DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

DAFI21-101_AETCSUP_AETCGM2026-01
9 JUNE 2026

MEMORANDUM FOR ALL AETC UNITS

FROM: HQ AETC/A4
266 F Street West
JBSA-Randolph TX 78150-4440

SUBJECT: Air Education and Training Command Guidance Memorandum to Department of the Air Force Instruction 21-101, AETC Supplement, *Aircraft and Equipment Maintenance Management*

By Order of the Commander, Air Education and Training Command, this Guidance Memorandum immediately implements changes to DAFI 21-101, AETC Supplement. Compliance with this memorandum is mandatory. To the extent its direction is inconsistent with other Air Education and Training Command publications, the information herein prevails, in accordance with Department of the Air Force Instruction (DAFI) 90-160, *Publications and Forms Management*.

This guidance is applicable to all military and civilian members of the United States Air Force (USAF), United States Space Force (USSF), Air Force Reserve (AFR), and Air National Guard (ANG) as well as those with contractual obligation to comply with Air Force publications.

This document has been revised and should be completely reviewed. Changes include authorizing T-6 Rapid Crew Swaps (RCS) using sortie blocks 300–449 for minor post-shutdown servicing and incorporating CAM/CSAM equivalents into maintenance supervision definitions. Additionally, Production Superintendents must now coordinate PMC aircraft use with operations and provide shift MOC updates, while training is modernized via an 18-month QA Personnel Evaluation cycle, FHP baseline training, and standardized corrosion score sheets. Finally, the update mandates rotorcraft briefings by FCF-qualified QC inspectors, exempts 5th Gen aircraft from external radar testing, and introduces Attachment 24 to standardize MQ-9/T-7 markings while strictly banning F-35 heritage markings.

Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule which is located in the Air Force Records Information Management System.

This memorandum becomes void after one year has elapsed from the date of this memorandum, or upon publication of an Interim Change or rewrite of the affected publication, whichever is earlier.

JILLIAN T. WATSON, SES, DAF
Director of Logistics, Engineering
and Force Protection

Administrative Updates.

All references to 19 AF/A4 changed to read AETC/A4M throughout.

All references to 19 AF/A4D changed to read AETC/A4MA throughout.

All references to 19 AF/A4M changed to read AETC/A4MS throughout.

All references to 19 AF/A4P changed to read AETC/A4MM throughout.

All references to 19 AF/A4R changed to read AETC/A4ML throughout.

All references to 19 AF/A4MP changed to read AETC/A4MSP throughout.

All references to 19 AF/A4MS changed to read AETC/A4MSS throughout.

All references to 19 AF/A4MW changed to read AETC/A4MSW throughout.

All references to 19 AF/A4PA changed to read AETC/A4MMA throughout.

All references to 19 AF/A4PP changed to read AETC/A4MMP throughout.

All references to 19 AF/A4PR changed to read AETC/A4MMR throughout.

All references to 19 AF/DO changed to read AETC/A3F (Undergraduate) or AETC/A3D (Graduate) throughout.

All references to 19 AF/A3F changed to read AETC/A3F (Undergraduate) or AETC/A3D (Graduate) throughout.

All references to 19 AF/A3 R&A changed to read AETC/A3F (Undergraduate) or AETC/A3D (Graduate) throughout.

All references to 19 AF/A3 changed to read AETC/A3F (Undergraduate) or AETC/A3D (Graduate) throughout.

All references to AFI 23-101 changed to DAFMAN 23-300 throughout.

All references to DAFMAN 23-122 changed to DAFMAN 23-300 throughout.

All references to AETC Form 136 change to read AETC Form 45 throughout.

Guidance Updates.

1.6.2. **(AETC)** Quality Assurance (QA) personnel will adhere to the same requirements as all maintenance personnel during inspections, evaluations, or any task requiring the use of technical data.

2.2.12. **(Added-AETC)** If Rapid Crew Swaps (RCS) are employed, ensure detailed local procedures are developed and published. **(T-2).** Refer to Paragraph 11.47.

2.9. (AETC) Maintenance Supervision Responsibilities. Maintenance Supervision consists of the Director of Operations (DO) and Maintenance Superintendent (MX SUPT) or equivalent for CSAM/CAM units. Maintenance Supervision advises the SQ/CC on technical matters, leads a mission-focused maintenance effort, and manages resources necessary to accomplish the mission. They provide necessary administration to manage assigned responsibilities and control maintenance through Pro Supers, Flight CC/SUPT, and Section NCOICs/Chiefs. The MX SUPT is responsible to the DO. Maintenance Supervision will:

3.5.7. **(AETC)** Coordinate with operations scheduling on the use of partial mission capable (PMC) or restricted aircraft.

3.5.10.1. **(AETC)** Pro Super shall provide the MOC a status board update on the status of all aircraft and systems once per shift. **(T-3)**

3.6.4.1. **(AETC)** Track aircraft last fly date and next fly date. **(T-3)**

3.7.5. **(AETC)** Maintenance debriefing is a critical element in the data integrity process. Complete and accurate debriefing must be accomplished to ensure all utilization, deviation, pilot reported discrepancies, and repeat/recur information is captured. Use the specific line/mission number published in the weekly schedule when inputting debrief data into the MIS. When additional forms (AETC Form 97, *In-Flight Emergency and Unusual Occurrence Worksheet*, AETC Form 209 etc.) are required, the discrepancy will be entered verbatim in the appropriate field for each form required.

4.4.3.2.6.2.1. **(AETC)** Ensure civil service and contractor egress personnel have completed the Aircrew Egress Systems Apprentice Course or Navy equivalent. Civil service and contractor egress maintenance personnel who possess, as a minimum, one year of experience within the last three years performing egress maintenance, repair, inspections, etc., may be considered for a waiver. Waiver requests will be submitted to the Aerospace Systems Branch (19 AF/A4MS) for review and forwarded to the 2A6X3 Career Field Manager for approval/disapproval IAW AFI 36-2650, *Maintenance Training*.

4.5.1.2. **(AETC)** AGE does not dispatch operator dispatched equipment (e.g., Bomb lifts and Powered Munitions Trailers). **(T-2)**

4.5.1.8. **(Added-AETC)** Ensure AGE is used to support aircraft and/or flightline operations. If AGE is required for mission essential operations outside of aircraft and/or flightline operations for more than 48 hours, it shall require MXG/CC coordination and/or approval. **(T-2)**

4.5.2.15. **(Added-AETC)** Submit annual equipment inventory listing to AETC/A4MSS by 1 February. **(T-2)** Data must reflect all AGE maintained by the AGE Flight with all supply requisition/due-out information.

4.5.3.6. **(Added-AETC)** Ensure tone-down procedures are followed as described in TO 35-1-3. **(T-2)**

5.2.4.13. **(AETC)** Minimum training requirements will include Flying Hour Program (FHP) management. **(T-3)**

6.7.1.3.2. **(AETC)** Quality Assurance Application Tool is located at the following link: **https://usaf.dps.mil/sites/AFMAA/MM/Requirements%20Determinant%20Libary/Forms/AllItems.aspx?FolderCTID=0x012000F9937A3B081F9A4B8589F485FD4B5582&id=%2Fsites%2FAFMAA%2FMM%2FRequirements%20Determinant%20Libary%2F2xxx%20%2D%20Maintenance%2F21xx%20%2D%20Maintenance%20Management%20and%20Support%2F21QX00%20%2D%20Maintenance%20Quality%20Assurance**

6.7.6.1.3. **(AETC)** Personnel Evaluations (PEs) will be accomplished on an 18-month cycle. This applies to all technicians performing maintenance as well as all Quality Assurance (QA) inspectors. For technicians, the cycle is 18 months for full-time Guardsmen/Reservists and 36 months for Drill Status Guardsmen/Reservists. For QA inspectors, the PE will evaluate their performance of primary evaluation duties and is essentially an Evaluator Proficiency Evaluation

(EPE). Any fully qualified QA Inspector may conduct a recurring PE on another inspector, though initial EPEs are restricted to Chief Inspectors or higher. Maintenance Training Section/Field Training Detachment instructors who perform maintenance are subject to the PE frequency established by the host unit's MAJCOM. NDI PEs will be conducted in accordance with paragraph 6.7.6.1.6.

6.10.4. **(AETC)** Ensure all locally developed work cards, job guides, page supplements, and checklists are reviewed and validated by QA/QC and approved by the MXG/CC/DOM. For contract maintenance units MRD/CCOR approval is required. **(T-2)** Distribute approved work cards, job guides, page supplements, and checklists to all applicable maintenance activities. When TOs have not been published for equipment assigned to the maintenance complex, QA/QC or the maintenance function where maintenance is actually done may set up a file of commercial off-the-shelf manuals or publications relating to this equipment per TO 00-5-1. This file must be collocated with the TO file.

6.12.3.1. **(Added-AETC)** For maintenance checks on helicopters/rotorcraft that require a qualified aircrew to operate the aircraft or its systems (including but not limited to engine motoring and rotor engagement), the FCF-qualified QC inspector shall perform the following actions:

6.12.3.1.1. **(Added-AETC)** Review all maintenance forms to validate the quality and compliance of maintenance actions performed and ensure documentation is complete and accurate. **(T-2)**

6.12.3.1.2. **(Added-AETC)** Brief the FCF aircrew on the purpose and extent of the required checks, all maintenance performed, and any remaining aircraft discrepancies. **(T-2)**

6.12.3.1.3. **(Added-AETC)** Ensure the Exceptional Release is signed prior to execution of flight operation(s). **(T-2)**

6.12.4. **(AETC) Deleted.**

8.3.1.2. **(Added-AETC)** Service-Life Items. Service-Life Items are Shelf-Life items which have entered into service. Using work centers will manage and control Service-Life information for applicable products kept in bench stock, operating/shop stock, and work order residue. Personnel managing bench stock, operating/shop stock, and work order residue will:

8.3.1.2.1. **(Added-AETC)** Determine each item's service life. Consult the applicable Technical Manual (TM) or source of supply (FEDLOG, WebFLIS, DLA, SLES or the manufacturer) to determine the service life of a product. If an item's service-life cannot be determined from these sources, the item will be considered serviceable for 12 months after being placed in service. **(T-3)**

8.3.1.2.2. **(Added-AETC)** Document the service life. The in-service date and expiration date must be recorded in TCMAX and on the product label. Shelf-life expiration has no effect on Service-life, as long as the items are placed in service prior to shelf-life expiration date.

8.3.1.2.3. **(Added-AETC)** Properly dispose of items with expired service life. Users will conduct a pre-use visual inspection of service-life items. Items deemed unserviceable during the user inspection, regardless of service life expiration date, will be turned in for proper disposal. **(T-3)**

8.5.1. **(AETC)** [DEV] ALIS is used to manage tools for the F-35 aircraft. Additionally, any

sections such as QA, where only a handful of items (including eTools) require accountability, may use the AETC Form 1042 for accountability and control of tools. Maintain a copy of the form in the storage facility/location.

9.12.1. **(Added-AETC)** Monitor the status of critical support equipment for serviceability, 100% accountability, and status of TCTOs. When support equipment is determined unserviceable, ensure local repair is initiated or replacement is ordered within 3 duty days. Provide monthly critical support equipment status update to Maintenance Supervision.

9.12.2. **(Added-AETC) Deleted.**

9.18.3.2. **(AETC)** Base reparable assets assigned to back shops will be returned by the end of the 10th duty day from the date of issue. **(T-2) Note:** Failure to return reparable items to LRS in a timely manner will delay replenishment of serviceable items to the installation. **Note:** Days are not counted as issued DIFM days when items are in DIFM status codes AWP, CTR, DWP, MWI, MWP, PDM, TCG, and TOC. Reference Table 4.1, *DIFM Status Codes*, AFH 23-123, Volume 2, Part 1.

9.18.3.4. **(Added-AETC)** Repair Cycle items identified as Direct NRTS will be returned by the end of the 4th duty day from the date of issue. **(T-2)**

9.19.6. **(Added-AETC)** DMS or designated MX personnel will perform TNB/FOM inventory at least once per day. **(T-2)** Develop TNB/FOM inventory listing and inform the Pro Super of Flight Line Expediter of TNB assets which may prevent or satisfy a mission limiting condition.

Table 11.1. (AETC). Mandatory Special Certification Roster and Prerequisites.

ITEM	A	B
ITEM	Mandatory SCR Item Titles	AETC Prerequisites
12	"Red-X" and/or IPI - CUT (For multiple MDSs, list separately), for tasks outside PAFSC **(Note 2)**	SSgt or higher, minimum 7-skill level (or civilian equivalent), Use for personnel certified on tasks in other AFSCs through CUT training
45	Remote Controlled Aircraft Towing System Operator. (**Note 2**)	Minimum 5-skill level or equivalent with a minimum of 6 months' weapons system experience
Notes: 1----Approved by MXG/CC or equivalent may be delegated IAW DAFI 21-101, Paragraph 2.4.2.32. 2----Approved by Maintenance Supervision or equivalents. May delegate approval authority to the OIC/SUPT or Flight CC/SUPT. 3----(DELETED) 4----Munitions inspectors who are trained and certified may annotate serviceability tags for munitions items (TO 11A-1-10). 5----Appointed by the Unit Commander (or equivalent) of units possessing NWRM.		

6----Flight CCs/SUPTs and Section NCOICs/Chiefs will review each individual's qualifications for primary AFSC and any CUT qualifications prior to recommending approval.

11.12.1.2. **(Added-AETC)** 5th Generation aircraft that are equipped with enhanced on-board diagnostics and internal testing capabilities are exempt.

11.13.8.2. **(AETC)** CANN actions involving parts from crash damaged aircraft will not be accomplished without authorization from the Program Office. **(T-2)**

11.16.1.1. **(Added-AETC).** All MDSs will follow SCR requirements for certifying officials and technician certification listed in Table 11.1, Items 6 and 22. Each certified technician will be recertified annually. **(T-2)**

11.16.1.2. **(Added-AETC).** Maintenance Training will develop a training program for installed engines at units with F-16 and F-35 aircraft assigned. The training should ensure personnel are knowledgeable and proficient in the performance of intake/inlet/exhaust inspections. **(T-2)**

11.18.5. **(Added-AETC)** Proficiency Requirements. Certifiers and technicians must perform one blend repair every 180 days to maintain proficiency. **(T-3)** Units with MDS rarely affected by damage requiring blade blend may use a training device (set of blades) to satisfy the 180-day proficiency requirement.

11.36.1.2. **(AETC)** Units must submit written justification to the AETC AFREP Manager, AETC/A4MMP, to obtain authorization to implement an AFREP. Unit must include a statement and validate that all components will have exhausted all existing on-base backshop repair capabilities. **(T-2)**

11.36.4.4. **(Added-AETC)** Wing AFREP Managers will submit XB3 and XF3 repair authorization requests to AETC/A4MMP using AETC Form 45, *Repair Enhancement Approval Request*. Upload using the following link: **https://usaf.dps.mil/sites/aetc-19af/LG/productimprovement/AFREP%20MAJCOM%20Repairable%20Assets%20Form/Forms/AllItems.aspx?viewpath=%2Fsites%2Faetc-19af%2FLG%2Fproductimprovement%2FAFREP%20MAJCOM%20Repairable%20Assets%20Form%2FForms%2FAllItems.aspx**. Once approved by the AETC AFREP Manager, route the AETC Form 45 to the item's TO owning authority depicted on the title page of the TO for Program Manager approval, along with a SMR/ERRC change using the ETIMs RC process, IAW TO 00-5-1.

11.36.9.2. **(Added-AETC)** Develop local awareness program to inform base populace of AFREP and to advocate local self-sustaining repair philosophy. **(T-2)**

11.36.9.3. **(Added-AETC).** Ensure a Project Fund Management Record (PFMR) account is established for financial accountability. All credits earned will be carefully managed and applied to mission-related requirements. **(T-2)**

11.36.9.4. **(Added-AETC).** MXG/CC or equivalent will request the MSG/CC assign an AFREP

liaison within LRS (e.g., Flight Service Center). **(T-2)**

11.36.10. **(AETC)** Wing/Unit AFREP Manager will provide a list of candidate components that they will request authorization to repair under their AFREP Program. **(T-2)** This list will contain Nomenclature, NSN and ERRC and SMR Code. Unit must also provide the Percentage Base Repair (PBR) for those items, and if repairing outside the scope of any field/intermediate technical data, provide what exact repairs are being utilized under the unit's AFREP Program. Wing/Unit AFREP Manager will certify the candidate items are beyond repair from all applicable on-base organic maintenance work centers/back shops. **(T-2)** Certification must be documented (email, logbook). Parts coded direct NRTS are exempt from this requirement. **(T-2)** This list must be updated and forwarded to the MAJCOM AFREP Manager yearly.

