AFTERBURNER

LITE-OFF TIME	Sec
RPM ROLLBACK	%
RECOVERY TIME	

MAX AFTERBURNER STABILIZED

RPM	% INDICATOR	% JET-CAL
EGT	°C INDICATOR	°C JET-CAL
FUEL FLOW		PPH
OIL PRESS		PSI
NOZ POSITION		

ACCEL CHECK

IDLE TO MIL	Sec

ORG

SIGNATURE

DATE

ENGINE S/N

ENGINE TIME TSN/TSO

REASON FOR RUN

ENGINE INSPECTED FOR FOD

ENGINE RIGGING CHECKED

EGT HARNESS AND COCKPIT IND. CHECK

OAT_____ °C _____ °F

NOTE

INSURE THE FOLLOWING REQUIREMENTS ARE/HAVE BEEN ACCOMPLISHED:

a T.O. IF-4(R)C-2-8, Fig 2-22, 2-23, 2-24
b. T.O. IF-4C-2-8, Fig 2-22, 2-23, 2-24
c. T.O. IF-4D-2-8, Fig 2-22, 2-23, 2-24
d T O IF-4E-2-8, Fig 2-22, 2-23, 2-24

RUN DATA

START	FUEL FLOW		PPH
	LITE-OFF TIME		Sec
	MAX EGT		°F
IDLE	RPM	% INDICATOR	% JET-CAL
	EGT	°C INDICATOR	°C JET-CAL
	FUEL FLOW		PPH
	OIL PRESS		PSI
	NOZ POSITION		
MILITARY	*(T5 Shorting Switch Installed)*		
	RPM	% INDICATOR	% JET-CAL
	EGT	°C INDICATOR	°C JET-CAL

ADJUST RPM PER T O 1F-4( ) 2-8 SECTION 4

ADJUST EGT TO 625 ± 10°C PER T O 1F-4C/D-2-8
ADJUST T5 TO 590°C PER T O 1F-4-E/G-2-8

MILITARY *(System Normal)*

RPM	% INDICATOR	% JET-CAL
EGT	°C INDICATOR	°C JET-CAL
FUEL FLOW		PPH
OIL PRESS		PSI
NOZ POSITION		

AFTERBURNER

LITE-OFF TIME	Sec
RPM ROLLBACK	%

MAX AFTERBURNER STABILIZED

RPM	% INDICATOR	% JET-CAL
EGT	°C INDICATOR	°C JET-CAL
FUEL FLOW		PPH
OIL PRESS		PSI
NOZ POSITION		

ACCEL CHECK

IDLE TO MIL	Sec

ORG

SIGNATURE

AFTO FORM 781N, 20080108 **PREVIOUS EDITION IS OBSOLETE** **J-9 ENGINE RUN-UP RECORD**

H0303726

Figure 5-19. AFTO FORM 781N, J-79 Engine Run-Up Record

CHAPTER 6
ACCESSORY REPLACEMENT AND REUSE PROCEDURES

6.1 ACCESSORY REPLACEMENT AND REUSE.

6.1.1 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. Condition items only require replacement when it is determined they are operationally unserviceable.

6.1.2 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 TO's 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 TO's contact the SM through the Lead Command for guidance.

6.1.3 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 10-2602.

6.2 TIME-CHANGE ITEM (TCI) REPLACEMENT POLICIES.

6.2.1 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. a failures rise sharply at some given operating time or age of an item). Additionally, the item must fall into one or more of the following categories to be a valid candidate for time-change replacement:

6.2.1.1 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.

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

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

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

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

6.2.2.1 Technical Order 2-1-18, *ACFT ENG Operating Limits And Factors Operating Limits And Pipeline Times*, will be used as the authority for scheduled replacement of reciprocating engines, gas turbine engines, and propeller reduction gearboxes.

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

6.2.2.3 The MDS specific -6 TOs or inspection work cards 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 work cards.

6.2.3 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.

6.2.4 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.

6.2.5 Consider TCIs due for replacement at the 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.

6.2.5.1 Lead Commands may waive the requirement to make 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.

6.2.5.2 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. EXCEPTION: Service limits of life sustaining or CAD/PAD items cannot exceed the limits imposed by Tables 6-1 and 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.

NOTE

Forward requests for CAD/PAD shelf/service life extensions to OO-ALC/WMJ, Hill AFB, UT with an information copy to appropriate aerospace vehicle SM and Lead Command Functional Manager, on a case-by-case basis. The following information will be included: Aerospace vehicle serial number; date CAD/ PAD item was installed; aerospace vehicle grounding date; CAD/PAD DOM, lot number, and status of requisition for replacement part. The required engineering analysis will be accomplished by the OO-ALC/WMJ and a flight/grounding recommendation made to the aerospace vehicle SM. The aerospace vehicle SM will make the final determination on aerospace vehicle status. Requests for AFE items shelf/service life extensions should be forwarded to 579 CBSS/CL, 460 Richard Ray Blvd, Ste 200, Robins AFB, GA 31005 through appropriate Lead Command focal point. The Aircrew Flight Equipment System Manager (579 CBSS/CL) will consider shelf/service life extensions based upon item application and engineering technical analysis IAW AFI 11-301. The intent is to preclude unnecessary aerospace vehicle grounding.