11.36.10.1 **(AETC)** Submit SMR/ERRC change recommendations to the MAJCOM AFREP Manager for Program Office coordination. See TO 00-25-195, and this DAFI. **(T-2) Note:** Field-level TOs do not give authorization for local contract repair of any item, only on- base repair to the extent specified by the SMR code for a given item. AFREP or any other field level personnel will not perform repairs not authorized by technical data. **(T-2)** At a minimum, ensure base AFREP Manager verifies the candidate item is beyond repair from all applicable on-base organic maintenance work centers/back shops. Certification must be documented (email, logbook). Parts coded direct NRTS are exempt from this requirement. **(T-2)**

11.36.10.1.2 **(AETC)** Wing/unit AFREP Managers will submit AETC Form 45 to the MAJCOM AFREP Manager to request contractor/vendor repair authorization. Wing/unit AFREP Managers using contract services for asset repair will maintain written product approval documentation **(T-2).**

11.36.10.1.2.1 **(AETC)** AETC Form 45 is the standard format used to approve contractors. **Note**: Approved, written authorization(s) will be maintained by the Wing/Unit AFREP Manager as Source of Approved Request and Reply (SAR) letters. **(T-2)**.

11.36.10.1.3.8. **(Added-AETC)** Wing/Unit AFREP Managers will provide quarterly updates and End of Fiscal Year Reports to the HQ AETC AFREP Manager organizational email box: AETC.A4MMP.AFREP@US.AF.MIL **(T-2)**

11.36.10.1.3.16. **(Added-AETC)** Ensure a supply system demand requirement exists prior to repairing DIFM items. **(T-2)**

11.36.11. **(Added-AETC)** Wing/Unit Supply Liaison will:

11.36.11.1 **(Added-AETC)** Process all assets in and out of the AFREP. **(T-2)**

11.36.11.2. **(Added-AETC)** Ensure appropriate TRICs are assigned. **(T-2)**

11.36.11.3. **(Added-AETC)** Ensure an ILS-S demand level requirement exists for approved initiatives prior to repairing consumable items. **(T-2)**

11.36.11.4 **(Added-AETC)** Send items to the appropriate work center for evaluation/repair. **(T-2)**

11.36.11.5. **(Added-AETC)** Assist work centers in obtaining required technical data, equipment or parts to support the evaluation process. **Note:** Depot level TOs may be requisitioned and used to develop local repair procedures. These repair procedures must be approved by the Single Manager organization if not warranted by SMR code. **(T-2)**

11.36.11.6. **(Added-AETC)** Ensure all DIFM and tracking requirements are maintained. **(T-2)**

11.36.11.7. **(Added-AETC)** Monitor status of items sent to alternate repair sources. **(T-2)**

11.36.11.8. **(Added-AETC)** Recommend process improvements to the Wing, Unit, and/or MAJCOM AFREP Manager. **(T-2)**

11.36.11.9. **(Added-AETC)** Ensure alternate repair source identification and vendor number (if available) is displayed on serviceability tags and/or marked on the asset when returned by the alternate repair source prior to use or supply turn in. **(T-2)**

11.36.11.10. **(Added-AETC)** Provide the AFREP manager with information concerning ILS-S valid requirements and AFREP item repair status. **(T-2)**

11.36.11.11. **(Added-AETC)** Screen asset availability through Defense Logistics Agency Disposition Services (DLADS) IAW DAFMAN 23-300

11.36.12. **(Added-AETC)** AFREP Technician will:

11.36.12.1. **(Added-AETC)** Evaluate potential AFREP initiatives and determine if repair of item is feasible. **(T-2)**

11.36.12.2. **(Added-AETC)** Prepare an AFREP tracking record for each initiative, assign an AFREP control number and tracking folder and/or data base. This tracking folder and/or database will include all information associated with the AFREP repair process. **(T-2)**

11.36.12.3. **(Added-AETC)** Send items to appropriate repair shop for evaluation if repairs exceed technician capability. **(T-2)**

11.36.12.4. **(Added-AETC)** Reevaluate the initiative after repair to determine the cost effectiveness of the repair compared to the original evaluation. **(T-2)**

11.36.12.5. **(Added-AETC)** Notify the Wing/Unit AFREP Manager of recommendation to continue/discontinue repair. **(T-2)**

11.36.13. **(Added-AETC)** Circuit Card Repair (CCR) Technician will:

11.36.13.1 **(Added-AETC)** Evaluate potential AFREP initiatives and determine if repair of item is feasible and/or economical.

11.36.13.2. **(Added-AETC)** Notify Wing/Unit AFREP Manager of recommendation to continue/discontinue repair

11.36.13.3. **(Added-AETC)** Maintain soldering certification to Miniature or Depot standards of electronic re-work per **Attachment 25** and **Attachment 26**

11.36.13.4. **(Added-AETC)** Maintain soldering certification to Micro-Miniature (2M) standards of electronic re-work per **Attachment 27** and **Attachment 28** as required. **(T- 2)**

11.36.14. **(Added-AETC)** Program Process:

11.36.14.1. **(Added-AETC)** Initiative Submission. Anyone may submit an initiative. Typically, a maintenance technician starts the process by questioning the rationale for discarding, condemning or returning an item as NRTS. Sources of ideas may include RNEP meetings, DRMO visits, waste-busters, or personal observations of the work environment. Initiatives will be forwarded to the AFREP office for evaluation. **(T-2)**

11.36.14.2. **(Added-AETC)** Initiative Evaluation. The most qualified person at base-level will evaluate the initiative. **(T-2)** The evaluator should reference the AFREP Web Site master database to prevent duplication of prior initiative submissions and verify authorized level of repair via SMR codes. Perform the evaluation to determine the feasibility of repair. Repair will be based on local supply consumption data, mission requirements, worldwide asset availability and cost/benefit analysis. **(T-2)** Assess on-base repair capability, including the availability of technical data, repair parts, tools, test equipment, and training. If the part is repairable and the SMR code authorizes repair, units may proceed with the repair. If no on-base capability exists, qualified, and approved government or vendor repair sources will be used to provide parts and services. If the SMR code prohibits repair, a SMR code change request will be submitted if the evaluation determines the part can be repaired. **(T-2)** If the SMR code change request is approved, the repair may be completed at the shop level or through an approved vendor repair facility.

11.36.14.2.1. **(Added-AETC)** Establish a tracking system which includes: Initiative Control Number, Supply Document Number, NSN, Part Number, Supply Inquiry (consumption data), Cost/Benefit Analysis, Mission Impact Statement, brief description of discrepancy, parts replaced/repaired, and repair procedures (tech data or locally developed). Tracking system must also include information concerning safety of flight items. **(T-2)** Also include any other pertinent information in the tracking system.

11.36.14.2.2. **(Added-AETC)** If repair will be sourced to a vendor, the tracking system will also include DD Form 1149, *Requisition and Invoice Shipping Document*, payment procedures (AF Form 9, *Request for Purchase,* or Government Purchase Card/BPA, etc.), justification/approval for contractor repair, and any additional contract documentation (warranty, statement of work, FAA certification, etc.). **(T-2)**

11.36.14.3. **(Added-AETC)** Vendor Repair. All repairs must be completed according to technical data. **(T-2)** Vendors must be registered through the System of Award Management (http://www.sam.gov). **(T-2)** The unit should coordinate shipment to and from the vendor. The local transportation office will assign a Transportation Control Number to the DD Form 1149, which will accompany the asset. **(T-2)** The unit will ensure the vendor acknowledges receipt. **(T-2)** The unit will ensure that the vendor will inspect/test the item following repair actions. **(T-2)** A record of the repair and test results will be provided to the AFREP office and made available for the government inspector (e.g., Defense Contract Management Agency). **(T-2)** If documentation is not provided, the AFREP office or base maintenance organization must inspect/test the item. **(T-2)** A quality verification may also be performed on the first article to ensure compliance with the established test criteria and serviceability. All AFREP items will be clearly identified with a tag, stamp, decal or other means. **(T-2)** This identification will include repair location, office symbol, phone number and date. **(T-2)** When repaired or condemned, the item will be processed through normal supply channels

11.36.15. **(Added-AETC)** Supply Process:

11.36.15.1. **(Added-AETC)** Arrange, coordinate, and store AFREP repair candidates, and/or approved initiatives as required. **(T-2)**

11.36.15.2. **(Added-AETC)** Upon approval of AFREP initiative, assign the AFREP "Exception Code". This code is assigned by MAJCOMs to applicable NSNs IAW DAFMAN 23-300. **(T-2)**

11.36.15.3. **(Added-AETC)** Submit a request to locally assign ERRC for recurring initiatives that have a demand level established (XB3 to XF3 only) IAW AFH 23-123, Volume 2, Part 2

11.36.15.4. **(Added-AETC)** Update the Repair Cycle record (TRIC FRR1) to identify the AFREP office as the repair facility IAW DAFMAN 23-300.

11.36.15.5. **(Added-AETC)** All XD/XF assets will be picked-up on the organizational supply account for the AFREP office. **(T-2)** This will be reflected on the D23. **(T-2)**

11.36.15.6. **(Added-AETC)** Assign DIFM status to AFREP assets repaired IAW DAFMAN 23-300. **Note**: XF/XD AFREP repair actions will be tracked under DIFM control. **(T-2)**

11.36.15.7. **(Added-AETC**) Unserviceable XF asset turned in with a DIFM detail will be placed in the designated hold area by FSC for 1 duty day. **(T-2)** If the AFREP repair shop can repair the asset, a Turn-in will be processed with a TEX code "1" to clear the original DIFM detail.

11.36.15.7.1. **(Added-AETC)** Process all AFREP initiatives into the program as an unserviceable issue (MSI) with a TEX code "D" to the AFREP account. Use activity code "C" for Expendability, Recoverability, Reparability, Category (ERRC) XD, and XF Budget code 8 (MSD), and "R" for XB and XF budget code 9 (GSD) and use shop code "GF". This will provide the asset to AFREP as a "free issue" while establishing a DIFM detail. **(T-2)** Refer to DAFMAN 23-300 for more details

11.36.15.8. **(Added-AETC)** Turn-in actions will be processed as appropriate.

11.36.15.8.1. **(Added-AETC)** Serviceable/unserviceable assets will be turned in for credit under appropriate AFREP organization and shop code IAW DAFMAN 23-300. **(T-2)**

11.36.15.8.2. **(Added-AETC)** Cost savings or “credits” are earned when a repaired item is turned into supply and a credit is captured in the AFREP PFMR account. In contrast, “cost avoidance” refers to items repaired and returned either using a maintenance to maintenance or supply transaction with no credit captured in the AFREP PFMR account. AFREP offices will track all savings and avoidance repair actions

11.36.15.9. **(Added-AETC)** Review supply reports (D04, D11 or D23) and local management products (QLPs, Surge listings or Adhoc Reports) to ensure the AFREP account is current, and new initiatives are not overlooked. Request others as needed.

11.36.15.9.1. **(Added-AETC)** Approved AFREP initiative transactions within the ILS- S can be reconciled against existing unit requirements.

11.36.15.10. **(Added-AETC)** Prepare and process Defense Reutilization and Marketing Office (DRMO) withdrawals IAW DLADS DAFMAN 23-300.

11.36.16. **(Added-AETC)** Financial Process:

11.36.16.1. **(Added-AETC)** AFREP costs, funding, and credits must be carefully managed consistent with guidance in this instruction and financial guidelines. **(T-2)** Operating costs must be closely monitored directly attributable to the local AFREP office. **(T-2)** In addition, credits must be applied to mission-related requirements and managed as follows:

11.36.16.1.1. **(Added-AETC)** Wings/units will establish at least one PFMR account, with the appropriate financial sub-accounts, to capture AFREP credits. **(T-2)** Credits earned through the repair of XD2 (flying hour) assets are retained in a PFMR “fly” account. Credits earned through

the repair of XB3/XF3 (expendable) items may be retained in a PFMR “non-fly” account.

11.36.16.1.2. **(Added-AETC)** All AFREP credits (minus AFREP Operating Costs) generated by the repair of an item will be captured within the AFREP PFMR(s). **(T-2)** These AFREP credits are to be retained by the Wing/Unit. Credits generated by the repair of XD2 (flying hour) assets must be used for flying hour-related requirements. **(T-2)** Credits generated by the repair of XB3/XF3 (expendable) items may be used for flying hours or other mission-related requirements.

11.37.2.3 **(Added-AETC)** The calibration limitation approval training program in MyLearning will be accepted in lieu of an MT or TD course.

11.37.2.4 **(Added-AETC)** MXG/CCs will appoint maintenance, TD, or PMEL personnel as instructors and ensure the following certification and proficiency requirements are tracked in the MIS by course code. **(T-2)**

11.37.2.5. **(Added-AETC)** Formal training, calibration limitation approval course. **(T-2)**

11.37.2.6. **(Added-AETC)** Annual calibration limitation approval recertification. **(T-2)**

11.41.4. **(Added-AETC)** Flight Service Centers (FSC). FSC will use the BLADE D23 to track CBM+ parts once an order is placed until the part is turned in. **(T-2)**

11.45.2.16. (**Added-AETC)** Establish an Installation Corrosion Control Facility Action Team (at units with contract maintenance, a government employee will be designated to establish the Action Team and work in concert with MAJCOM Corrosion Functional Manager). **(T-2)**

11.45.2.16.1. (**Added-AETC)** Team is tasked to develop corrective action plans, advocate for prioritization and funding, and focus on tracking execution of new construction, Facility Sustainment, Restoration and Modernization (FSRM) projects, and facility work requests to ensure availability of compliant CCF. **(T-2)**

11.45.2.16.2. **(Added-AETC)** Team should include CCF facility managers, the WCM, Air Force Corrosion Prevention and Control Office (AFCPCO) Field Survey Team, Wing Safety/Bio-environmental, and Command Fabrication Functional Manager with desired outcome as the restoration of and deficient CCF to design capability. **(T-2)**

11.45.3.2. **(Added-AETC)** Ensure aircraft wash rack has qualified cleaners on hand as identified in weapon system specific technical data. When cleaning products are not listed in weapon system specific technical data, ensure approved cleaners IAW TO 1-1-691 are properly used, including proper mix ratio and the correct cleaner for each area cleaned. **(T-2)**

11.45.3.6. **(Added-AETC)** Ensure the required number and size of fire extinguishers are available and serviceable. **(T-2)**

11.45.3.7. **(Added-AETC)** Ensure grounding points are inspected and approved IAW TO 00-25-172. **(T-2)**

11.45.5.1.1.4. **(Added-AETC)** “Aircraft post-wash lubrication due.” Enter this in the forms on a RED X. It is cleared by the appropriate maintenance person responsible for ensuring task completion. **(T-2)**

11.45.6.1. **(Added-AETC)** Coating System Scoring and Maintenance. All units will score aircraft coating systems utilizing qualified 2A7X3 or respective contractor corrosion designated

personnel to determine frequency of topcoat application. **(T-2)**

11.45.6.3. **(Added-AETC)** Use score sheet from applicable technical data to document paint score. If the SPO has not provided a score sheet, use a locally developed score sheet to document paint scores. Score sheet (either legacy paper or digital platform) must detail what area requires paint, type of paint deterioration (oxidized, discolored, stained, chipped, scratched, or peeled from the primer and the primer remains adhered to the aircraft surface) and severity. See categories in paragraph 11.45.6.5.

11.45.6.4. **(Added-AETC)** Provide quarterly paint score updates on the MAJCOM provided paint score tracker, corrosion facility updates, and administered unit related training. **(T-2)** Download the tracker from the AETC Fabrication SharePoint Page **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/SitePages/Home1.aspx?FreeStandingSourceUrl=%2Fsites%2Faetc%2D19af%2FLG%2FA4MS%5FFabrication%2Fdefault%2Easpx**. Upload the tracker before the last duty day in March, June, September and December at **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?id=%2Fsites%2Faetc%2D19af%2FLG%2FA4MS%5FFabrication%2FCPAB%20Documents%2F05%29%20CAT%205%20Paint%20Score%20Data%20Call&viewpath=%2Fsites%2Faetc%2D19af%2FLG%2FA4MS%5FFabrication%2FCPAB%20Documents%2FForms%2FAllItems%2Easpx.**

11.45.6.5. **(Added-AETC)** Score paint/coating systems semiannually do not exceed six months. Paint scoring should be performed post aircraft wash to ensure a clean surface for inspection. Measure the degree of paint degradation using applicable technical data, if the SPO has not provided tech data use the categories from 1 to 5. **(T-2) Exception:** The F-35 does not require paint scoring due to the nature of the Low Observable coating system.

11.45.6.5.5. **(Added-AETC)** Category 5 indicates that the time or man-hours required for surface preparation (masking, sanding, or cleaning) exceed 70% of those needed for a complete strip and repaint. Once designated as CAT 5, the aircraft must be continuously reported to the AETC Command Corrosion Manager as such until it receives a full paint. **(T-2)** To restore service life, a full paint will be scheduled. **(T-2)** In the interim, units will perform minor or major touch-ups every 6 months to prevent further degradation. **(T-2)**

11.46.1. **(Added-AETC)** AETC/A4MSS is the point of contact for all aircraft painting and markings as specified in this instruction. **(T-2)** Process waiver requests IAW **paragraph 11.46.24**.

11.46.2.2. **(Added-AETC)** Units must evaluate and document (score) the condition of aircraft topcoats every 6 months to determine soundness, corrosion protection and appearance standards. **(T-2)** See **paragraph 11.45.6** for more information.