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

6.2.7 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, because of accessibility or other factors, may be candidates for depot change. 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, *Aircraft/Missile Condition Data.*

6.2.8 Continue processing aerospace vehicle/missile time-change items (except helicopter gearboxes) for shipment to areas outside the CONUS when the accumulated time of the item plus 150 hours does not exceed the specified replacement interval. Helicopter gearboxes' 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, *Depot Maintenance of Aerospace Vehicles and Training Equipment*, will apply.

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

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

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

6.2.12 Forecasting procedures for TCIs are contained in TO 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time Change Items.*

6.3 TIME-CHANGE ITEM REUSE POLICIES.

6.3.1 When TCIs that have been previously used are installed on aerospace equipment and the replacement interval is the same (see paragraph 6.2.3), enter the previous time in use on the appropriate time change item replacement documents or automated system.

6.3.2 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:

6.3.2.1 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.

6.3.2.2 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.

6.3.2.3 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.

6.3.2.4 For CAD/PAD items, paragraph 6.3.2.2 and 6.3.2.3 do not apply.

6.3.3 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):

6.3.3.1 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.

6.3.3.2 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.

6.3.3.3 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.

6.3.4 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.

6.3.4.1 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.

6.3.5 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.

6.3.6 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:

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

6.3.6.2 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.

6.3.6.3 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.

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

6.3.6.5 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**			
Rule	**A** **If a AEROSPACE EQUIPMENT time change item:**	**B** **And maintenance:**	**C** **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 replacement at the last scheduled inspection or replacement time has expired and the aerospace vehicle had no -6 HPO requirement	placed a Red Dash in the applicable maintenance forms	upgrade to a Red X in the applicable maintenance forms at the start of the next scheduled inspection
Part 2 Life Sustaining Aerospace Equipment Time Change Items Rules			
Rule	A If a life sustaining time change item identified with an asterisk in the -6 or a CAD/PAD item:	B And maintenance:	C 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
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 time is due replacement prior to the next flight or operational use

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

Rule	A If aerospace equipment time change item (includes CAD/PAD) has a previous operating	B And the time change item is:	C 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 PURPOSE.

For the purposes of this chapter, the term support equipment (SE) will refer to: powered and non-powered aerospace ground equipment (AGE); industrial plant equipment (IPE); Test, Measurement and Diagnostic Equipment (TMDE); nuclear, conventional, and chemical munitions handling and test equipment; test equipment; ground photographic equipment; trainers; and special tools requiring scheduled inspections (specific SE terms are defined in Appendix A1). This chapter prescribes requirements and documentation procedures for SE.

7.1.1 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.

7.1.1.1 If MIS AFTO Form 244 capability exists (i.e., G081, IMDS, PCAMS), the MIS module may be used. Electronic AFTO Form 244s 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 7.2.1 are met. Procedures provided throughout this chapter for documenting forms apply to both the electronic versions and hard copies.

7.1.1.2 Tracking programs such as Tool Accountability System (TAS), may be used to track inspections (Exception: AGE must use G081/IMDS). Use of a tracking program does not preclude use of an AFTO Form 244. When a tracking program is used to track inspections, the tracking program may be referenced in PART III of the AFTO Form 244 (e.g. “See TAS”) Exception: AGE scheduled inspection dates will be annotated on AFTO Form 244s.

7.1.1.3 Vehicular SE. 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 23-302 and AFMAN 24-307.

7.1.1.4 TMDE. Consult TO 33K-1-100-2, TMDE Calibration Notes, Calibration Interval, Technical Order, and Work Unit Code Reference Guide Addendum, supporting PMEL or AFMETCAL to determine if an item of equipment is TMDE. If TMDE equipment is tracked in MIS it does not require an AFTO Form 244. Also, GP CCs may approve local software products, such as Microsoft Excel, to track PMI intervals and it does not require an AFTO Form 244. GP CCs may determine additional specific uses of the AFTO Form 244, and approve PMI tracking software, used to address unique requirements related to TMDE. PMEL is not authorized to clear a Red X. The owning/using organization of the TDME will ensure serviceability and clear the Red X condition after PMEL completed actions.

7.1.1.5 TRAINING EQUIPMENT. Training equipment includes aircraft, 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 Forms 781 series which are maintained in accordance with this TO.

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

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

7.2 FORMS LOCATION.

7.2.1 The AFTO Form 244 will accompany all SE if any of the following are true:

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

7.2.1.2 The SE is due inspection.

7.2.1.3 The SE is on a Red X.

7.2.1.4 The SE is processed or stored for mobility/TDY.

7.2.1.5 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 permission for such forms to be maintained in a separate file. These forms will be grouped together by type of equipment and kept in a file or binder in either the work center having primary responsibility for the end item or in the production control/support section having scheduling responsibility for the end item.

7.2.2 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.

Maintenance inspection requirements and accomplishment intervals for SE are identified in the applicable inspection, engineering, and commercial technical manuals, work cards or checklists. SMs 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 work cards/checklists as required, based on usage, location, and design of the item. However, when formal inspection work cards are published for similar equipment, those work cards will be used in lieu of locally developed work cards.

7.3.1 Servicing Inspection. This inspection is an equipment condition inspection outlined in the applicable inspection, engineering, and commercial technical manuals, work cards 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. GP/CCs may also require service inspections prior to placement on dispatch/sub-pools. 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 From 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, and contact the equipment's owning work center or depot maintenance supervisor.

7.3.3 Special Inspection. Special inspections for SE are prescribed in the applicable inspection work cards. Special Inspections of a one-time or short duration nature may also be directed through TOs, TCTOs, Lead Command 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.

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, checklists, or workcards. Accomplishment of the inspection will be documented in part V of the AFTO Form 244 and part III of the AFTO Form 244 will be updated IAW paragraph 7.8. In the event a condition exists 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. 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 not 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, General Instructions Applicable to Nuclear Weapons. For Cryogenics equipment, follow the applicable guidance as outlined in 37C2 series technical orders. 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.

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, Lead Command, 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 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 In the event an IPI is performed by an IPI inspector not actively assisting in the completion of the maintenance task, the IPI will be documented in the corrective action block as "Required IPI (insert IPI task title or IPI description or IPI step number) complied with" and IPI inspectors minimum signature. Ensure to document completion of the IPI (s) before leaving the job site.

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

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

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

7.3.5.5.3 Tactical missile IPIs are documented in the TMRS. Ensure the step that requires the IPI and the employee number are identified on the documentation.

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, Processing and INSP of Support Equipment for Storage and Shipment, 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 SUPPORT EQUIPMENT DOCUMENT ADMINISTRATION.

When maintenance responsibilities are divided among two or more work centers, the owning work center will ensure applicable forms are correctly initiated and maintained. The using individual is responsible for documenting the status and condition of the equipment as indicated on the AFTO Form 244. When the form is closed out, it will be forwarded to the documentation section for filing disposition as prescribed in AFI 21-101, AFMAN 33-363, and this TO.

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

7.5.2 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.

7.6 AFTO FORM 244, PART I.

Provides a means to identify the SE for which the form is maintained.

7.6.1 BLOCK 1. Enter the nomenclature/model number.

7.6.2 BLOCK 2. Enter the assigned AF registration/serial number. Leave blank if not applicable.

7.6.3 BLOCK 3. Enter the identification number (a locally defined equipment-type identifier), if assigned. Leave blank if not assigned.

7.6.4 BLOCK 4. Enter the field number. Leave blank if not applicable.

7.6.5 BLOCK 5. Enter the Work Unit Code (WUC) if one is assigned. Leave blank if not applicable.

7.6.6 BLOCK 6. Enter the assigned organization/workcenter or depot Resource Control Center (RCC).

7.6.7 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."

7.6.8 BLOCK 8. Leave blank if not applicable. This block may be used for GP/CC specific requirements.

7.7 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.

7.7.1 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.

7.7.2 INSPECTORS INITIALS column. Enter the first initial, last initial of the individual completing the inspection.

7.7.3 DATE column. Enter the date the inspection was accomplished.

7.8 AFTO FORM 244, PART III.

Provides a means to document scheduled inspections.

7.8.1 INSPECTION REQUIREMENT - In this column, enter the type of inspection due, e.g., PH 1, PH 2, PE, special wheel bearing, wheel packing, lubing etc. If directed by the GP/CC, include specific inspections for IPE, other than operator inspections which may be documented in Part II.

7.8.2 INTERVAL - In this column, enter the next scheduled inspection interval, e.g., 30-, 60-, and 180-day, or 500-hour, etc.

7.8.3 DATE DUE - Upon completion of an inspection, enter the next inspection due in the next open date due block.

7.8.4 Enter the hour/date inspection was completed.

7.9 AFTO FORM 244, PART IV.

Provides a means to document a supervisory review of the form, if required by the GP/CC.

7.9.1 EMPLOYEE NUMBER. Enter reviewer's employee number (or first name initial, last name and grade if no employee number).

7.9.2 DATE. Enter the date the review was accomplished.

7.10 AFTO FORM 244, PART V.

Provides a means to document equipment discrepancies and corrective actions. The following conditions will be recorded in this part of the form:

7.10.1 Overdue inspection, including portions of inspections not accomplished during the scheduled inspection (e.g., work card and/or work card items not completed by the end of the due period).

7.10.2 Overdue time change, Master Configuration List (MCLs) and TCTOs.

7.10.3 Discrepancies discovered by the operator during operation of the system/equipment.

7.10.4 PART V will be completed as follows:

7.10.4.1 BLOCK 9 - TO. Enter the TO number or manufacturer's manual number/title that covers the item identified in block 1.

7.10.4.2 BLOCK 10 - NSN. Enter the assigned national stock number or part number for item identified in block 1. Leave blank if not applicable.

7.10.4.3 BLOCK 11 and BLOCK 12. These blocks are left blank, unless approved for use by Lead Command.

7.10.4.4 DATE DISCOVERED - In this column, enter the date the discrepancy is discovered.

7.10.4.5 DISCOVERED BY - In this column, the individual discovering the discrepancy will print his/her minimum signature.

7.10.4.6 SUP DOC NUMBER. - In this 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.

7.10.4.7 SYMBOL - In this column, enter the applicable Red symbol for the discrepancy.

7.10.4.8 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.