11.46.2.6.1. **(Added-AETC)** Aircraft shall be top-coated no more than three times prior to being stripped; this includes the original paint or initial paint following last full strip. Any deviations from this must receive MAJCOM approval. **(T-2)** (**Exception:** T-6 aircraft will not be fully scuff-sanded and overcoated without being completely stripped.)

11.46.2.6.4. **(Added-AETC)** Do not strip aircraft within 3 years of programmed deactivation unless approved by AETC/A4MSS. **(T-2)**

11.46.7. **(Added-AETC)** Command Insignia. Application of command insignia on USAF aircraft is mandatory. F-16 and trainer aircraft must apply full color insignias. Helicopters, low observable, and cargo aircraft must apply subdued insignias, unless otherwise authorized. **(T-2)** Specific application for each MDS is located at AETC/A4MSS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9290bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** Not applicable to special operations aircraft.

11.46.8. **(Added-AETC)** Organizational Insignia. Application of organizational insignias is optional; however, if used, standardize insignias throughout the wing. Apply organizational insignias to both sides of the aircraft. If squadron insignias are not used, apply wing or group insignias to both sides of the aircraft. Apply squadron insignias to the left side of the aircraft with the wing or group insignia on the right side. Units not having organizational insignias may apply the next higher organizational insignia.**(T-2)** Specific application for each MDS is located at AETC/A4MSS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** All new designs must be routed through AETC/A4M for approval before being applied to aircraft.

11.46.9. **(Added-AETC)** Tail Numbers. Aircraft tail numbers are mandatory. The tail numbers must be located below the unit designator on the vertical stabilizer, and or tail-boom pylon. **(T-2)** Specific placement for each MDS is located at the AETC/A4MSS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**.

11.46.10. **(Added-AETC)** Distinctive Unit Identifier Marking. Distinctive unit identifier markings are mandatory for all AETC aircraft. AETC/A4 is the office of primary responsibility for the assignment of distinctive unit identifier markings. Submit all requests for approval of unit designators through AETC/A4MSS to AETC/A4M. **(T-2)** Specific placement for each MDS is located at the AETC/A4MSS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** Not applicable to special operations aircraft.

11.46.11. **(Added-AETC)** Tail Flashes (Tail Stripe). Tail flashes are used to identify a specific wing, group, squadron, or flight. WG/CCs may develop a tail flash design and request AETC/A4M approval for application. The WG/CC may choose a single wing tail stripe design or distinctive tail stripes for each squadron or flight. Submit AF Form 679 to AETC/A4MSS for AETC/A4M approval. **(T-2)** Apply the tail stripe to the vertical stabilizer and or tail-boom pylon. It must be in the form of a straight stripe. The height must not exceed 15 inches for trainer, fighter aircraft, and helicopters, or 24 inches for cargo and refuel aircraft. In addition, the tail stripe must not contain more than four distinct colors. Variations in length, width, font size, font type, and colors added to a previously approved tail stripe are not authorized. **(T-2)** Specific placement for each MDS is located at the AETC/A4MSS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** All other aircraft paint scheme alterations, markings, and nose art; to include tail flash (not authorized in applicable TO or this instruction)

require approval by AETC/A4M.

11.46.12. **(Added-AETC)** Aircrew and Crew Chief Names. Unit options are to apply aircrew, crew chief, and assistant crew chief names to aircraft. Aviator names are permitted for aircrew. Crew chief and assistant crew chief names must consist of rank and name (first, last) only. **(T-2)** Operations group commanders (OG/CC) must approve or disapprove tasteful aviator names ensuring no discredit is brought upon AETC, the Air Force, or the Department of Defense. Acceptable examples include Captain William A. “Smitty” Smith and Major Wayne “Jonesy” Jones. Tactical call signs are prohibited. **(T-2)**

11.46.13. **(Added-AETC)** Commander’s Flagships. Commander’s flagships referred to in this instruction are those aircraft selected to represent the commander’s position. Only Major Command (MAJCOM), wing, operations group, and flying squadron commanders are authorized designated flagships. **(T-2)** (**Note:** “Flying squadron commander” refers to a commander of a squadron with a flying mission.) If a flagship is selected, only one aircraft is authorized per flying commander. Bases and units with more than one type MDS assigned must select only one type aircraft for the wing and operations group flagships. Flying squadron commanders may select one aircraft for designation as a flagship. After selection, submit an AF Form 679 to AETC/A4MSS for review. **(T-2)** AETC/A4M is the final approval for all flagship selections. Apply flagship markings as follows: Any flagship design not authorized by this instruction will require approval by AETC/A4M. **(T-2)**

11.46.13.1. **(Added-AETC)** MAJCOM Flagship. When approved by AETC/A4M, a MAJCOM commander's flagship may be authorized at the base where the commander is assigned. The aircraft tail number may be replaced by the command designator but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. **(T-2)**

11.46.13.2. **(Added-AETC)** Wing (FTW) Flagship. When approved by AETC/A4M, the tail number of the wing commander’s flagship number may be replaced by the organization alphanumeric designator (such as, 12 FTW), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left side of the aircraft in place of a single squadron emblem. **(T-2)**

11.46.13.3. **(Added-AETC)** Operations Group (OG) Flagship. When approved by AETC/A4M, the tail number of the OG/CC flagship may be replaced by the group alphanumeric designator (such as 12 OG), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left forward area of the fuselage instead of a single squadron emblem. **(T-2)**

11.46.13.4. **(Added-AETC)** Flying Training Squadron (FTS) Flagship. When approved by AETC/A4M, the tail number of a flying squadron commander’s flagship may be replaced by the squadron alphanumeric designator (for example, 560 FTS), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size,

on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias is not authorized on these aircraft. **(T-2)**

11.46.13.5. **(Added-AETC)** Shadowing. Shadowing of unit designators and tail numbers or organizational alphanumeric designators is authorized for all aircraft designated as flagships, at the wing commander's discretion. Apply shadowing in a conservative color that complements the overall paint scheme of the aircraft (normally black, white, or gray). **(T-2)**

11.46.13.6. **(Added-AETC)** Commander's Unique Tail Flash (Tail Stripe). Tail flash design must be approved by AETC/A4M prior to application. **(T-2)** The tail flash must meet the specifications outlined in **paragraph 11.46.24**.

11.46.14. **(Added-AETC)** Nose Art. Do not apply nose art to AETC assigned aircraft without approval of the AETC/A4M. If approved, the wing commander must select a candidate aircraft for application of the approved nose art. All nose art must be in good taste, be representative of the local community and be gender neutral. AETC assigned active aircraft shall not be used for memorialization purposes. **(T-2) Note:** Be aware of potential copyright infringement when selecting nose art. It is highly recommended that nose art be applied to only one of the flagships authorized in **paragraph 11.46.24**.

11.46.15. **(Added-AETC)** Aircraft Travel Pods. Paint travel pods the same color as the associated aircraft. For ease of cleaning and appearances, units with aircraft painted in camouflage paint schemes may apply gloss paint to travel pods, but it must match the color and paint design of the aircraft. Units with multicolor aircraft must select one primary color for the travel pod. Travel pods designated for commander flagships may be any color but must complement the overall paint scheme of the aircraft and present a professional appearance. These travel pods may contain the name, position, and appropriate rank insignia of the pilot. Lettering must not exceed 4 inches in height and may be any color and font style. Submit an AF Form 679, plus photographs to AETC/A4MSS for review and AETC/A4M approval. **(T-2)**

11.46.21. **(Added-AETC)** Competition Aircraft. Units participating in competitions such as William Tell, Gunsmoke, etc., must follow the guidelines established in the competition rules for aircraft appearance. **(T-2) Note:** Excessive painting is detrimental to an effective corrosion program; therefore, complete overspray of selected competition aircraft is discouraged. Approach competitions with a "come as you are" management perspective. The wing and operations group commanders are responsible for ensuring the intent of this instruction is not violated. **Note:** AETC/A4M will not approve waivers for special paint schemes or markings for these aircraft.

11.46.23. **(Added-AETC)** Aircraft Transfer. The following markings must be removed prior to formal transfer of aircraft to other units or MAJCOMs (aircraft retiring to Aerospace Maintenance and Regeneration Group need not have any markings removed) **(T-2)**.

11.46.24. **(Added-AETC)** Requests. Wing commanders must submit all paint scheme/marking waiver requests according to policies established in this instruction on an AF Form 679, through AETC/A4 workflow within Task Management Tool (TMT) to AETC/A4MSS for review, concurrence, and routing for final approval as applicable. Approval authority for Heritage Paint Schemes is AETC/A4. **(T-2) Note**: Requests violating published technical data will not be

approved. Changes to technical orders must be processed according to T.O. 00-5-1. Any additional guidance or concerns can be sent to **19AF.LGMS.All1@us.af.mil**. Request package must include the following: **(T-2)**

11.46.24.1. **(Added-AETC)** A locally generated Electronic Staff Summary Sheet approved by wing commander or designated representative. **(T-2)**

11.46.24.2. **(Added-AETC)** A clear statement of present procedure and the marking at issue. **(T-2)**

11.46.24.3. **(Added-AETC)** A clear statement of proposed changes. **(T-2)**

11.46.24.4. **(Added-AETC)** A clear and detailed cost comparison between the current and requested paint scheme/marking waiver. **(T-2)**

11.46.24.5. **(Added-AETC)** Justification. **(T-2)**

11.46.24.6. **(Added-AETC)** Two high quality digital photographs: one of the aircraft with the present marking configuration and another of an aircraft with the requested change. This can be accomplished by digital renderings or temporarily affixing the marking to the aircraft using doubleback tape or by some similar method that does not require the marking to be applied permanently. The request must come from the unit's wing commander or deputy's e-mail address. **(T-2)**

11.46.25. **(Added-AETC)** Aircraft Photo Requirements. Each assigned unit must submit a full-length photograph of their selected flagship aircraft to AETC/A4MSS. Digital photographs are acceptable and can be e-mailed to **19AF.LGMS.All1@us.af.mil**. When design changes to these paint schemes are submitted and subsequently approved, new photos must be submitted for file within 30 days after approval. **(T-2)**

11.46.26. **(Added-AETC)** Heritage Paint Scheme Policy **(T-2)**

11.46.26.1. **(Added-AETC)** Each AETC trainer flying squadron is authorized the option to paint one aircraft in a heritage paint scheme (not mandatory). Requests should be coordinated through the wing historian to ensure the proposed scheme is tied directly to the history/heritage of the requesting squadron and all requests must follow the procedures outlined in para. **11.46-24. (T-2)**

11.46.26.2. **(Added-AETC)** Heritage paint schemes will only be applied to aircraft that have a paint condition score of CAT 5 and is scheduled for repaint (aircraft will not be painted out-of-cycle). **(T-2)**

11.46.26.3. **(Added-AETC)** One First Assignment Instructor Pilot (FAIP) heritage jet per Mission Design Series per Undergraduate Pilot Training base is authorized (not mandatory). Proposed FAIP schemes must present a positive AF image. **(T-2)**

11.46.26.4. **(Added-AETC)** Mandatory aircraft markings and placement will not be altered or adjusted for FAIP or heritage schemes. The corrosion and paint health of the fleet must not be comprised to accommodate the application, maintenance, and sustainment of heritage/FAIP paint schemes. **(T-2)**

11.46.26.5. **(Added-AETC)** Other agencies (HQ AETC, AFRS, etc.) may request a heritage paint scheme using the procedures outlined within para. **11.46.24.** These requests will be considered on a case-by-case basis. **(T-2)**

14.1.8.2. (**Added-AETC**) Operations capability is a crucial factor in determining scheduling requirements and is assessed daily based on the maximum number of sorties or missions that can be completed within a given daily flying window, taking into account the availability of aircrew members, as well as adherence to syllabus constraints. To ensure efficient planning, the maintenance team is informed daily of the availability of aircrew members, and if instructors are unavailable to fulfill scheduled sorties or missions, maintenance will only prepare aircraft for the actual number of crews available or agreed-upon daily requirements, avoiding unnecessary resource allocation. **(T-2)**

14.1.8.2.1. **(Added-AETC)** In cases where operational limitations prevent the availability of aircrew, sorties will be canceled and recorded as deviations, and the scheduling process will be adjusted accordingly, prioritizing efficiency, and effective resource utilization. **(T-2)**

14.1.8.2.2. **(Added-AETC)** To ensure efficient use of aircrews and aircraft, a daily flight schedule will be created based on the availability reported by both Operations and Maintenance. Operations will provide the exact number of aircrews ready to fly, while Maintenance will report the exact number of aircraft ready for missions. The number of training flights scheduled each day will be determined by the lower of these two numbers. This means if there are fewer available aircrews than aircraft, the number of aircrews will dictate how many flights are scheduled. Deviations will be applied for any instances where aircraft are available but cannot be used due to crew shortages, encouraging more accurate predictions of crew availability. **(T-2)**

14.1.8.2.2.1. **(Added-AETC)** The number of spare aircraft reserved for potential use the following day will be decided through discussions between Operations and Maintenance, taking into account the overall condition of the fleet and anticipated needs.**(T-2)** While this system is designed to optimize resource allocation, it should remain adaptable to unexpected events and relies heavily on both Operations and Maintenance providing precise and timely information.

14.5.1.5.7. **(Added-AETC)** AETC/A3F/D is the OPR for the AETC flying hour PA. On the basis of the annual student production goals published in the program guidance letter, AETC/A3F/D and AETC/A4M will jointly determine the annual UTE planning factors of flying hours required, PAI, programmed ASD/AMD, and programmed number of sorties or missions for formal training units where resources are limited. **(T-2)** For CSO, UPT, PIT, and IFF units (organizations that have “T” designated aircraft assigned), FHP-planning PAI will be determined by AETC/A4M. **(T-2)** Planned UTE will be an output of annual PA calculations. Deltas between planned UTE and max sustainable UTE (determined by AETC/A4M) can be an indicator of any excess/shortfall between current FHP requirement and actual fleet capability.

14.5.3.1.3.1 **(Added-AETC)** Goal. The goal of fleet time management is to ensure a balanced inspection dock flow that will support the AETC PA (the official flying hour allocation document) of flying hours without over or under tasking resources. Fleet time management is only applicable to aircraft using hourly-based phases or PE inspection programs. Aircraft Fleet time will not be updated until the post doc phase package has been signed off and completed in the MIS. **(T-2) Note:** Refer to AFTTP 3-4.21V1 para 5.2.5 for guidance to manage the aircraft fleet time/phase flow. All aircraft can benefit by balancing the flying commitment across the entire fleet regardless of the inspection method.

14.5.5.1.2.2. **(Added-AETC)** PH, PE, HPO, and ISO inspections will be measured against the scheduled completion date for the “look phase” portion of the inspection only. **(T-2)** The look phase package will consist of all work cards associated with the phase and identified in the

respective aircraft -6 TO. Look phase is considered complete when all work cards loaded in the MIS are completed and the "look phase" WCE is signed off. **(T-2)** The entire phase is considered complete when the post doc has been signed off and completed in the MIS. **(T-2)** Discrepancies discovered during completion of the look phase work card package, and not completed, are carried forward and signed off separate from the original phase package. Do not count (earned or possible) any of the following scheduled maintenance actions into the MSE rate: **(T-2)**

14.5.6.3.1.3.1. **(Added-AETC)** Local sorties: 001-298.
14.5.6.3.1.3.2. **(Added-AETC)** RCS sorties 300-448.
14.5.6.3.1.3.3. **(Added-AETC)** Additions: 450-598.
14.5.6.3.1.3.4. **(Added-AETC)** Return from out and back (O&B), off-station, and XC sorties: 600-698.
14.5.6.3.1.3.5. **(Added-AETC)** FCF and OCF: 700-728.
14.5.6.3.1.3.6. **(Added-AETC)** Ferry Sorties: 730-748.
14.5.6.3.1.3.7. **(Added-AETC)** HQ AETC taskings: 750-798.
14.5.6.3.1.3.8. **(Added-AETC)** Weather evacuations: 800-898.
14.5.6.3.1.3.9. **(Added-AETC)** SUPT/FBF sorties 900-949.
14.5.6.3.1.3.10. **(Added-AETC)** IFF/FBF sorties 950-999.

14.5.6.3.1.5. **(Added-AETC)** When developing the weekly schedule, if it is known that an aircraft cannot and will not be MC (NMC conditions), do not place the NMC aircraft on the weekly/daily flying schedule. **(T-2)** However, if not enough MC aircraft are available to meet the weekly requirement, load NMC aircraft against the remaining lines in the MIS to record the maintenance or supply cancellation as applicable. **(T-2)** Aircraft that have already been allocated to the weekly schedule as scheduled maintenance (NMCMD for egress, etc.) will not be considered as a suitable NMC aircraft, aircraft cannot be double utilized unless the scheduled maintenance has been completed before the schedule sortie.**(T-2)** NMC aircraft applied to the weekly schedule for the purpose of recording deviations will be proportional to the ratio of NMCS/B and NMCM possessed as closely as possible (i.e. 10 aircraft NMCS/B, 20 aircraft NMCM = 1/3 or only 33% of the NMC aircraft applied to the schedule can be supply cancels (NMCS/B)). **(T-2)**

14.5.6.7.3.2.4.1. (**Added-AETC)** When a mission is canceled due to both operations (inability to provide aircrew) and maintenance (inability to provide a mission-capable aircraft) reasons, the Maintenance Operations Center (MOC) will track these cancellations. **(T-2)** The deviation (cancellation) will be recorded in the notes section of MIS for each line cancelation. **(T-2)** This ensures that there is a paper trail for each cancellation, providing transparency and facilitating analysis of why missions were canceled. **(T-2)**

14.5.6.7.3.2.4.2. **(Added-AETC)** The deviation will be dual-charged against both operations and maintenance within the notes section as "Dual Deviation for Mx and Ops" for the cancelation in MIS. **(T-2)** This means that both agencies will be held accountable for the cancellation, reflecting the shared responsibility in ensuring that missions can proceed.