7.10.4.9 JOB CON/W.O. NUMBER. - In this column, enter the job control or work order number assigned to the discrepancy.

7.10.4.10 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.

7.10.4.11 DATE CORRECTED - In this column, enter the date the discrepancy is corrected.

7.10.4.12 CORRECTED BY - In this column, the individual who corrects the discrepancy will enter his/her minimum signature in this block.

7.10.4.13 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 in this block and last name initial over the Red symbol in the symbol column.

7.11 DISPOSITION INSTRUCTIONS.

After the AFTO Form 244 is closed out, forward the old form to the responsible documentation activity for filing and disposition. (See AFMAN 33-363.)

7.12 CLOSING OUT AFTO FORM 244.

The AFTO Form 244 will be closed out and a new form initiated when additional recording space is required. The following procedures apply:

7.12.1 On the new forms transcribe entries in block 1 through block 6 from the old form and enter the current date in block 7 prior to the "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.

7.12.2 When closing out the old AFTO Form 244, enter the current date in block 7 following the "TO". Enter "CF" (carried forward) followed by your first and last name initials in the DATE COMPL block of PART III. In PART V enter "CF" and your minimum signature in the corrective action block for each open discrepancy carried forward.

INDUSTRIAL/SUPPORT EQUIPMENT RECORD

I. ITEM IDENTIFICATION

1. NOMENCLATURE/MODEL	2. REGISTRATION/SERIAL NO	
3. ID NO.	4 FIELD NO (*If applicable*)	5 WORK UNIT CODE
6 ORGN WC ASSIGNED	7 PERIOD COVER TO	8

II. NON-SCHEDULED INSPECTION

TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT	TIME	INSP INIT
DATE		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, 20091116 PREVIOUS EDITION IS OBSOLETE

H0303728

Figure 7-1. AFTO FORM 244, Industrial/Support Equipment Record

V

MAINTENANCE/DELAYED DISCREPANCY

9 T.O | 10 NSN | 11. | 12.

DATE DISCOVERED	DISCOVERED BY / SUP DOC NO	SYM-BOL	DISCREPANCY	JOB CON/ W O NO.	CORRECTIVE ACTION	DATE CORRECTED	CORRECTED BY / INSPECTED BY

AFTO FORM 244, 20091116

H0303729

Figure 7-2. AFTO FORM 244, Industrial/Support Equipment Record (Reverse)

CHAPTER 8
TRANSFER, STORAGE, AND DEPOT MAINTENANCE

8.1 TRANSFERRING AEROSPACE VEHICLES.

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) IAW AFI 21-103, *Equipment Inventory, Status, and 2022 Utilization Reporting*, stating reasons for the delay. Refer to AFI 21-101 for additional requirements for aerospace vehicle transfer requirements.

8.1.1 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.

8.1.2 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.

8.1.3 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 base supply, supply systems branch, document control section, of the weapon(s) serial number(s) being transferred.

8.1.4 When transferring aerospace vehicles to agencies outside the Air Force, AFMC will issue special instructions for 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.

8.1.5 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.

8.1.6 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 SM agree that transfer requirements will be accomplished by the depot facility. For missiles, the depot/contractor accomplishes the transfer inspection.

8.1.7 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. 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 Lead Command.

8.1.8 When aerospace vehicles are transferred from one AF organization to another the losing organization accomplishes the following:

8.1.8.1 Ensure all correctable discrepancies are cleared (except transfer to AMARC).

8.1.8.2 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 work card set, including scheduled/special inspections and TCIs as required.

8.1.8.3 If parts are not available and valid delayed discrepancies exist, include the AF Form 2414, Verification Work Sheet, with the historical documents that are transferred.

8.1.8.4 Determine if depot maintenance is required, and if so, arrange for its accomplishment in accordance with paragraph 8.1.9.

8.1.8.5 Comply with all outstanding TCTOs for kits on-hand or obtainable. If the TC 2062 TO cannot be accomplished by the established 2063 transfer date, or requisitioned kits have not been received, comply with the provisions of TO 00-5-15, *AF Time Compliance 2064 Technical Order System.*

8.1.8.6 Change the engines as required under the provisions of TO 2J-1-18.

8.1.8.7 Accomplish a FCF when required in accordance with the MDS specific -6 TO, maintenance manual, or when required by a TCTO.

8.1.8.8 Ensure all associated equipment is transferred with the aerospace vehicle and properly account for equipment shortages.

8.1.8.9 Ensure open discrepancies requiring parts include the applicable TO references (e.g. illustrated parts breakdown technical order number, figure, and index).

8.1.8.10 Perform a complete document review of the transferring aerospace vehicle and associated equipment, to include historical records. Make corrections as required.

8.1.8.11 Due to varying circumstances and conditions, the following deviations are authorized:

8.1.8.11.1 A Lead Command having jurisdiction over both the losing and gaining organization may waive or modify any or all of the above requirements.

8.1.8.11.2 For transfers from one Lead Command to another, the gaining Lead Command may waive any or all of the requirements stated above or modify them under agreement with the losing command.

8.1.9 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 System Program Director (SPD) 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 8.1.8, prior to delivery of the aerospace vehicle. The losing Lead Command in coordination with the SM may waive or modify certain requirements of paragraph 8.1.8 to be accomplished by the depot/contractor facility.

8.1.10 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.

8.1.11 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 TOs 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.

8.2 AFTO FORM 290, AEROSPACE VEHICLE DELIVERY RECEIPT.

Use the AFTO Form 290 (Figure 8-1) to transfer aerospace vehicles and to furnish a record of selected equipment that will be transferred with the aerospace vehicles.

8.2.1 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.

8.2.2 The form:

8.2.2.1 Is not required if aerospace vehicles are moved by airlift or surface transportation.

8.2.2.2 May be used in addition to the (required) DD Form 1149 if directed by AFMC.

8.2.2.3 Lists the only items required to be physically checked by the delivery aircrew, transporter, or the gaining organizations.

8.2.3 Prepare the form using the following guidelines:

8.2.3.1 The l 2103 osing organization (such as the Aerospace Vehicle Distribution Office (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:

8.2.3.1.1 The model number.

8.2.3.1.2 Serial number.

8.2.3.1.3 Account or contract number.

8.2.3.1.4 Project and priority.

8.2.3.1.5 Flight order number (if known).

8.2.3.1.6 Gaining organization.

8.2.3.1.7 The losing organization (include MAJCOM, base, and organization unit number).

8.2.3.1.8 The location and date of release.

8.2.3.1.9 In column B of the checklist, list the quantity of each item placed on each vehicle.

8.2.3.1.10 List classified equipment installed on the vehicle in the "CLASSIFIED MATERIAL INSTALLED ON AIRCRAFT/MISSILE" block of AFTO Form 290. Enter "None" if no classified material is installed.

8.2.3.2 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.

8.2.3.2.1 In many cases, the aircrew or transporter is the authorized representative of the gaining organization. In this case, he/she will complete the AFTO Form 290 just before departing with the aerospace vehicle.

8.2.3.2.2 Delivery control or transportation officers at factories or modification centers are responsible for checking the items listed and signing the AFTO Form 290.

8.2.3.2.3 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.

8.2.3.2.3.1 If more than three intermediate stops are made, use an additional set of forms and attach them to the first form.

8.2.3.2.3.2 Immediately after the aerospace vehicle arrives at such an activity, the authorized activity representative and the aircrew or transporter checks the items.

8.2.3.2.3.3 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.

8.2.3.2.3.4 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.

8.2.3.2.3.5 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 his or her signature, grade, and activity.

8.2.3.2.3.6 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.

8.2.3.2.4 If an item is missing, the representative enters the corrected figure in column J and the AIRCREW or transporter initials the corrected figure and explains in the remarks section of the form.

8.2.3.2.5 The authorized representative of the gaining organization then signs the receipt in the space provided on the form.

8.2.4 Copies are prepared by the losing organization and distributed as follows:

8.2.4.1 Copy 1 - Home station.

8.2.4.2 Copy 2 - aircrew or transporter.

8.2.4.3 Copy 3 - Recipient.

8.2.4.4 Copy 4 - Losing organization.

8.2.4.5 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.

8.2.5 Reducing the number of copies is permissible according to the needs of the individual command or by mutual agreement between commands concerned.

AEROSPACE VEHICLE DELIVERY RECEIPT

(Indicate remarks on reverse)

DATE

1. All items shown below must be present before delivery commences, except
   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 and sign receipt provided
3. Recipient oganization will check all aircrat/missile forms upon delivery of the aircraft/missile and enter quantity of each item in column "J" below
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 MODEL	SERIAL NUMBER	ACCOUNT/CONTRACT NO.	PROJECT AND/OR PRIORITY	FLT/TRANSPORTATION ORDER NO (*When Known*)

CLASSIFIED MATERIAL INSTALLED ON AIRCRAFT/MISSILE

RECEIVING ORGANIZATION	DELIVERY POINT
RELEASED BY (*Unit, Base, and Command*)	PICKUP POINT AND 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 240, 244, 245, 248, 347, AND 348 - MISSILES									
TCTO RECORDS AS PRESCRIBED BY T O 00-20-1									
AFTO FORM 95 AND AFTO FORM 781E - AIRCRAFT ENGINES									
AFTO FORM 44 - TURBO JET ENGINES									
WEIGHT AND BALANCE HANDBOOK - AIRCRAFT									
LOAD ADJUSTER - AIRCRAFT									
AFTO FORM 345 (*T O 00-20-1*)									
AFTO FORM 95 FOR COMPONENTS LISTED IN T O 00-20-4, SECTION II									
(*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 ORGANIZATION	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, 20020617 (IMT-V1) **PREVIOUS EDITION IS OBSOLETE**

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Figure 8-1. AFTO Form 290, Aerospace Vehicle Delivery Receipt

8.3 PREPARATION OF AEROSPACE VEHICLES FOR DELIVERY TO A DEPOT/CONTRACTOR FACILITY.

8.3.1 The losing organization will prepare aerospace vehicles, scheduled for delivery to a depot/contractor facility for modification and/or maintenance, for delivery in accordance with the following guidance:

8.3.1.1 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.

8.3.1.2 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.

8.3.1.3 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 Lead Command 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.

8.3.2 TCTO kits on hand at base level, which will be installed by the facility, (as agreed to between the SM and the using Lead Command), 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.