14.5.6.7.3.2.4.3. **(Added-AETC)** For each dual-charged canceled sortie, the deviation cause code will alternate between maintenance (MTx) and operations (OPx). **(T-2)** This pattern suggests a systematic approach to attributing the cause of cancellations to prevent one department from being disproportionately charged with cancellations and to ensure a balanced view of where improvements are needed. These deviations will be tracked locally at the unit

level. The collected data will be analyzed and potentially used to improve local procedures, training, or resource allocation to minimize future cancellations. The deviation data collected will also be sent to AETC/A4MMA each month in the "Analysis Comments" IAW AETCI 21-105.**(T-2)**

14.5.6.8.3. **(Added-AETC)** Units are responsible for providing accurate Committed Aircraft Prime and Spare (CAP and Spare) data and uploading it daily into the CAP and Spare Power App, accessible at **https://play.apps.appsplatform.us/play/e/default-8331b18d-2d87-48ef-a35f-ac8818ebf9b4/a/abbe0416-5fd0-476c-82df-68a67957348e?tenantId=8331b18d-2d87-48ef-a35f-ac8818ebf9b4&skipmetadata=true#**.

14.5.7.1.1. **(Added-AETC)** To optimize planning, operations and maintenance schedulers will coordinate daily to provide updates on aircrew and mission-capable (MC) aircraft availability for the next flying day. **(T-2)** When maintenance is unable to support scheduled sorties due to limited MC aircraft, Operations adapts by preparing aircrew instructors, students, and qualified crew members for only the available aircraft, thereby streamlining resource allocation. In cases where maintenance limitations prevent MC aircraft availability, sorties are canceled and recorded as deviations, enabling a flexible and responsive scheduling process that prioritizes efficiency, and effective resource utilization. For example, if maintenance has 6 MC aircraft available and operations has 10 crews ready, operations will only prepare crews for the first 6 sorties, allowing maintenance to focus on supporting the available aircraft and take deviations for the remaining 4 lines.

14.5.8.7. **(Added-AETC) Rapid Crew Swap (RCS).** The RCS sortie is used to optimize use of training aircraft through shorter aircraft turn-times with minimal maintenance support. RCSs may be employed to accomplish a normal sortie load in a compressed flying window, to accomplish increased sortie numbers in a normal flying window to make up for previously lost production, or to get ahead of anticipated lost production due to weather or periods of fewer daylight hours. Potential benefits of RCS include weekend flying avoidance and increased maintenance touch-time at the end of a shorter flying day.

14.5.8.7.1. **(Added-AETC)** RCS sorties are only authorized for T-6 aircraft. **(T-2)**

14.5.8.7.2. **(Added-AETC)** RCS sorties are not intended to replace normal day-to-day flying operations and will be limited to no more than 10 percent of the Annual Flying Hour Program. **(T-2)**

14.5.8.7.3. Units are restricted to no more than 2 RCS sorties (first go plus 2 RCS sorties) in a flying period without performing a Thruflight. **(T-2)**

14.5.8.7.4. **(Added-AETC)** When employed, RCS sorties will have their own sortie sequence numbers and will be clearly annotated on the printed weekly flying schedule to differentiate from non-RCS sorties. (T-2)

16.2.1. **(Added-AETC)** AETC/A4MLC is the designated program management function to manage the requirements for AETC's aircraft and equipment contract requirements IAW DAFI 63-138. AETC/A4MMP provides functional oversight for CORs and conducts quarterly meetings with AETC C-CORs.

16.2.4.32. **(Added-AETC)** Participate in quarterly C-COR Call meetings as scheduled by AETC/A4MMP.

16.3.1. **(Added-AETC)** MRDs will complete the AETC/A4MMR Maintenance Requirements Director executive training session and ACO/QAPC led training within 90 days of assignment, followed by a recurring AETC/A4MMR MRD three-year refresher training course. **(T-2)** Document all training requirements in the approved electronic training records (MyTraining or DAF approved system).

16.3.2.2. **(Added-AETC)** COR Initial Training Requirements:

16.3.2.2.1. **(Added-AETC)** Complete AETC COR Course 393AETC0066-002 Blocks I and II in-residence (special circumstances will be reviewed on a case-by-case basis). **Note:** CORs surveilling only transient maintenance, engine, PMEL, munitions, trainer maintenance, USAFA contracts or COMBS contracts are not required to complete block II of course 393AETC0066-002.

16.3.2.2.2. **(Added-AETC)** Complete QAPC and CO led training as per FAR MP5301.602-2(d) and DoDI 5000.72.

16.3.2.2.3. **(Added-AETC)** Complete DAU ACQ 0030 (Overview of Acquisition Ethics), and DAU CLC 222 (Contracting Officers Representative (COR) Online Training) within 90 days of assignment. **(T-2)**

16.3.2.3. **(Added-AETC)** COR Recurring Training. Re-accomplish course 393AETC0066-002 Block I in-residence and only on a case-by-case basis via distance learning every 3 years. **(T-2)**

16.3.2.4. **(Added-AETC)** C-COR/Superintendent Initial Training Requirements. Complete AETC COR Course 393AETC0066-002 Blocks I and II in-residence, AETC Chief COR Course 393AETC0066-001 (special circumstances will be reviewed on a case-by-case situation), QAPC led training, CO led training, DAU ACQ 0030 (*Overview of Acquisition Ethics*), and DAU CLC 222 (*Contracting Officers Representative (COR) Online Training*) within 90 days of assignment. **(T-2) Note:** CORs surveilling only transient maintenance, engine, PMEL, munitions, trainer maintenance, USAFA contracts or COMBS contracts are not required to complete Block II of course 393AETC0066-002.

16.3.2.5. **(Added-AETC)** C-COR/Superintendent Recurring Training. Re-accomplish course 393AETC0066-001 in-residence and only on a case-by-case basis via distance learning every 3 years. **(T-2)**

16.5.2. (Added-AETC) The monthly surveillance schedule will be signed by the C-COR, MRD and published prior to the beginning of the month it covers. (T-2) A copy will be provided to the PCO/ACO. The schedule will be marked For Official Use Only and will not be given to the contractor. See Attachment 15 for a template that may be used for COR surveillance schedule development.

16.6.3.4.2. **(Added-AETC)** The C-COR, with MRD approval, may increase or decrease QASP's AQL up (not to exceed 6) based on work area size or combined functions. This adjustment should be made only in exceptional circumstances if the PWS requires contractors to follow the MSEP in Chapter 6, since the MSEP serves as the contractor's primary internal inspection tool and source document for AQLs. Before proposing adjustments, the C-COR must first consult the PWS for overriding AQL requirements, then verify contractor adherence to MSEP standards. Adjustments will only be considered if the C-COR can demonstrate that the change enhances the QASP's effectiveness in independently identifying performance deficiencies or systemic issues that the MSEP cannot detect from an independent perspective. AQL increases should only be

implemented to collect data or identify trend analysis, and once the identified trend has been corrected, the AQL must return to reflect the MSEP standard. The C-COR must provide clear justification to the MRD explaining the anticipated improvement in deficiency identification, why deviation from established MSEP standards is necessary, and how the proposed adjustment improves the QASP's independent oversight role in validating the contractor's MSEP implementation. All adjustments require documented justification and must be reflected in the QASP.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Prescribed Forms

(Added-AETC) AETC Form 45, *AFREP Source of Approved (SAR) Request and Reply*

Adopted Forms

(Added-AETC) AETC Form 97, *In-Flight Emergency and Unusual Occurrence Worksheet*

(Added-AETC) DD Form 1149, *Requisition and Invoice/Shipping Document*

Terms

(Added-AETC) Rapid Crew Swap-Employment method which enables turnaround of an aircraft incorporating partial or full crew change between two separate sorties after engine shutdown. Between sorties aircrew retain control of the aircraft and inspect it IAW the applicable -1 TO Strange Field Procedures; however, minor servicing (i.e. fuel, hydraulics, oil/sampling) is allowed to be performed by maintenance between sorties.

(Added-AETC) Service Life. A general term used to quantify the average or standard life expectancy of an item or equipment while in use.

(Added-AETC) Service Life Item. A Shelf-life Item which has entered into service life by virtue of having the unit-of-issue packaging opened, being introduced to mission requirements, being installed into an intended application, being placed in pre-expended bins, or being held as bench stock

(Added-AETC) Shelf-life. The total period of time beginning with the manufactured date, cured date (elastomeric and rubber products only), assembled date, packed date (subsistence only), or packaging date (SAE AS5502 items only) and terminated by the date which an item must be used (expiration date) or subjected to inspection or test (inspect/test date), restoration, or disposal action. Shelf-life is not to be confused with service life.

Abbreviations and Acronyms

(Added-AETC) All references to Defense Property Accountability System (DPAS) changed to read Enterprise Logistics Management System (ELMS) throughout.

(Added-AETC) AFCPCO—Air Force Corrosion Prevention and Control Office

(Added-AETC) CCR—Circuit Card Repair

(Added-AETC) DLADS— Defense Logistics Agency Disposition Services

(Added-AETC) DRMO—Defense Reutilization and Marketing Office

(Added-AETC) ELMS—Enterprise Logistics Management System

(Added-AETC) FAIP—First Assignment Instructor Pilot

(Added-AETC) FSRM—Facility Sustainment, Restoration and Modernization

(Added-AETC) PBR—Percentage Base Repair

(Added-AETC) PFMR—Project Fund Management Record

(Added-AETC) RCS-Rapid Crew Swap

(Added-AETC) SAR— Source of Approved Request and Reply

Attachment 16 (Added-AETC)

AIRCRAFT AND MUNITIONS TECHNICAL INSPECTION REQUIREMENTS

A16.1. (Added-AETC) Aircraft and Munitions Inspection Requirements. Table A16.1 lists the minimum aircraft and munitions technical inspection requirements. Inspections and evaluations in the areas and quantities listed are monthly requirements unless otherwise noted. When computing frequency, round off requirements to the next whole number. Inspection requirements apply to each MDS assigned. Schedule quarterly surveillance requirements on a random yet adequately distributed basis. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter.

Table A16.1. (Added-AETC) Aircraft and Munitions Inspection Requirements.

ITEM	A Categories	B Frequency	C Notes
Inspection (Per MDS)			
1	Preflight, basic post-flight (BPO) and thru-flight inspection (includes combined pre-flight/post-flight)	7 percent	1, 2
2	Hourly post-flight	5 percent	1, 3
3	PE inspection/PH	10 percent	1, 3
4	Liquid servicing	1	
5	Gaseous servicing	1	
6	Ground movement/Ground handling	2	
7	Flight control rig/maintenance	1	
8	Landing gear rig/maintenance (includes wheel and tire)	1	
9	Canopy rig/maintenance	1	
10	Throttle rig/maintenance	1	
11	Egress maintenance tasks	2	
12	Egress 36-month seat	1	
13	Brake system maintenance	1	
14	T-38 boat tail installation	2	

ITEM	A Categories	B Frequency	C Notes
15	Aircraft wash and corrosion control	2 percent	3
16	Environmental systems maintenance	1	
17	Avionics system maintenance	1	
18	Electrical system maintenance	1	
19	Fuel system maintenance	1	
20	Installed engine run	1	
21	Structural maintenance	1	
22	TCTOs	First 2 percent	
23	AETC special inspection (if applicable)	Determined locally	
24	Transfer/acceptance inspections	Determined locally	
25	Document file inspection	2 percent	3
26	Maintenance information system	2	
Engines			
27	Uninstalled engine run	1	
28	Engine rig (if applicable)	1	
29	Engine installation/removal	1	
30	Engine retained task maintenance	2	
31	Engine blade blending	1 per month as available	
32	Propeller blending	1 per month as available	
33	TCTOs	First 2 percent	
34	AETC special inspection (if applicable)	Determined locally	
35	Transfer/acceptance inspections	Determined locally	
36	Document file inspection	2 percent	5
37	Maintenance information system	1	
Support equipment			
38	Powered AGE service	2	
39	Powered AGE and CASS periodic	2 percent	1, 7
40	Nonpowered AGE	1 percent	
41	TMDE	2	8
42	Industrial/test equipment and special tools	1	
43	TCTOs	First 2 percent	
44	AETC special inspection (if applicable)	Determined locally	
45	Transfer/acceptance inspections	Determined locally	

ITEM	A Categories	B Frequency	C Notes
46	AGE/SE equipment FO inspection	1	
47	Document file inspections	2 percent	7
48	Maintenance information system	2	
Other			
49	Training (tasks and recurring)	2	
50	Area FO inspection (FO walks)	4	10
51	Historical static display	Determined locally	1, 11
Munitions			
52	TCTOs	First 2 percent	
53	AETC special inspection (if applicable)	Determined locally	
54	Munitions storage/inspection tasks (for example, return munitions inspection, SI, movement, pre-issue inspection	4 per month	9,12,13,14,15,16,17
55	6-month fire drill	1 every 6 months	18

Attachment 24 (Added-AETC)

A24.6.10. **(Added-AETC)** Anniversary/Heritage markings are not authorized on F-35 aircraft due to the impact it may have on radar cross section. **(T-2)**

A24.1.1. - A24.1.3. **Deleted**

A24.4.1. – A24.4.2. **Deleted**

A24.10.7. (Added-AETC) Place a single danger ejection seats placard below the canopy rail in line on the center canopy bow on both sides of the aircraft. The ejection placard relocation must be accomplished during aircraft repaints.

A24.20 (Added-AETC) MQ-9

A24.20.1 **(Added-AETC)** UNIT IDENTIFIER: 10 inches (flat black)

A24.20.1.1**(Added-AETC)** Vertical: Bottom edge of unit designator 44 inches from base of upper tails.

A24.20.1.2 **(Added-AETC)** Horizontal: Centered between leading and trailing edge surfaces on upper vertical tail leveled parallel with tail stripe.

A24.20.2 (Added-AETC) RADIO CALL NUMBERS: 4 inches (flat black)

A24.20.2.1**(Added-AETC)** "AF" will be 3.5-inch block letters over 3.5 inch numbers (year designator) followed by 8-inch numbers (last three numbers in aircraft serial number).

A24.20.2.2 **(Added-AETC)** Vertical: Left and right side of lower tail leveled 4 inches below fuselage.

A24-20.2.3 **(Added-AETC)** Horizontal: Centered between leading and trailing edge of rudder.

A24.20.3 (Added-AETC) COMMAND INSIGNIA: 10 inches (flat black)

A24.20.3.1 **(Added-AETC)** Vertical: Top of insignia 12-inches below bottom-edge of tail stripe on upper tails.

A24.20.3.2 **(Added-AETC)** Horizontal: Centered between leading and trailing edges of upper tails with top edge parallel

to tail stripe.

A24.20.4 (Added-AETC) ORGANIZATIONAL INSIGNIA: 10 inches (flat black)

A24.20.4.1 **(Added-AETC)** Wing insignia positioned on right side of fuselage and squadron positioned on left side.

A24.20.4.2 **(Added-AETC)** Vertical: Bottom edge of insignia 4 inches above chine line of forward fuselage.

A24.20.4.3 **(Added-AETC)** Horizontal: Centered between leading edge of wing and aft edge of radome cover.

A24.20.5 (Added-AETC) NOSE NUMBERS:

A24.20.5.1 Not authorized.

A24.20.6 (Added-AETC) PILOT AND CREW CHIEF NAMES:

A24.20.6.1 **(Added-AETC)** Pilot: Located on left side of forward fuselage.

A24.20.6.2 **(Added-AETC)** Vertical: 2 inches below chine line.

A24.20.6.3 **(Added-AETC)** Horizontal: Start name at aft edge of lower radome cover justified forward.

A24.20.6.4 **(Added-AETC)** Sensor Operator: Located on left side of forward fuselage.

A24.20.6.5 **(Added-AETC)** Vertical: 0.5 inches below pilot name.

A24.20.6.6 **(Added-AETC)** Horizontal: Start name at aft edge of lower radome cover justified forward.

A24.20.6.7 **(Added-AETC)** Dedicated Crew Chief (DCC): Located on right side of forward fuselage.

A24.20.6.8 **(Added-AETC)** Vertical: 2 inches below chine line.

A24.20.6.9 **(Added-AETC)** Horizontal: End of name at aft edge of lower radome.

A24.20.6.10 **(Added-AETC)** Assistant Dedicated Crew Chief (ADCC): Located on right side of forward fuselage.

A24.20.6.11 **(Added-AETC)** Vertical: 0.5 inches below DCC name.

A24.20.6.12 **(Added-AETC)** Horizontal: End of name starting at aft edge of lower radome cover with left edge aligned with left edge of DCC name.

A24.20.6.12.1 **(Added-AETC)** NOTE: DCC and ADCC names justified aft as a group

A24.20.7 (Added-AETC) TAIL STRIPE:

A24.20.7.1 **(Added-AETC)** Tail stripe will be applied to left & right tailboards, outboard surface only.

A24.20.7.1.1 **(Added-AETC)** NOTE: Do not apply to rudder.

A24.20.7.2 **(Added-AETC)** Vertical: Top edge of stripe 4 inches below top edge of upper tails.

A24.20.7.2.1 **(Added-AETC)** Horizontal: Perpendicular to tail trailing edge.

A24.20.8 (Added-AETC) UNIQUE MARKINGS/PAINT:

A24.20.8.1 **(Added-AETC)** Not authorized

A24.20.9 (Added-AETC) Nose Art

A24.20.9.1 **(Added-AETC)** Nose art may be applied to one vehicle on the left-hand side of the fuselage that does not impede radar signature, visibility, and operations. Not to exceed a 2'X 2' area.

A24.21. (Added-AETC) T-7 Redhawk:

A24.21.1. **(Added-AETC)** Command Insignia. Height is 9 inches. Apply full color command insignias to both vertical stabilizers outboard facing surface skins, centered 5.5 inches below tail stripe and centered 7 inches forward from vertical landing light within open panel area away from fastener head locations.

A24.21.2. **(Added-AETC)** Unit Insignia. Unit insignias are not authorized for T-7 aircraft.

A24.21.3. **(Added-AETC)** Tail Flash (stripe). Apply to both sides of the vertical stabilizers;

5 inches high. Proper placement is the top edge of the tail flash grounded against the vertical

fin cap seam. Approximately 6 inches below the uppermost portion of the vertical stabilizer. It extends from the leading edge of the vertical stabilizer to the trailing edge and will not impede the uppermost rudder hinge area.

A24.21.4. **(Added-AETC)** Unit Designator. Apply to both vertical stabilizers outboard facing surface skins; 12 inch single-stroke, military block lettering. Proper placement is 5 inches away from vertical landing light and 2 inches below bottom edge of vented skin panel (Right side only). Align parallel with the ground.

A24.21.5. **(Added-AETC)** Aircrew Names. Center on the forward cockpit canopy rails. Apply the pilot's name to the left forward canopy rail, centered between forward canopy seam and assist handle.

Attachment 25 (Added-AETC)

AFREP CCR MINIATURE SOLDERING CERTIFICATION PLAN

A25.1. (Added-AETC) Certification of CCR miniature electronic technicians.

A25.1.1. **(Added-AETC)** Initial certification for technicians will be awarded upon successful completion of CCR training through either the AETC - J4AMF/ASF/AST30000-110, Miniature Electronics Repair, course or US Navy equivalent course.

A25.1.2. **(Added-AETC)** Technicians certified in the minimum requirements for CCR are authorized to repair single and double-sided Circuit Card Assemblies (CCAs) and other electronic assemblies, up to and including the removal and installation of discrete and multi- lead components. Authorized repairs include surface repair of CCA laminate, removal and application of conformal coatings, removal and replacement of damaged conductors and installation of wires to terminals.

A25.1.3. **(Added-AETC)** Minimum requirements for miniature CCR certification:

A25.1.3.1. **(Added-AETC)** Proficiency Tasks. CCR technicians will learn introduction to soldering, including electrostatic discharge precautions; identification and removal of conformal coatings; removal, preparation and installation of discrete components; laminate repair; repair of printed circuit conductors; wire preparation and installation on terminals; removal and installation of multi-lead components; and inspection and analysis of work.

A25.1.3.2. **(Added-AETC)** Knowledge Tasks. CCR technicians will learn safety precautions; use and maintenance of tools and equipment; conformal coating reapplication; laminate repair of delaminated, warped, cracked and through the board defects; wire splicing and limitations of the miniature CCR technician.

A25.1.4. **(Added-AETC)** Technicians must complete all tasks to the satisfaction of the certifying official. Technicians must recertify (per **Attachment 26)** 18 months from last training/completion date and ensure 372 TRS/DET 11 at Davis-Monthan AFB updates certification tracking database.

Attachment 26 (Added-AETC)

AFREP CCR MINIATURE SOLDERING RECERTIFICATION PLAN

A26.1. (Added-AETC) Recertification of CCR miniature technicians.

A26.1.1. **(Added-AETC)** CCR technicians will be recertified by the end of the eighteenth month after their initial certification or last recertification date by AETC or US Navy equivalent designated recertifying officials.

A26.1.2. **(Added-AETC)** The designated certifying official or representative will ensure the technician demonstrates the ability to perform the following tasks: identify types of conformal coatings and remove coating without circuit card damage; perform selected wire projects on turret or hook terminals; connector pin solder connection and pad replacement conductor repair with a flat-set eyelet; install a flush mount, full clinch, axial lead component on double-sided circuit card; and remove and replace a dual in-line package and a flat pack.

A26.1.3. **(Added-AETC)** Technicians must complete all tasks to the satisfaction of the recertifying official. If a CCR technician fails to successfully recertify, then initial certification training is required. Technicians must recertify (per this attachment) 18 months from last training/completion date and ensure 372 TRS/DET 11 at Davis-Monthan AFB updates certification tracking database.

Attachment 27 (Added-AETC)

AFREP CCR MICRO-MINIATURE SOLDERING CERTIFICATION PLAN

A27.1. (Added-AETC) Certification of CCR 2M Electronic Technicians.

A27.1.1. **(Added-AETC)** When entering initial 2M training, technicians must hold current certification in miniature CCR. Initial certification for technicians will be awarded upon successful completion of 2M CCR training from either AETC - J4AMP30000 AS1A (Miniature), J4AMP30000 AS2A (Micro) or US Navy equivalent courses. **Note:** (Courses will be unit funded)

A27.1.2. **(Added-AETC)** Technicians certified as 2M technicians are authorized to perform additional repair tasks beyond those taught to miniature repair technicians. Authorized repairs include high-density component packaging, multilayer conductor repair, flex print repair and edge lighted panel repair and removal/replacement of surface mount devices.

A27.1.3. **(Added-AETC)** Minimum requirements for 2M CCR certification:

A27.1.3.1. **(Added-AETC)** Proficiency Tasks. CCR technicians will learn flexible laminate and conductor repair; multilayer laminate and conductor repair; removal and replacement of specialized components: Metalized Electrode Face (MELF), chip resistor/capacitors, Small Outlined Transistor (SOT)/ Small Outlined Integrated Circuits (SOIC), Plastic Quad Flat Pack (PQFP), and Plastic Leaded Chip Carrier (PLCC); and inspection and analysis of work.

A27.1.3.2. **(Added-AETC)** Knowledge Tasks. CCR technicians will learn safety precautions; use and maintenance of tools and equipment; conformal coating reapplication; and limitations of the 2M CCR technician.

A27.1.4. **(Added-AETC)** Technicians must complete all tasks to the satisfaction of the certifying official. Technicians must recertify (per **Attachment 28**) 18 months from last training/completion date and ensure 372 TRS/DET 11 at Davis-Monthan AFB updates certification tracking database.

Attachment 28 (Added-AETC)

AFREP CCR MICRO-MINIATURE SOLDERING RECERTIFICATION PLAN

A28.1. (Added-AETC) Recertification of CCR 2M Technicians.

A28.1.1. **(Added-AETC)** CCR technicians will be recertified by the end of the eighteenth month after their initial certification or last recertification date by the 372 TRS/DET 11 recertifying official or US Navy designated recertifying officials.

A28.1.2. **(Added-AETC)** The 372 TRS/DET 11 certifying official or representative will ensure the technician demonstrates the ability to perform the following tasks: Identify types of conformal coatings and remove coating without circuit card damage; perform selected wire projects on turret or hook terminals; remove and replace a dual in-line package; repair flexible laminate and conductor or plastic panel defective bulb replacement; repair multilayer circuit card laminate and conductor replacement; remove and replace a MELF or SOIC or SOT; and remove and replace PQFP, PLCC.

A28.1.3. **(Added-AETC)** Technicians must complete all tasks to the satisfaction of the recertifying official. If a CCR technician fails to successfully recertify, then initial certification training is required. Technicians must recertify (per this attachment) 18 months from last training/completion date and ensure 372 TRS/DET 11 at Davis-Monthan AFB updates certification tracking database. **Note:** 2M technicians can be downgraded to miniature certification if recertification at 2M level is unsatisfactory and technician completes miniature recertification requirements.

BY ORDER OF THE
SECRETARY OF THE AIR FORCE

DEPARTMENT OF THE AIR FORCE
INSTRUCTION 21-101

16 JANUARY 2020
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This publication implements Air Force Policy Directive (AFPD) 21-1, Maintenance of Military Materiel. It is the basic Department of Air Force Instruction (DAFI) for all weapon system and support equipment maintenance management guidance. It provides the minimum essential guidance and procedures to safely and effectively maintain, service, and repair weapon systems and support equipment. This publication applies to all military and civilian members of the United States Air Force (USAF), United States Space Force (USSF), Air Force Reserve (AFR), and Air National Guard (ANG) as well as those with contractual obligation to comply with Air Force

publications. Supplements and addendums are written in accordance with (IAW) Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*. Supplements must identify and document major command (MAJCOM), AFR, and ANG required deviations (applicability, variance, exception, and differences in organizational placement of responsibilities/processes) in their supplement and addendums with the abbreviation (DEV). Place the "DEV" entry after the paragraph number and directly preceding the affected text, such as "(AMC) (DEV) Use the..." or "(ADDED-AMC) (DEV) Use the...)." MAJCOMs supplements are submitted to the Air Force Maintenance Division (AF/A4LM) @ **AF.A4LM.Maintenance.Policy@us.af.mil** for approval. Supplements and addendums are to be published in the e-Publishing website. The authorities to waive wing and unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, or T-3") number following the compliance statement. See DAFMAN 90-161 for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander for non-tiered compliance items. All approved waivers must be sent to AF/A4LM Maintenance Policy org box: **AF.A4LM.Maintenance.Policy@us.af.mil**, within 30 days of approval, for situational awareness and process improvement considerations. For questions on interpreting this instruction, first contact your MAJCOM maintenance functional activity. Refer recommended changes and questions about this publication through your assigned MAJCOM, AFR or ANG, to the Office of Primary Responsibility (OPR) using the Department of the Air Force (DAF) Form 847, Recommendation for Change of Publication; route DAF Forms 847 from the field through the appropriate functional chain of command. Ensure all records created as a result of processes prescribed in this publication adhere to AFI 33-322, Records Management and Information Governance Program, and disposed IAW the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the AF.

(AETC) This supplement implements and extends the guidance of DAFI 21-101, *Aircraft and Equipment Maintenance Management.* It provides the minimum essential guidance and procedures to safely and effectively maintain, service, and repair weapon systems and support equipment. This supplement applies to all Air Education and Training Command (AETC) Regular Air Force, aircraft maintenance, trainer maintenance, support equipment maintenance activities and those who are contractually obligated to comply with Department of the Air Force publications. This publication does not apply to Air Force Reserve Command or the Air National Guard and their units; however, AFRC/ANG personnel assigned Classic Associate Units supporting AETC units will comply with the guidance provided within this supplement. This publication does not apply to the United States Space Force. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed IAW the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication through your Major Command (MAJCOM) to the OPR using the DAF Form 847, *Recommendation for Change of Publication.* Waivers/recommended changes must be approved by the group commander (or squadron commander, if not assigned to a group) before forwarding to 19 AF/A4 for action by 19 AF/A4PP. This publication may be supplemented at the group/director level. The authorities to waive wing/unit level requirements in this publication

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SUMMARY OF CORRECTIVE ACTIONS

This corrective action revises the following paragraphs: 10.3.1.; 10.3.3.3.3.; 10.11.1.; 10.11.2.1.1.; 10.12.; 10.13.1.; 10.13.1.1., 10.13.6.1 and 11.8.3.15. Additionally, this corrective action deletes para 6.10.1.3.3.1.. Significant changes include the addition of Maintenance Cyber Discipline requirements, Decentralized Materiel Support, incorporation of four AFIs superseded above and establishes a Wing Avionics Manager Position requirement. Additionally, eTool and Worldwide Identification (WWID) management procedures were expanded to provide standardized enterprise requirements. MAJCOMs/ANG designated to establish Special Certification Roster (SCR) prerequisites to optimize workforce alignment to mission requirements.

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed in its entirety. Significant changes include the addition of Maintenance Cyber Discipline requirements, Decentralized Materiel Support, incorporation of four AFIs superseded above and establishes a Wing Avionics Manager Position requirement. Additionally, eTool and Worldwide Identification (WWID) management procedures were expanded to provide standardized enterprise requirements. MAJCOMs/ANG designated to establish Special Certification Roster (SCR) prerequisites to optimize workforce alignment to mission requirements.

This publication has been revised and includes published guidance implemented under DAFI 21-101_DAFGM2022-01; Chapter 2, Roles and Responsibilities to support organizational structures where an MXG is not assigned (i.e., AFFORGEN deployed construct); waiver authorities to the appropriate level; accident investigation recommendations; audit corrective actions; recommended changes from the field; and updated references.

(AETC) This publication has been substantially revised and must be completely reviewed in its entirety. Major changes include AETC SPA guidance, Egress training requirements, PS&D documentation of AFE, Weekly scheduling development, renaming of FSM to MRD, Special Unit Markings, and significant renumbering to align with the current DAFI 21-101_DAF_IC. **This publication has been revised and includes published guidance implemented under DAFI 21-101_AETCGM2023-02; recommended changes from the field; and updated references.**

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Chapter 1

MANAGEMENT OVERVIEW, SUPPORTING CONCEPTS AND REQUIREMENTS.

1.1. Introduction. This instruction prescribes basic aircraft and equipment maintenance management policy implementation and procedures used throughout the United States Air Force (USAF) to perform Mission Generation (MG) functions.

1.2. Organization. AF organizations are structured according to AFI 38-101, *Air Force Organization*, or as authorized by the Director of Manpower, Organization & Resources (AF/A1M). Contracted maintenance functions are not required to organize IAW AFI 38-101 but will implement the organization as outlined in their proposal as accepted by the government. For the definition of "Lead Command" see AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems.*

1.3. Maintenance Concept. Per AFPD 21-1, organizational, intermediate, and depot maintenance capabilities for operational readiness will be maintained to ensure effective and timely response to peacetime operations, mobilizations, national defense contingencies, and other emergencies. **Note:** Guidance for the use of Additive Manufacturing to build replacement parts is prescribed in AFI 63-101/20-101, *Integrated Life Cycle Management*.

1.3.1. As a minimum each capability will be able to:

1.3.1.1. Organizational: launch and recover sorties, maintain, and repair materiel coded for organizational level repair.

1.3.1.2. Intermediate: repair materiel coded for organizational and intermediate level repair in back shops, centralized repair facilities, or both.

1.3.1.3. Depot-level Maintenance: Provides the capability to maintain materiel coded for organizational, intermediate and depot levels of maintenance. Includes maintenance requiring the overhaul, upgrading, or rebuilding of parts, assemblies, or subassemblies, and the testing and reclamation of equipment as necessary.

1.3.2. Organizational and intermediate-level maintenance is organized into two mutually exclusive networks, the Mission Generation Network (MGN) and the Repair Network (RN). The MGN is optimized for mission generation at the wing level and consists of authorized "on-equipment" and "off-equipment" maintenance capabilities required to launch, recover, configure, inspect, and repair AF systems and equipment. The RN supports the MGN by providing the maintenance required to fulfill operational needs outside the capability or capacity of MGN activities. The interface between the two networks takes place when the MGN activity relinquishes control of reparable assets to the RN activity (such as, supply counter turn-in) or changes an end item Purpose Identifier Code (PIC) from an operational activity to a repair network activity (such as, depot maintenance).

1.3.2.1. Most MGN units possess a complement of equipment and supplies necessary to perform on-equipment and off-equipment maintenance.

1.3.2.2. RN units may reside at bases that perform mission generation. RN requirements and processes are identified in DAFI 20-117, *Repair Network Management*.

1.3.3. MAJCOMs assigned combat coded fighter aircraft will coordinate with Mission Design Series (MDS) lead and using commands and the MAJCOM Operations Directorate (MAJCOM/A3) to develop and document standardized MDS and Primary Aerospace Vehicle (Aircraft) Authorized (PAA) specific utilization rate standards in their supplements to this instruction. At a minimum the rates will:

1.3.3.1. Consider aggregated and analyzed unit generation capability data to identify and document standard MDS turn patterns by PAA in their supplements to **Chapter 14**.