8.3.3 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.

8.3.4 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 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, is documented on the automated product.

8.3.5 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.

8.4 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:

8.4.1 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 SM to waive compliance for TCTOs.

8.4.2 The GP/CC will consider an FCF to verify work accomplished under paragraph 8.4.1 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 AFI 21-101.

8.5 PREPARATION OF AEROSPACE VEHICLE TO BE TRANSFERRED SOLD OR DISPOSED.

8.5.1 The Foreign Military Sales agreement, AFMC guidance, and/or AFMAN 23-110 provide direction for preparation of aerospace vehicles for transfer or disposal.

8.5.2 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 8.4.

CHAPTER 9
MAINTENANCE HISTORICAL DOCUMENTATION

9.1 GENERAL MAINTENANCE HISTORICAL DOCUMENTATION REQUIREMENTS.

9.1.1 This chapter prescribes the requirements for historical documentation. Historical Documentation is the permanent record of significant maintenance actions on aerospace equipment.

9.1.2 Historical documentation requirements are applicable to field, organic, and contractor depot-level activities. Item Managers or program managers determine which items in the MDS specific -6 TO need historical reporting, and inform the SM so they can be identified for reporting.

9.1.3 Ship historical documents with the aerospace equipment or component to disposal, storage activity, next using activity, or depot, unless otherwise directed.

9.1.4 Historical documentation will be made in the MIS whenever available. When not available use the AFTO Form 95, *Significant Historical Data*. Process explained in paragraph 9.4.

9.1.5 Document the following historical events:

9.1.5.1 TCTO compliance. Document TCTO non-compliance due to modified or removed systems in which an AF Form 1067, *Modification Proposal*, was approved by Lead Command and the SM. All AF Forms 1067 must be maintained in the aerospace equipment's historical files.

9.1.5.2 TCIs.

9.1.5.3 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.

9.1.5.4 Removal and replacement of aerospace equipment fracture critical structure including fixed wings and stabilizers.

9.1.5.5 Remarks concerning special service test equipment installed or removed.

9.1.5.6 Data on severe corrosion, its location, extent, and treatment accomplished or required.

9.1.5.7 Circumstances regarding mishaps, the extent of damage, and repairs accomplished.

9.1.5.8 Weather damage to aerospace equipment.

9.1.5.9 Data on overstresses and hard landings.

9.1.5.10 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.

9.1.5.11 Replacement of time recording devices. Record the operating time from the removed meter, and the time on the new meter if more than zero.

9.1.6 The following are historical engine documentation requirements:

9.1.6.1 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.

9.1.6.2 Upon engine removal, enter the new vehicle total-time and engine-time since overhaul on the engine record.

9.1.6.3 Enter the engine time at removal, or the time at transfer if different on the engine record.

9.1.6.4 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.

9.1.6.5 Set the engine Time Since Overhaul (TSO) to zero on the historical records for engines processed through the organic or contractor depot for overhaul.

9.1.6.6 Do not zero engine components having a maximum life based on cycles or time in the MDS specific -6 TO.

9.1.6.7 Record entries for foreign object damage, internal damage, overspeed, overtemperature, or removal of components for maximum service life.

9.1.6.8 Record removal and replacement of engine accessories, defined as class A-2 and B-2 accessories by this TO, in the engine historical record.

9.1.6.9 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.

9.1.6.10 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 _____.

9.1.6.11 For modular engines, record a line entry indicating the reason for a test stand run and the results.

9.1.6.12 Initiate a historical documentation record for Quick Engine Change (QEC) kits for applicable aerospace vehicles.

9.1.6.13 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.

9.1.6.14 Document pertinent manufacturing data for jet engine turbine wheels.

9.1.6.15 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.

9.1.6.16 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.

9.1.7 Record the following information on the engine record for in-flight shutdowns.

9.1.7.1 Low oil pressure-Include how long the engine operated at that pressure and how long engines wind milled.

9.1.7.2 Overtemps - Include maximum temperature and how long the engine operated at that temperature.

9.1.7.3 Compressor stalls, rollbacks, seizures, and flameouts-describe the conditions they occurred.

9.1.8 When transferring engines between units or centralized repair facilities, document all basic engine components accounted for as prescribed in TO 2J-1-24, *Equipment Comprising a Complete Basic Gas Turbine Engines*, to include quick engine change (QEC) kit items accounted for in the applicable -10.

9.1.9 Pylon historical reporting requirements are as follows:

9.1.9.1 Enter the total accumulated equivalent power cycles (TO 1C-5A-6) 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.

9.1.9.2 Enter all other significant data concerning inspection results, waivers, repairs, and configuration 2281 hangers when not recorded in automated systems.

9.1.10 Propeller historical reporting requirements are as follows:

9.1.10.1 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.

9.1.10.2 For propeller blades, record the hub serial number at time of assembly.

9.1.10.3 For all installations and removals, record the propeller end item serial number, end item time since overhaul, and time since overhaul for all components.

9.1.10.4 Record any TCTOs, special inspections, or maintenance actions performed that could have a future bearing on propeller or propeller component operation.

9.1.11 Landing gear and strut historical reporting requirements are as follows:

9.1.11.1 For gear installation, show the aircraft serial number, gear position, date installed, airframe time, and airframe landings.