1.3.3.2. Account for standard avionics and weapons training configurations.

1.3.3.3. Account for standard Technical Order (TO) driven turn time inspections and Average Sortie Duration.

1.3.3.4. Include a process for supporting units in assessing shortfalls and developing action plans.

1.3.4. Requests for Assistance. If a maintenance activity requires assistance for evaluation, repair, or both, beyond unit capability, requests are made IAW DAFI 21-103, *Equipment Inventory, Status and Utilization Reporting*; TO 00-25-107, *Maintenance Assistance*; and TO 00-20-14, *AF Metrology and Calibration Program*, or automated process as approved by the MDS Program Manager (PM) (for example, C-130 Automated Inspection, Repair, Corrosion and Aircraft Tracking (AIRCAT), F-16 Technical Assistance Request). All requests for assistance must be coordinated through the originating MAJCOM and Lead Command as applicable.

1.4. Aircraft Maintenance Tactics, Techniques and Procedures (TTP). TTPs are developed from lessons learned and best practices that provide valuable reference documents to improve maintenance processes and procedures. Maintenance leaders should utilize the maintenance fundamentals TTP volumes (Aircraft, Munitions and Missile) to support mission generation effectively and efficiently. Maintainers who attend the USAF Advanced Maintenance and Munitions Operations School are trained in advanced operational, expeditionary, and tactical maintenance management concepts stemming from the alumni's development and formalization of TTPs. Maintenance Group Commanders (MXG/CC) should identify their Advanced Maintenance and Munitions Operations School graduates and utilize them as advisors and instructors to enhance mission capability. AFTTP 3-4.21V1, *Aircraft Maintenance*, can be found at: **https://www.e-publishing.af.mil** or **https://usaf.dps.mil/teams/TTP/SitePages/Home.aspx**. For additional information on Advanced Maintenance and Munitions Operations School and TTP development see Air Force Manual (AFMAN) 21-111, *Advanced Maintenance and Munitions Operations School*.

1.5. Aircraft and Equipment Readiness. Aircraft and equipment readiness is the maintenance mission. The maintenance function ensures assigned aircraft and equipment are safe, serviceable, and properly configured to meet mission needs. Maintenance actions include, but are not limited to, inspection, repair, overhaul, modification, preservation, refurbishment, troubleshooting, testing, analyzing condition, performance, and maintenance documentation. All levels of supervision need to place emphasis on safety, quality, and timeliness in the performance of maintenance. The concept of quality maintenance must be fostered by each supervisor and technician to ensure the integrity and skill of each maintainer is not degraded. To the greatest extent possible, maintenance is accomplished on a preplanned scheduled basis. Planning provides

the most effective and efficient use of people, facilities, and equipment; reduces unscheduled maintenance; and allows for progressive actions toward maintaining and returning aircraft and equipment to safe operating condition. Exploiting repair network capability and maintaining visibility of repair cycle assets throughout the maintenance cycle are also critical elements of the equipment maintenance program.

1.5.1. The Air Force has established strategic-level aviation support equipment management within the 440 SCOS: Aviation Support Equipment Management Flight (ASEMF). The ASEMF has the responsibility to align with the integration of Aviation Support Equipment Maintenance Information System (AvSE MIS), also referred to as Defense Property Accountability System (DPAS) Maintenance and Utilization (M&U) Module capabilities. As AvSE MIS (DPAS M&U) comes online and units migrate assets into the new system, ASEMF will start to stand up and data mine available metrics on AvSE from AvSE MIS. These efforts combined (AvSE MIS and ASEMF) give the AF the greatest return to increasing one element of overall readiness in support of the National Defense Strategy (NDS).

1.5.2. Preventive Maintenance. AF units implement and manage the tasks specified in the scheduled recurring maintenance program for their assigned aircraft and associated support equipment (SE). Preventive maintenance is achieved through the inspection requirement concepts described in TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy, and Procedures*, and applicable weapon system -6 TO.

1.5.3. MAJCOMs that conduct Mission Generation Assessments or similar weapon system logistic evaluations in order to validate unit readiness will:

1.5.3. **(AETC)** Sortie Production Assessment (SPA). The SPA is an on-site assessment of AETC flying units focused on sortie production efficiency and effectiveness. The SPA is not an inspection; however, it does augment the Air Force Inspection System by enabling partial accomplishment of Pertinent Oversight Authority continual evaluation as described in DAFI 90-302, *The Inspection System of the Department of the Air Force*. Areas of assessment may include any aspect of aircraft maintenance operations, logistics readiness support, and as determined by 19 AF Operations Directorate (19 AF/A3) functions within the operations group or flying squadrons.

1.5.3.1. Provide units a standardized assessment report containing, at a minimum, positive, negative, and areas for improvement feedback to facilitate cross tell to like units.

1.5.3.1.1. Analyze unit generation processes to capture and communicate best practices.

1.5.3.1.2. Analyze unit generation performance to identify and communicate noteworthy trends.

1.5.3.2. Directorates of Logistics, Engineering & Force Protection (MAJCOMs A4s) will semi-annually report their top three trends and causal factors to the Logistics Board to facilitate debate to identify and mitigate potential limiting factors. Submit MAJCOM top three trends to the AF/A4LX workflow no later than 30 days prior to each Logistics Board meeting for consolidation at: **AF.A4LX.Workflow@us.af.mil**.

1.5.3.2. **(AETC)** 19 AF Maintenance Policy and Procedures Branch (19 AF/A4PP) will generate the semi-annual report of trends and causal factors for submission to the Logistics Board. **(T-2)**

1.5.3.3. **(Added-AETC)** 19 AF/A4PP is responsible for SPA planning, scheduling and identification of specific areas of interest for assessment. The Team Lead role for each assessment is typically filled by 19 AF Logistics Directorate (19 AF/A4) Division Chiefs as determined by 19 AF/A4.

1.5.3.4. **(Added-AETC)** SPA finding categories are decided by the Team Lead and are defined as follows:

1.5.3.4.1. **(Added-AETC)** Significant – High potential of risk to personnel, aircraft, or equipment or severe negative impact on operations, systems, programs, or process effectiveness.

1.5.3.4.2. **(Added-AETC)** Minor Compliance – Low to Moderate potential risk to personnel, aircraft, or equipment or low to moderate negative impact on operations, systems, programs, or process effectiveness.

1.5.3.4.3. **(Added-AETC)** Recommended Improvement Area – System, program, or process which is compliant with guidance, but has potential to be executed more efficiently or effectively.

1.5.3.4.4. **(Added-AETC)** Strength – Identifies top performers and/or best practices.

1.5.3.4.5. **(Added-AETC)** Takeaway – Items for 19 AF action to assist the assessed unit where all reasonable local actions have been exhausted.

1.5.3.4.6. **(Added-AETC)** Observation – Items worth highlighting to unit leadership that do not fit other categories.

1.5.3.5. **(Added-AETC)** The SPA Team Lead will provide an out-brief of findings to wing leadership before departure. **(T-2)** The Team Lead will provide the wing commander a final report NLT 10 duty days after assessment completion. **(T-2)**

1.5.3.6. **(Added-AETC)** Unit Response. The Team Lead will determine if an assessment finding requires a formal corrective action response from the assessed unit. **(T-2)** These will typically be significant findings, but may include any finding, as determined by the Team Lead. Requests for formal response will be tasked via the current task management system (Enterprise Task Management Software Solution (ETMS2)) **(T-2)** 19 AF/A4PP, in coordination with the appropriate 19 AF functional managers and leadership, will monitor these taskings until resolution. **(T-2)**

1.6. Maintenance Discipline. It is the responsibility of all maintenance personnel to comply with all written guidance to ensure required repairs, inspections, and documentation are completed in a compliant, safe, timely, and effective manner. Supervisors are responsible for enforcing and establishing a climate that promotes maintenance and supply discipline. Unless expressly stated otherwise in a particular instruction, waiver, or deviation in this DAFI granted by the appropriate authority, all Airmen must follow AFIs. AFIs do not provide optional guidance, and failure to comply with DAFIs can result in disciplinary action as described in AFI 1-1, *Air Force Standards*. Civilian personnel who violate punitive publications may also be subject to disciplinary action.

See DAFMAN 90-161 for more detailed information on the use of punitive language in publications.

1.6.1. Compliance Terminology. For the purposes of this instruction, the following definitions apply:

1.6.1.1. Must, Will - Indicates mandatory requirements. **Note:** "Will" is also used to express a declaration of purpose for a future event.

1.6.1.2. Should - Indicates a preferred method of accomplishment.

1.6.1.3. May - Indicates an acceptable or suggested means of accomplishment.

1.6.2. Use of TOs and TO Supplements. All personnel will enforce compliance with technical data. **(T-2)** Use of prescribed technical data to maintain aircraft and equipment is mandatory and will be conducted and managed IAW TO 00-5-1, *Air Force Technical Order System*.

1.6.3. AFTO Form 492, *Maintenance Warning Tag*. The Air Force Technical Order (AFTO) Form 492, *Maintenance Warning Tag*, is used as prescribed in technical data, local procedures, or both, to flag a condition that could cause damage or injury if ignored. Refer to TO 00-20-1 for additional guidance. **Note:** The AFTO Form 492 is replacing the AF Form 1492, *Warning Tag* referenced in DAFMAN 91-203, Air *Force Occupational Safety, Fire, and Health Standards*. Use of the AF Form 1492 is authorized until supplies are exhausted.

1.7. Communications Security (COMSEC)/Controlled Cryptographic Item (CCI). The Air Force CCI Central Authority is AFLCMC/HNC, Cryptologic and Cyber Systems Division (CCSD), Joint Base San Antonio-Lackland, Texas.

1.7.1. COMSEC/CCI will be managed, and personnel trained IAW AFMAN 17-1302-O, *Communications Security (COMSEC) Operations* and AFI 23-101, *Air Force Material Management*. Ensure all serially controlled and serially tracked COMSEC/CCI information is entered into the Maintenance Information System (MIS) IAW TO 00-20-2, *Maintenance Data Documentation*. **Note:** AFMAN 17-1302-O is accessible through the AF e-Pubs Warehouse Management System (WMS) at **https://wmsweb.afncr.af.mil/wms**.

1.7.1.1. Maintain serial number inventory accountability for all COMSEC/CCI issued or removed to Facilitate Other Maintenance (FOM).

1.7.1.2. Questions concerning COMSEC/CCI can be directed to the AF CCI Central Authority (**aflcmc.hncls.cciworkflow@us.af.mil**).

1.7.2. Maintenance Cybersecurity Discipline.

1.7.2.1. Maintaining positive maintenance cyber discipline practices of Department of Defense (DoD) Information Technology (IT) is critical to sustaining the mission. Department of Defense Instruction (DoDI) 8500.01, *Cybersecurity*, defines both hardware and software that is physically part of, dedicated to, or essential in real-time to the mission assurance of special purpose weapon systems. DoD IT is the most common IT encountered in flightline environments and includes (but is not limited to) electronic tools, aircraft, and associated support equipment. The culture of positive cybersecurity awareness and actions necessary to sustain cyber resiliency is required by all maintenance personnel to mitigate allusive cyber threats and optimize enduring mission generation capabilities.

1.7.2.1.1. All users perform an integral role in prevention, detection, and reporting suspected corrupted software of DoD IT which includes Information Systems (IS) and Platform Information Technology (PIT), which is an electronic platform with information technology for a specific function. See **Table 1.1**.

Table 1.1. Tiered Interface Examples.

TIER	Type of Interface	Examples	Applicable TOs
1	On-Board	EC-130, XX-135, E-3, E-8	Device TO
2	Directly Connected	F-22 PMA, F-35 PMA, Viper MLV, CAPRE, CETS, DTADS	Device TO
3	Indirectly Connected	Test Eqpt., Support Eqpt., ATS, ATE, AIS, VDATS	TO 33-1-38
4	Not Connected	eTools	TO 00-5-1

1.7.2.1.1.1. All users must consult airframe Security Classification Guides, TO 33-1-38, *Cybersecurity for Automatic Test Equipment and Support Test Equipment (ATE/STE)*. TO 33-1-38 provides guidance for Cybersecurity Incident Reporting and refers users to applicable technical manuals, instructions, and publications when determining the classification of cybersecurity incidents and vulnerability documents.

1.7.2.1.2. Authorized and unauthorized uses of IT and PIT. All users must have the ability to distinguish between authorized and unauthorized uses.

1.7.2.1.2.1. Authorized uses must be vetted through a formal cybersecurity assessment process and be directed in specific TO guidance. **(T-2)** The governing TOs or equivalent publications specifically define authorized uses.

1.7.2.1.2.2. Unauthorized uses include connecting any hardware, uploading, or downloading software, or media not explicitly defined by TOs. This includes but is not limited to personal devices, phones, tablets, computers, Universal Serial Bus drives, and similar devices.

1.7.2.1.2.3. DoD IT, derivative AF Publications, and TOs provide users guidance on Automated Computer Program Identification Number System devices acquired from local Communications Squadrons and media obtained from DoD contractors.

1.7.2.1.2.4. All users will follow the applicable TO when directly or indirectly connecting computers and equipment to the aircraft or support equipment and when uploading or downloading data. **(T-2)**

1.7.2.1.2.5. All users will immediately discontinue use, report, and turn into the appropriate functional authority IT and PIT (WAM, Wing Cybersecurity Office, and the Mission Defense Teams/Cyber Squadron, if assigned) that are suspect for containing malicious software, malicious code, software bugs or unauthorized use. **(T-2)**

1.7.2.1.2.6. All users will complete Maintenance Cyber Discipline Training

annually in MyLearning. **(T-2)**

1.7.2.1.3. MDS Lead Commands in coordination with the applicable PM will develop MDS and Support Equipment (SE) cyber threat mitigation methods and procedures for Organizational and Intermediate level maintenance activities. The methods and procedures must detect malicious code, report cyber incidence and issues, and remediate the incidence and issue affecting the MDS or SE. **Note:** Mitigation plan should be developed per DoDI 8500.01; TO 33-1-38, DoD 8570.01, *Information Assurance Workforce Improvement Program*; Military Standard (MIL-STD)-38784A, *General Style and Format Requirements For Technical Manuals*; 17- series AFIs.

1.7.2.1.3. **(AETC)** 19 AF/A4 MDS functional managers will work with the applicable PM to maximize inclusion of cyber mitigation methods and procedures into MDS-specific TOs.

1.7.2.1.3.1. The cyber threat mitigation methods must include MDS and SE specific training requirements. **(T-2) Note:** Training requirements could include training aids, for example, computer-based training on how the flightline maintainer should scan support equipment for malicious software.

1.7.2.1.3.2. Lead Commands must ensure current MDS and SE specific malicious code definitions are available to ensure positive cyber threat mitigation management support is available. **(T-2)**

1.7.2.1.3.2.1. MAJCOM and ANG will report system-specific cyber incidents to the applicable MDS Lead Command.

1.7.2.1.3.2.2. MAJCOM and ANG will follow airframe Security Classification Guides, TOs, and applicable technical manuals when providing “cross tell” to inform their subordinate units about system-specific cyber incidents, threats, and issues.

1.7.2.1.3.3. **(Added-AETC)** 19 AF/A4 MDS functional managers will use the 19 AF Significant Events or other cyber incident reports to facilitate cyber threat situational awareness, reporting, and mitigation strategies.

1.7.3. eTools.

1.7.3.1. eTools are portable electronic devices (such as laptop computer, handheld device) that operate in a disconnected mode and are certified to inter-operate on AF networks. eTools are mission critical: the primary purpose is for viewing electronic technical publications and in some cases are used to exchange maintenance data with approved MIS at the point of maintenance. eTools are procured IAW DAFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*. **Note:** eTools do not include electronic devices and test equipment issued and configuration managed by a system PM (aircraft test and support equipment).

1.7.3.2. MAJCOM/ANG A4s will develop and implement standardized guidance on the management, use, storage, configuration, content update, security, and cyber hygiene processes necessary to support the approved use of all assigned eTools consistent and IAW the weapon system MDS specific technical orders and threat specific Air Force and DoD cyber publications.

1.7.3.2. **(AETC)** Units will follow **Chapters 6** and **Chapter 8** and the guidance in TO 00-5-1 for management of eTools. For additional guidance contact the AETC eTool OPR, 19 AF/A4PP.

1.7.3.3. The MAJCOM/ANG A4 guidance will include any assigned command-wide cyber threat awareness and mitigation strategies with reference to supporting publications, technical orders, and MAJCOM eTool OPR contact information in their supplement or addendum to this DAFI.

1.8. Environmental Compliance. It is the responsibility of all maintenance personnel to comply with all written guidance to ensure compliance with hazardous material, hazardous waste management and air emissions record keeping as required for environmental compliance IAW AFI 90-821, *Hazard Communication (HAZCOM) Program*, installation Environment, Safety, and Occupational Health Management System/Environment Management System (ESOHMS/EMS) policy/guidance and applicable environmental requirements and guidance.

1.9. Publications. Units may tailor procedures to the unique aspects of their own maintenance operation and publish directives, instructions, supplements, addendums, and, for functional areas, Operating Instructions (OI) IAW DAFMAN 90-161.

1.9. (AETC) Publications. For contract maintenance units, the Wing/CC will appoint a military or civilian point of contact (POC) to develop wing instructions required by DAFI 21-101. Units are not required to develop instructions for programs not applicable to their unit (e.g., high-speed taxi checks, emergency war orders).

1.9.1. Develop, control, and maintain functional and emergency action checklists. At a minimum, each checklist is titled, dated, and coordinated with the wing safety office. Functional checklists are not to be used in place of or to circumvent technical data for operation, servicing, inspection or maintenance of aircraft, aircraft systems, munitions, and all other equipment supporting aircraft and munitions maintenance.

1.9.2. Methods and Procedures Technical Orders (MPTOs): Due to the close relationship between MPTOs and this DAFI, all changes and revisions to the MPTOs cited in **Attachment 1,** References of this DAFI will be routed from Air Force Material Command (AFMC) to AF/A4LM for content review for conflicts and policy gaps identification and mitigation prior to submission for publication.

1.9.3. **(Added-AETC)** Contractor regulations are developed by the contractor to implement requirements of the contract and they apply solely to the contractor. They are not published to change or supplement TOs. All publication approval must follow guidance pursuant to DCMA INST 8210-1D (AFI 10-220); for the purposes of contracting publication management, Chief Contracting Officer Representative (C-COR) will review the publications and provide recommendations to the Ground Flight Representative (GFR) who is the approval authority for contractor publications. For locations that do not have a GFR assigned, the C-COR will be appointed as the Ground Government Flight Representative (G-GFR) and will subsequently hold the authority to approve GOPs. As a minimum, forward contractor regulations to the GFR, and/or C-COR/G-GFR (as applicable), Maintenance Requirements Director (MRD) (synonymous with Functional Service Manager), Aircraft Maintenance Contracts Branch (19 AF/A4RP), and Administrative Contracting Officer (ACO) for review and acceptance prior to publication. **(T-2)**

1.10. Maintenance Training. Maintenance training provides initial, recurring, and advanced proficiency, qualification, or certification skills needed by a technician to perform assigned duties. Maintenance training includes combat and sortie generation skills not normally integrated into peacetime operations (such as, Multi-Capable Airmen, munitions handling, and external fuel tank build-up, hot refueling). Maintenance training carries an equal priority with the operational training mission. For maintenance training policy and guidance, refer to AFI 36-2650, *Maintenance Training* and MAJCOM supplements.

1.10.1. **(Added-AETC)** Explosives Operations Training. Maintenance Training will provide training on the requirements of TO 11A-1-33, *Handling and Maintenance of Explosives-Loaded Aircraft*, to all personnel involved in explosives-loaded aircraft operations.

1.10.2. **(Added-AETC)** Maintenance training will provide initial training before personnel work on explosives-loaded aircraft and annually thereafter. **(T-2) Note:** 2W0XX and 2W1XX personnel who have received weapons and explosives safety training from other sources (such as weapons academics or explosives safety training per DAFI 91-202, *The Department of the Air Force (DAF) Mishap Prevention Program*) are exempt from this training.

1.11. Modification Management. A modification proposal is a recommendation to change the operation, use, or appearance of AF equipment. Modifications (temporary, permanent, or safety) to AF aircraft or equipment are expressly prohibited without PM approval. **Note:** PM is used in this publication as defined in AFPD 63-1, *Integrated Life Cycle Management*. Refer to AFI 63-101/20-101, for modification management procedures.

1.11. (AETC) Modification Management. Modification proposals will be routed to the A5 Flying Requirements Branch HQ (AETC/A5RF) for coordination, tracking, and review. The Aircraft Maintenance Branch (19 AF/A4D) and Systems Support Branch (19 AF/A4M) are the AETC Functional Area Managers to validate modification proposals for aircraft, engines, avionics, support equipment, weapons/munitions, and associated support equipment.

1.11.1. Modifications to Munitions. All proposed modifications to aircraft-carried munitions include AFI 63-101/20-101 and SEEK EAGLE certification IAW AFI 63-101/20-101 and Air Force Pamphlet (AFPAM) 63-129, *Air System Development Process and Procedures*. All modifications to AF nuclear munitions or their associated support and training equipment are nuclear certified IAW AFI 63-125, *Nuclear Certification Program*. All modifications to AF conventional munitions or their associated support and training equipment are certified IAW DAFI 91-205, *Non-Nuclear Munitions Safety Board*.

1.12. Maintenance Information System (MIS). MIS refers to automated maintenance information systems that support and enable maintenance business processes. The MIS is used to document maintenance actions and track fleet health. The information entered into the MIS is accomplished IAW TO 00-20-2 and matches the content of the aircraft forms. MIS data entries do not have to be accomplished by the same individual who documented the aircraft forms, but employee numbers, man numbers, and User IDs of individuals accomplishing the actual work are entered into the MIS. Red Ball maintenance is documented IAW **Chapter 11**. Data integrity is the responsibility of every member of the unit. All personnel are responsible for ensuring accuracy and completeness.

1.12.1. Units use the approved MIS for their assigned weapon system.

1.12.2. Serial numbers will be documented in the MIS for all serially controlled and tracked assemblies that are identified by an asterisk in the Work Unit Code (WUC) or Logistics Control Number (LCN) manual IAW TO 00-20-2.

1.12.3. **(Added-AETC)** Event Consolidation IAW 00-20-2 will not be utilized when an Aircraft is Impounded. MIS data collection is critical when determining the cause of an ACFT Impoundment. **(T-2)**

1.13. General Safety Guidance. Maintenance personnel are exposed to a large variety of hazardous situations, machinery, equipment, and chemicals. Most hazardous situations can be avoided by following approved procedures, asking for assistance when needed, and using all required personal protective equipment (PPE).

1.13.1. Safety "Knock It Off" and Risk Management. Due to the inherent danger to life, limb, and property associated with maintenance operations, personnel are empowered to terminate an operation or situation which they perceive is unsafe or too dangerous. When supervisors or crew leaders become task-focused, junior personnel are often better able to assess the danger; however, deferring to the experience and judgment of the supervisor or crew leader, they may choose to remain silent, missing an opportunity to break the mishap sequence chain. Maintenance commanders and supervisors are responsible for fostering a culture in their units so that a simple, but recognizable "audible" from anyone can prevent a potential mishap. **Note:** See AFI 90-802, *Risk Management*, and DAFPAM 90-803, *Risk Management (RM) Guidelines and Tools* for additional information.

1.13.2. Visitors. Unit Commanders will not permit visitors to operate any AF equipment unless they are qualified to operate such equipment and are doing so in the performance of their assigned official duties. **(T-2)** Visitors will not be allowed in the flightline area if munitions operations are present IAW DESR6055.09_AFMAN 91-201, *Explosive Safety Standards*.

1.14. Duty Shifts and Rest Periods. MXG/CC or equivalent will establish minimum requirements that ensure units maintain an equitable distribution of supervision (Officer and Senior Non-Commissioned Officer (SNCO)) across all on-duty shifts in their supplement to this DAFI. **(T-3)**

1.14.1. During normal operations, maintenance personnel are scheduled for duty based on a 40-hour work week. Maintenance personnel duty hours are aligned to provide optimal mission support.

1.14.2. Personnel will not be scheduled for more than 12 hours of continuous duty time. **(T-3)** Duty time begins when personnel report for duty and ends when their supervisor releases them. Time spent in exercise or contingency deployment processing lines and in-transit counts toward the total duty day. SQ/CCs are the final approval authority for duty time extensions exceeding the 12-hour limit up to a maximum of 16 hours. **(T-3) Note:** Aircraft or detachment commanders assume this responsibility in Temporary Duty (TDY) or travel status.

1.14.3. Commanders and supervisors will provide a rest period after each shift. **(T-3)** A rest period is a block of time that gives a person the opportunity for 8 hours of uninterrupted sleep in a 24-hour period.

1.14.4. When handling, loading, or performing maintenance on nuclear weapons, conventional munitions, or egress explosives, personnel will follow requirements IAW AFMAN 21-200.

1.14.5. In alert force or standby duty situations where facilities are available for resting, established norms may be exceeded. Adjust rest periods to allow for 8 hours of uninterrupted sleep.

1.14.6. Commanders and supervisors will ensure individuals are afforded adequate duty rest periods and breaks to prevent fatigue or thermal injury. Stop anyone if fatigue may jeopardize safety. In all cases, aircraft commanders or supervisors ensure aircraft maintenance personnel are not required to perform duty when they have reached the point of physical or mental fatigue rendering them incapable of performing their assigned duties safely and reliably.

1.14.7. MAJCOM Commanders will assume the risk for any Flying Crew Chief (FCC) deviations from normal duty shifts, rest periods, and exceedance of the 16-hour maximum duty day. MAJCOM Commanders will publish risk-mitigation procedures in order to meet critical mission requirements.

1.14.7. **(AETC)** AETC personnel will not deviate from the duty shift, rest periods, and maximum duty day guidance described in DAFI 21-101, **paragraphs 1.14** through **1.14.6**.

1.15. Communications. Commanders will develop communication plans according to AF mission requirements. See **Chapter 11** for detailed communication requirements.

1.15.1. Effective maintenance accomplishment requires the ability to communicate across all facets of the maintenance operation efficiently and effectively. Communication technology (government issued Portable Electronic Devices (PED), Portable Maintenance Aid (PMA), radios, cell phones, computers, wireless internet) must be available to expedite personnel, equipment, material, and maintenance data throughout the maintenance complex. **(T-2)**

1.15.2. MAJCOMs will publish guidance for the use and control of personal communications devices (personal cell phones, tablets, and computers) on the flightline, in munitions areas, hangars, and other industrial work areas as required to mitigate cyber risk and ensure compliance with cyber and communication AFI requirements relevant to their operational environments.

1.15.2. **(AETC)** Government commercial mobile devices are authorized. Device operations/limitations vary by weapon system and location. MXG/CC or equivalent must identify these operations/limitations and will publish guidance to ensure compliance. **(T-2)**

1.15.2.1. **(Added-AETC)** Personal electronic and communication (commercial mobile) device restrictions vary by weapon system and location. MXG/CC or equivalent will determine authorization and publish guidance for use and control. **(T-2)**

1.15.3. Unit Commanders will enforce procedures that prohibit the introduction of government or personal cellular, personal communications system, Radio Frequency (RF), Infrared (IR) wireless devices, and other devices such as cell phones, tablets, and devices that have photographic or audio recording capabilities into areas (e.g., rooms, offices) where classified information is stored, processed, or discussed IAW AFMAN 17-1301, *Computer Security (COMPUSEC)*. Coordinate waiver requests with the applicable Approving Official (AO), and ensure adherence to Certified TEMPEST Technical Authority (CTTA) requirements

IAW Department of Defense Directive (DoDD) 8100.02, *Use of Commercial Wireless Devices, Services, and Technologies in the DoD Global Information Grid (GIG)* written approval by the AF CTTA IAW NIST SP 800-53A Revision 4, *Assessing Security and Privacy Controls in Federal Information Systems and Organizations: Building Effective Security Assessment Plans*, and the Enterprise Authorizing Official (AO) IAW DAFI 31-101, *Integrated Defense (ID)* and AFMAN 17-1301.

1.16. Maintenance Repair Priorities. Maintenance repair priorities are listed in **Table 1.2**. This does not prohibit the Production Superintendent (Pro Super), in coordination with the Maintenance Operations Center (MOC), from changing the maintenance repair priority when warranted. During tasked Operational Plan (OPLAN) or operational exercise, the pre-planned maintenance flow determines the job sequence. The maintenance repair priority and the Logistics Readiness Squadron (LRS) delivery priorities (listed in Air Force Handbook (AFH 23-123V, *Materiel Management Reference Information*) are normally identical. Raising or lowering maintenance repair priorities does not necessarily require a corresponding change in the LRS delivery priority. However, the Pro Super may authorize the use of a less responsive LRS delivery priority.

Table 1.2. Maintenance Repair Priority Designators.

PRIORITY	APPLICATION
1	Aircraft on alert status, war plan or national emergency missions, including related Aerospace Ground Equipment (AGE), munitions and Munitions Support Equipment.
2	Primary mission aircraft, related AGE, munitions, and munitions support equipment, for the first 8 work hours after landing or start of recovery or within 6 work hours of a scheduled launch, alert or test flight and during simulated generation or Operational Readiness Exercises (ORE). Air evacuation, rescue, weather (WX) mission aircraft, related AGE, munitions, and munitions support equipment. All transient support, and FAA aircraft. Flight or missile crew training simulator, other training equipment or related AGE required repair, which is impacting the mission by preventing or delaying student training.
3	Primary mission aircraft, engines, air launched missiles and related AGE, munitions and munitions equipment, and equipment undergoing scheduled or unscheduled maintenance, if not performed or repaired will prevent or delay mission accomplishment. Transient air vehicles not otherwise listed. Administrative aircraft within 8 hours of scheduled flight or on alert status with standby crews. Time change requirements for nuclear weapons. Repair cycle assets to satisfy a Mission Impaired Capability Awaiting Parts (MICAP) condition. Spares not available in supply. Critical end items and spares not available in supply. Routine maintenance of aircrew or missile-training simulator, or other training devices or related AGE or sites and aircraft or equipment used for maintenance training.

PRIORITY	APPLICATION
	Avionics shop electronic AGE and automated test stations.
4	Routine or extensive repair of primary air mission and related AGE and repair cycle assets. Administrative aircraft undergoing scheduled or unscheduled maintenance. Routine maintenance of AGE not otherwise listed above. War Reserve Materiel (WRM) items due maintenance or inspection. Inspection, maintenance, and Time Compliance Technical Order (TCTO) compliance of Mission Support Kit or Mobility Readiness Spares Package (MRSP) materiel. Extensive repair of aircrew or missile training simulators, other training devices, or related AGE. Inspection, maintenance, and TCTO compliance of munitions and munitions equipment, excluding spares excess to base requirements not listed above. Scheduled calibration and unscheduled repairs on Precision Measurement Equipment (PME) not listed above. Scheduled maintenance to include periodic inspections, routine TCTO, Master Configuration Lists (MCL) Grounding, and Time Change Items (TCIs). Primary mission Comprehensive Engine Management System (CEMS) or equipment including associated AGE undergoing extensive repair or modification.
5	Non-tactical or non-primary-mission aircraft undergoing extensive repair. Fabrication and repair of aeronautical items not carrying a higher priority. Bench stock requirements. Extensive repair of aircrew training devices. Time change requirements not listed above. Routine repair of AGE and repair cycle assets. Alternate and other CEMS or equipment, including associated AGE undergoing extensive repair or modification. Clearing routine delayed discrepancies on training equipment or AGE, and routine maintenance which will not impair or affect mission accomplishment. Equipment requirements.
6	Fabrication and repair of non-aeronautical items. Repair cycle asset shortages required to fill a peacetime operating stock authorization
7	Spares/repair cycle assets excess to base requirements.

1.17. Associate Unit Program/Total Force Integration (TFI). The USAF employs the Associate Unit/TFI program in some locations where RegAF and Air Reserve Component (ARC) units are collocated and share aircraft, equipment, facilities, and other resources IAW AFI 90-1001, *Planning Total Force Associations (TFAS)*, and MAJCOM supplements. For the purpose of this instruction, in an Active Association, the ANG or AFR owns the aircraft, and RegAF personnel

will follow ANG or AFR maintenance policy. In an ARC association, AFR owns the aircraft, and ANG personnel will follow AFR guidance, or vice versa. In a classic association, RegAF owns the aircraft, and ANG or AFR personnel will follow RegAF maintenance policy. Type of association is determined by the Program of Record for the associated unit.

1.18. Performance-Based Activities. MAJCOMs may publish the basic responsibilities for managing performance-based activities.

1.18. (AETC) Performance-Based Activities. The F-35 aircraft maintenance concept was procured as a Performance Based Logistics concept; therefore, not all operations or functions will be managed the same as a typical Combat Wing Organization. See DAFI 21-101_AETCSUP, Addendum A, *Aircraft and Equipment Maintenance Management (F-35)*, for more specific F-35 guidance and to the applicability of legacy DAFI 21-101 guidance.

1.18.1. If published MAJCOMs will:

1.18.1.1. Designate focal points for organizational, functional, and technical questions pertaining to each performance-based activity program.

1.18.1.1. **(AETC)** The Aircraft Maintenance Contract Branch (19 AF/A4RP) is the AETC focal point for contract aircraft and trainer maintenance programs.

1.18.1.2. Specify measurement areas and performance levels required for aircraft, systems, and equipment operated or maintained by performance-based activities.

1.18.1.3. Specify the forms, methods of documentation, and frequency of reporting used to assess performance-based activities and ensures these requirements are included in the Quality Assurance Surveillance Plan (QASP).

1.18.1.4. Ensure units with assigned Contracting Officer Representative personnel meet requirements in AFI 63-138, *Acquisition of Services*.

1.18.1.5. Ensure aircraft depot maintenance contracts, Statements of Work (SOW), and Performance Work Statements (PWS) are coordinated with the applicable MAJCOM Functional, to include Munitions.