9.1.11.2 For strut installation, show total hours installed, landings accumulated, and total time since overhaul.

9.1.11.3 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.

9.1.12 Specified (per applicable aircraft technical data) helicopter components historical reporting requirements are as follows:

9.1.12.1 Will contain both the operating time for the aircraft and the components.

9.1.13 KC-135 boom historical reporting requirements are as follows:

9.1.13.1 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.

9.1.14 KC-135 MPRS pod historical reporting requirements are as follows:

9.1.14.1 Document all LRU changes, TCTOs, installation/removal on aircraft, etc. on pod AFTO Form 95 (G081-9035).

9.1.15 Guns and gun barrels history record will contain the number of rounds fired.

9.2 NON-AUTOMATED PROCEDURES.

9.2.1 When MIS is not available, use the AFTO Forms described in this section to collect data manually. Use enough detail to update the MIS.

9.2.2 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 per AFI 21-101. 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 SM, 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 single manager.

9.4 AFTO FORM 95 ENTRIES.

9.4.1 "PAGE OF PAGES." Enter the appropriate page numbers.

9.4.2 BLOCK I, "MISSION DESIGN SERIES/TYPE, MODEL AND SERIES." Enter the mission, design, series (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.

9.4.3 BLOCK 2, "MANUFACTURER." Enter the name of the manufacturer. For helicopter blades and tail rotor blades, the date of manufacture will follow the name.

9.4.4 BLOCK 3, "SERIAL NUMBER." When assigned, enter the serial number of the item identified in block 1. Example: 95-1428, 89-1429.

9.4.5 BLOCK 4, "ACCEPTANCE DATE." Enter date the equipment was accepted by the Air Force. If unknown, enter "unknown."

9.4.6 COLUMN A, "DATE." Enter the date the maintenance action or inspection is accomplished.

9.4.7 COLUMN B, "REMARKS." Enter the applicable information, using as many lines as necessary, to document significant data.

9.5 AFTO FORM 95, SPECIAL APPLICATIONS.

9.5.1 The Lead Command or GP/CC may prescribe additional uses of the AFTO Form 95. Forms prepared and maintained for Lead Command or GP/CC requirements will accompany the equipment upon transfer. However, upon review of the forms package, dispose of these forms IAW AFMAN 33-363, if not required. When such forms are forwarded with the equipment to overhaul facilities, update by the overhaul facility is not mandatory.

9.5.2 Document data on the AFTO Form 427 OR 428, AEROSPACE VEHICLE INTEGRAL FUEL TANK REPAIR HISTORICAL DATA, regarding temporary repair of fuel leaks in integral wing tanks on the forms as prescribed in TO 1-1-3, *Inspection and Repair of Integral Tanks and Fuel Cells.*

9.6 MAINTENANCE AND DISPOSITION OF HISTORICAL RECORDS.

9.6.1 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.

9.6.2 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 ALC IM. No historical records will be destroyed by any activity or person except when specifically authorized to do so by ALC IM.

9.6.3 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 AFMAN 33-363.

9.6.4 Review historical records annually and document completion in the MIS with the name of the individual performing the review.

SIGNIFICANT HISTORICAL DATA

1 MISSION DESIGN SERIES/TYPE, MODEL AND SERIES	2. MANUFACTURER	3. SERIAL NUMBER	PAGE OF PAGES 4 ACCEPTANCE DATE
DATE A	REMARKS B		ORGANIZATION C

AFTO IMT 95, 20020617, *V-4*

PREVIOUS EDITION IS OBSOLETE.

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Figure 9-1. AFTO Form 95, Significant Historical Data

APPENDIX A
MAINTENANCE TERMS

A.1 DESCRIPTION OF FREQUENTLY USED MAINTENANCE TERMS.

A.1.1 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.

A.1.2 AEROSPACE VEHICLE. Any vehicle that is designed to operate in the atmosphere and/or space environment.

A.1.3 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).

A.1.4 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.

A.1.5 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.

A.1.6 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.

A.1.7 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.

A.1.8 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.

A.1.9 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.

A.1.10 COMPONENT. An item (assembly, subassembly, or part) which serves as one of the parts of a whole.

A.1.11 CONFIGURATION. The functional and/or physical characteristics of hardware and software as set forth in technical documentation and achieved in a product.

A.1.12 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.

A.1.13 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.

A.1.14 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.

A.1.15 CONFIGURATION MANAGEMENT. A discipline applying technical and administrative direction and surveillance to:

A.1.15.1 Identify and document the functional and physical characteristics of a CI.

A.1.15.2 Control changes to those characteristics.

A.1.15.3 Record and report change processing and implementation status.

A.1.16 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 MDD PWG in the maintenance information systems i.e. guns, ejection systems, EA PODs.

A.1.17 ENGINE CONFIGURATION MANAGEMENT SYSTEM (ECMS). A compliance accounting system for TCTOs issued against selected aerospace vehicle engines, missile engines, and auxiliary power units (APU).

A.1.18 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.

A.1.19 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, S-E, and AGE.

A.1.20 INDUSTRIAL PLANT EQUIPMENT (IPE). Industrial Plant Equipment is known as equipment utilized in an industrial maintenance area. Some of this equipment may be found in the machine shop or sheet-metal shops.

A.1.21 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.

A.1.22 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.

A.1.23 NON-POWERED AGE. Those items of portable services handling and maintenance equipment that are not motor or engine driven (with the exception of small electric positioning motors). These items include: but are not limited to, maintenance stands, A-frames, platforms, aerospace vehicle jacks and tow bars, trailers (except munitions handling and engine trailers) and hydraulic servicing carts.

A.1.24 OPERATIONAL CHECK. A functional check of an accessory, component, or system accomplished in its installed environment to ensure proper installation and operation.

A.1.25 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.

A.1.26 POWERED AGE. Those items of portable (trailer mounted with tow bar) engine or motor driven equipment used in servicing, handling and maintaining weapon systems. These items include portable engine and motor-driven equipment in the following categories: generator sets, air compressors, self-generating nitrogen servicing carts, cabin leakage testers, blowers, hydraulic test stands, air conditioners (including air cycle machines), liquid cooling carts, ground heaters, light carts, gas turbine compressors, universal maintenance stands, hydraulic jacking manifolds, self propelled bomblifts, and cranes. The exception to portable engine or motor driven powered AGE are solid state frequency converters and skid mounted engine driven generators used to supply electrical ground power to aircraft.

A.1.27 PRODUCT GROUP MANAGER (PGM). The single manager for a Product Group, who has the same responsibilities as a System Program Director or Materiel Group Manager, for the assigned products.

A.1.28 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.

A.1.29 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.

A.1.30 SERIALLY CONTROLLED ITEMS. Those items of equipment selected by the SM 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.

A.1.31 TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE). Equipment used to troubleshoot, perform functional test and/or calibration on weapon systems, support/training aerospace vehicle subsystems, components, or the equipment used in support of these systems while on the ground. 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.

APPENDIX B
APPLICABLE TECHNICAL ORDERS AND SUPPORTING DIRECTIVES

B.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 MATERIAL DEFICIENCY REPORTING AND INVESTIGATION
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 2J-1-18	PREPARATION FOR SHIPMENT AND STORAGE OF GAS 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 35-1-4	CALIBRATION REQUIREMENT SUMMARY AGENDA
TO 42B2-1-1	USE AND GRADES OF AIRCRAFT ENGINE LUBRICATING OILS

B.2 SUPPORTING DIRECTIVES.

Additional publications pertaining to the USAF equipment maintenance program which prescribe Air Force policies are as follows:

Publication	Title
AFI 11-301	AIRCREW FLIGHT EQUIPMENT (AFE) PROGRAM
AFI 11-401	AVIATION MANAGEMENT
AFI 21-101	AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT
AFI 21-102	DEPOT MAINTENANCE MANAGEMENT
AFI 21-103	EQUIPMENT INVENTORY, STATUS, AND UTILIZATION REPORTING
AFI 21-109	COMMUNICATIONS SECURITY (COMSEC) EQUIPMENT MAINTENANCE AND MAINTENANCE TRAINING
AFI 21-113	AIR FORCE METROLOGY AND CALIBRATION (AFMETCAL) PROGRAM

Publication	Title
AFI 21-118	IMPROVING AEROSPACE EQUIPMENT RELIABILITY AND MAINTAINABILITY
AFI 21-201	CONVENTIONAL MUNITIONS MAINTENANCE MANAGEMENT
AFI 51-503	AEROSPACE ACCIDENT INVESTIGATIONS
AFMAN 10-2602	NUCLEAR, BIOLOGICAL, CHEMICAL, AND CONVENTIONAL (NBCC) DEFENSE OPERATIONS AND STANDARDS
AFMAN 23-110	USAF SUPPLY MANUAL
AFMAN 33-363	MANAGEMENT OF RECORDS

APPENDIX C
LIST OF ACRONYMS

C.1

ABDR	-	Aircraft Battle Damage Repair
A/C	-	Aircraft Commander
AFE	-	Aircrew Flight Equipment
AGE	-	Aerospace Ground Equipment
AME	-	Alternate Mission Equipment
ATD	-	Aircrew Training Device
CAD	-	Cartridge Actuated Device
CFT	-	Contract Field Team
DFT	-	Depot Field Team
DOM	-	Date of Manufacture
DOI	-	Date of Installation
EA	-	Electronic Attack
EOR	-	End-of-Runway
FCF	-	Functional Check Flight
FOM	-	Facilitate Other Maintenance
FSE	-	Flight Support Equipment
GITA	-	Ground Instructional Training Aircraft
IAW	-	In accordance with
ID	-	Identification
IPE	-	Industrial Plant Equipment
MDS	-	Mission, Design, Series
NIE	-	Normally Installed Equipment
PAD	-	Propellant Actuated Device
PCAMS	-	Process Control Automated Management System
PLI	-	Pre-Launch Inspection
QT	-	Quick-turn
RCMA	-	Reliability centered Maintenance Analysis
SE	-	Support Equipment
SM	-	Single Manager
SN	-	Serial Number
TCI	-	Time Change Item
TCTO	-	Time Compliance Technical Order
WAI	-	Walk-Around Inspection
WCD	-	Work Control Document
WUC	-	Work Unit Code