1.18.2. Unit Commanders will:

1.18.2.1. Designate a focal point for all functional, technical, and contracting officer representative matters pertaining to performance-based activities. **(T-3)**

1.18.2.2. In coordination with the contracting officer and the Program Manager of Functional Services Manager, provide specific guidance to the performance-based activity to ensure proper maintenance discipline and flight worthiness of aircraft and subsystems. **(T-3)**

1.18.2.3. Develop and publish contingency procedures for support of continuing operations in the event of disruption, termination, or default of contracts. **(T-3)**

1.19. Changes to Technical Orders. Official TO updates are the only valid authority for maintaining TO accuracy and currency. To maintain this currency, the AF has instituted an enterprise electronic TO Recommended Change (RC) process.

1.19.1. The Enhanced Technical Information Management System (ETIMS) is the required system for Recommended Change management and this process replaces the AFTO Form 22,

Technical Manual (TM) Change Recommendation and Reply, AFTO Form 252, *Technical Order Publications Change Request* and the DAF Form 847.

1.19.2. There are specific organizations that may require the deviations or exceptions for those who do not have access to ETIMS. Refer to TO 00-5-1 for specific guidance on the RC process.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. General. This chapter outlines responsibilities for commanders and key leaders involved in maintenance activities. Decisions made that increase risk to safety of flight will be communicated with operations. In units where there is not a military commander responsible for maintenance, the applicable civilian Director of Maintenance (DOM) will ensure compliance with all responsibilities in this instruction. For organizations without all commanders and key leaders assigned, MAJCOMs will identify equivalent positions of authority commensurate with the responsibilities of the leadership positions identified in this **Chapter** in a MAJCOM supplement to this instruction.

2.1. (AETC) General. If one supervisory level is absent in the unit organization, the level above will assume the responsibilities of the missing level.

2.1.1. For the purpose of this instruction, contractor equivalents are as follows: A1C—aircraft servicer or apprentice/journeyman; SrA (1-year time-in-grade)—aircraft worker or field maintenance worker or higher; SSgt—aircraft mechanic or field maintenance mechanic or higher; TSgt—senior mechanic or craftsman; MSgt—lead mechanic; SMSgt/CMSgt/maintenance officer—foreman, branch chief or higher. MAJCOMs may determine grade and skill level equivalents for civilians.

2.1.1. **(AETC)** Civil service equivalents are as follows: SrA/SSgt—WS-3, WL-5, WG-8, or higher; MSgt—WS-6, WL-8, WG-12, or higher; and CMSgt/maintenance officer—WS-10, WG-15, or higher. Air Force specialty code (AFSC) skill level equivalents are as follows: 5-skill level—WL-4, WG-8, worker; 7-skill level—WS-3, WL-6, WG-10, mechanic, or higher. **(T-2)**

2.1.2. The functional authority to determine the need and design for civilian uniforms, under the purview of maintenance is delegated to the MAJCOMs/ANG. As such, all functional authority requirements set forth in AFI 36-128, *Pay Settings and Allowances* will also reside at the respective MAJCOM. The routing requirements for final approval of uniform requests and the establishment of uniform allowances will be IAW AFI 36-128.

2.1.2. **(AETC)** Aircraft maintenance unit civilian uniform approval requests will consist of a Maintenance Operating Instruction submitted to 19 AF/A4. 19 AF/A4 will subsequently submit the request for Headquarters Air Force, Compensation and Workforce Management (AF/A1CM) approval through AETC/CC, per AFI 36-128. Once approved, the instruction will be published IAW procedures in DAFMAN 90-161.

2.1.2.1. **(Added-AETC)** The instruction must include a description of the uniform and the wear requirements to include specific clothing items, colors, patches, name tags, etc. that are required. Examples include mandatory items (pants, shirts, coveralls, summer, winter authorized attire), rules for wear of the uniform (ex: placement and measurement for patches etc.), exemptions for wear of the uniform (ex: maternity leave), mandatory uniform requirements (ex: name, job related collared work shirts, sleeve length) and optional uniform items.

2.1.2.2. **(Added-AETC)** Ensure uniform allowances, if used, do not exceed the maximum authorized under DODI 1400.25, *DoD Civilian Personnel Management System*.

The instruction must also specify the policy you choose to comply with: either Title 5 Code of Federal Regulations (CFR) Section 591.103, *Governmentwide maximum uniform allowance rate*, or Title 5 United States Code (USC) Section 5901-5903, *Uniform allowances.* The policy should identify the category of employees required to wear uniforms; establish requirements for determining the annual uniform allowance rate based on the specific uniform needs of each category of employees; require employees to provide evidence acceptable to the supervisor of the employee's purchase of one or more uniforms (e.g., receipts); and require employees to obtain uniforms that meet standards. Units will track the initial allowance and replacements IAW AFI 36-128.

2.2. Wing Commander (WG/CC) Responsibilities. The WG/CC allocates resources to meet all mission requirements. The WG/CC will:

2.2.1. Ensure that maintenance organizations are not overtasked with augmentation duties outside maintenance functional areas. **(T-2)**

2.2.2. Conduct a "Wing Standup" meeting. **(T-3)** The MAJCOM/ANG will establish “Wing Standup” meeting frequency that synchronizes communications necessary to optimize fleet readiness and mission generation capability in their supplement to this DAFI.

2.2.2. **(AETC)** Wing Standup meeting will be held daily. **(T-2)**

2.2.3. Ensure a coordinated wing or base instruction is developed that implements procedures to control tools, equipment, electronic devices, and establishes cyber discipline and reporting requirements that provide operational guidance across all wing or base agencies dispatching to aircraft runway, taxiways, parking, and maintenance areas. **(T-2)**

2.2.3.1. Ensure home station Base Support Plans (BSP) include contingency bare base, comm-out, and cyber-out operating procedures. Periodically exercise operations (as part of scheduled local exercises) in this simulated deployed environment to validate equipment, personnel, and processes provide the required mission generation capability. **(T-2)**

2.2.3.1.1. Develop and maintain local cyber abatement and status reporting procedures that optimize cyber resiliency and the ability to mitigate and recover from cyber threats affecting assigned mission or sortie generation operations. **(T-2)**

2.2.3.1.2. Ensure Wing Cybersecurity Office directs Wing cybersecurity compliance per AFI 17-101, Risk Management Framework (RMF) for Air Force Information Technology (IT), specifically to address cybersecurity assurance of Wing aircraft and support equipment categorized as Operational Technology (OT). **(T-2) Note:** Currently known as Platform Information Technology (PIT).

2.2.4. Ensure maintenance and operations develop a joint annual maintenance and Flying Hour Program (FHP) that establishes a balance between the requirement for sorties and maintenance capability. **(T-2)**

2.2.4. **(AETC)** Approve and forward the wing’s annual utilization (UTE) plan and/or any monthly reprograms of the approved annual flying plan to the Director of Operations (19 AF/DO), Undergraduate Formal Training Division (19 AF/A3F), the Maintenance Analysis Branch (19 AF/A4PA). **(T-2)**

2.2.4.1. Establish a joint MXG and OG planning and scheduling cycle to ensure the best use of aircraft, equipment, and personnel to accomplish short-term sortie production and long-term fleet health. **(T-3)**

2.2.4.2. Approve the weekly; monthly, quarterly, and annual flying or test schedules IAW **Chapter 14**. **(T-3)**

2.2.4.3. DELETED.

2.2.5. Vector future leaders to attend the Senior Leader Mission Generation (SLMG) Course following the course description and criteria listed in **Chapter 11**. **(T-2)**

2.2.6. Ensure a Crashed, Damaged, or Disabled Aircraft Recovery (CDDAR) capability exists for assigned active airfields and runways IAW **Chapter 11** and develop a wing publication IAW DAFMAN 90-161 containing specific responsibilities for all applicable base support agencies. **(T-2)**

2.2.6.1. Collaborate with Fire Emergency Services, Wing Safety, CES, LRS, SFS, MDS, OSS, and other on-/off-base agencies to develop a publication IAW DAFMAN 90-161, that assigns specific responsibilities and procedures to implement a sustainable CDDAR program IAW TO 00-80C-1. Ensure wings with GSU/auxiliary fields outline support requirements in their publication.

2.2.7. Identify specific responsibilities and outline unique materiel management support requirements necessary to optimize wing level maintenance and mission generation operations. Establish processes and responsibilities for maintenance units and work centers without material management support in a local publication. **(T-2)**

2.2.8. Approve hot refueling site certification(s). **(T-3)**

2.2.9. **(Added-AETC)** Assign a historical property custodian to ensure proper preservation, inspection, and maintenance are done on all historic static display aerospace equipment per AFI 84-103, *Department of the Air Force Heritage Program*. **(T-2)** The historical property custodian will coordinate with wing maintenance activities or approved contracting sources to provide physical upkeep and repair as required. Static display munitions will be managed according to DAFMAN 21-201, *Munitions Management*.

2.2.10. **(Added-AETC)** Ensure all required base support and services are provided to sustain Precision Measurement Equipment Laboratories (PMEL) operating under the Acquisition Management and Integration Center (AMIC) construct, to include the following:

2.2.10.1. **(Added-AETC)** Maintain supply, information technology asset management, and Equipment Accountability Element accounts.

2.2.10.2. **(Added-AETC)** Ensure budgeting and funding for organizational equipment repair and maintenance, consumable materials, office supplies, office equipment, facility maintenance to include real property and other civil engineering support to ensure the PMEL facility meets the requirements for Air Force Metrology and Calibration certification.

2.2.10.3. **(Added-AETC)** Ensure all support agreements with AETC host organizations requiring PMEL support are coordinated with AMIC to determine impact on workload at the PMEL and include appropriate reimbursement language.

2.2.10.4. **(Added-AETC)** Retain visibility and oversight of self-assessment communicators assigned by AMIC for PMEL contractor accomplishment through the Commander's Inspection Program. Inspection program personnel will work with and consult AMIC on any issues or concerns.

2.2.11. **(Added-AETC)** Review and ensure all nose art, tail flash, and aircraft paint waiver requests have been routed through the local Wing or contract maintenance Corrosion Manager as applicable, Wing Historian and Public Affairs Office prior to submission to Command Corrosion Functional Manager.

2.3. Wing Vice Commander (WG/CD) Responsibilities. The WG/CD (or equivalent) will:

2.3.1. Manage the Foreign Object Damage (FOD) and Dropped Object Prevention (DOP) Programs. **(T-2)** The WG/CD is the FOD/DOP Prevention Program Manager and will appoint a FOD/DOP Prevention Monitor(s) IAW **Chapter 11**.

2.3.2. Ensure the wing safety office, base operations, and emergency services actively participates in development and coordination of base functional and emergency action checklists. **(T-2)** Ensure content includes and complies with all required safety standards, evacuation distances and MDS specific hazards (such as, egress systems, Hydrazine). **(T-2)** Ensure checklists address all known hazards associated in responding to mishaps, adverse weather, natural disaster, and other emergency responses. **(T-2) Note:** Review, update, and coordinate functional and emergency action checklist with using units every two years.

2.3.3. Chair the FOD/DOP meeting, if required, and will determine minimum required attendees. **(T-3)** The purpose of this meeting is to identify negative trends and develop and execute action plans to resolve them.

2.4. Maintenance Group Commander (MXG/CC) Responsibilities. In addition to the responsibilities listed below, the MXG/CC or equivalent must ensure compliance with the maintenance requirements and programs of this instruction. **(T-3)** Approved variations in the MXG organization does not relieve the MXG/CC of compliance with all the requirements of this DAFI. In organizational structures where an MXG/CC is not assigned (i.e., AFFORGEN deployed construct), all 2.4.1. paragraphs will move up to the WG/CC and all 2.4.2. paragraphs will move down to the Mission Generation Force Element (MGFE) leader, delegable to the senior maintenance leader. Additionally, all 2.4.3. paragraphs' responsibilities will remain with the home unit's MXG/CC, or WG/CC in the absence of an MXG/CC, and any guidance or documentation necessary to support the mission will be brought with the unit.

2.4. (AETC) Maintenance Group Commander (MXG/CC) Responsibilities. The MXG/CC, or equivalent (e.g., DOM/PM) is the MA and is responsible for aircraft and equipment maintenance to ensure balance between sortie production and fleet management. For those organizations where there is not a MXG/CC or equivalent assigned, the responsible group commander will fulfill those duties as required and applicable to the organization.

2.4.1. The MXG/CC will:

2.4.1.1. Ensure standardization of maintenance discipline, procedures, organizational structures, compliance, and management philosophy. **(T-3)**

2.4.1.2. Establish a radiation protection program IAW AFI 48-109, *Electromagnetic Field Radiation Occupational & Environmental Health Program,* when applicable.

2.4.1.3. Designate a focal point for all functional, technical, and COR matters pertaining to performance-based activities. **(T-3)** Refer to **Chapter 1**.

2.4.1.4. Ensure munitions are accounted for IAW DAFMAN 21-201, *Munitions Management*, AFMAN 21-200, *Munitions and Missile Maintenance Management*, AFMAN 21-203, *Nuclear Accountability Procedures*, and AFI 20-110, *Nuclear Weapons-Related Materiel Management*.

2.4.1.5. Ensure a nuclear surety program is implemented (if applicable) IAW DAFI 91-101, *Air Force Nuclear Weapons Surety Program*, and nuclear munitions are maintained, handled, and accounted for IAW AFMAN 21-204, *Nuclear Weapons Maintenance*, AFMAN 21-203.

2.4.1.5.1. For units possessing Nuclear Certified Equipment (NCE), the MXG/CC will ensure personnel are trained in the proper use of nuclear flagwords, mishap, and deficiency reporting instructions IAW AFMAN 91-221, *Weapons Safety Investigations and Reports* and DAFI 91-204, *Safety Investigation and Reports*.

2.4.1.6. Establish CDDAR capability IAW **Chapter 11** and applicable MDS technical data. **(T-2)** The MXG/CC will ensure resources and trained personnel are available to perform responsibilities of the CDDAR Program. **(T-3)**

2.4.1.7. Sustain a Transient Alert (TA) function (if required). **(T-3)** The MXG/CC will establish procedures and furnish necessary personnel and facilities for handling transient aerospace vehicles to ensure that servicing, inspection, and maintenance are consistent with the mission of each transient aerospace vehicle. **(T-3)** Special consideration should be given to medical or air evacuation aerospace vehicle, emergency missions, and special missions.

2.4.1.7.1. Approve FCF requirements, submitted by the TA Section NCOIC/Chief to off-station TA and off-station QA sections. **(T-3)**

2.4.1.7.2. For transient alert, the MXG/CC may direct the WS Personnel to arm, de-arm, and unload an aircraft on which they are not certified and/or qualified if appropriate technical data and support equipment is available. **(T-3)**

2.4.1.7.2.1. The host MXG/CC or authorized representative may delegate this responsibility to the transient aircraft commander/pilot for new or experimental aircraft. **(T-3)**

2.4.1.8. Direct QA to develop/manage local OTIs IAW TO 00-20-1 and this instruction for Aircraft Grounding. **(T-3)**

2.4.1.9. Endorse TCTO notification messages to MAJCOM when anticipated problems will prevent compliance within prescribed time limits. **(T-3)**

2.4.1.10. Ensure a read file or equivalent exists for distributing maintenance crosstalk messages, QA newsletters, Higher Headquarters (HHQ) and local policy announcements, technical notifications, and other important maintenance information to all assigned airman. **(T-3)**

2.4.1.11. Ensure direct mission generations support focuses on readiness and the unit's ability to execute daily and deployed flying operations simultaneously. **(T-3)**

2.4.1.12. Chair the FOD meeting in the absence of the WG/CD. **(T-3)**

2.4.1.12. **(AETC)** In units where there is not a MXG/MXW CC, the responsible group will chair the FOD Prevention Committee Meeting in the absence of the WG/CD.

2.4.1.13. Ensure maintenance requirements (such as, aircraft turnaround, alternate fuel cell, hot refueling, end-of-runway (EOR) check area, engine run spots, explosive load (cargo) areas) are included in the base parking plan. **(T-3)**

2.4.1.14. Communicate constraints with OG to decide what portion of the mission to support and to what degree if conflicts arise between operational requirements and maintenance capability. **(T-3)**

2.4.2. The MXG/CC will:

2.4.2.1. Appoint an MXG Environmental Coordinator IAW AFI 32-7001, *Environmental Management.* Refer to AFI 90-821, installation ESOHMS/EMS policy, guidance, and applicable environmental requirements and guidance, DAFMAN 91-203, and AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, for additional guidance.

2.4.2.2. Establish and support a Data Integrity Team (DIT). **(T-3)**

2.4.2.3. Ensure the Maintenance Standardization and Evaluation Program (MSEP) requirements are implemented IAW **Chapter 6**. **(T-3)**

2.4.2.4. Establish measures that ensure all maintenance personnel are assigned IAW the Duty Title Tool, are available, and utilized to accomplish critical maintenance tasks necessary to integrate maintenance capabilities that optimize Aircraft Availability (AA). **(T-3)** Maximize utilization of 7-skill level maintenance personnel in the grade of E-5 to E-7 in direct mission generation roles and minimize their use in staff positions or non-maintenance duties. **(T-3)** Note: Consider utilization of Civil Service MXG/SQ Unit Program Coordinators to consolidate programs to maximize availability of sortie generation maintainers on the flightline to maximize AA.

2.4.2.5. Implement an effective Corrosion Prevention and Control Program IAW TO 1-1-8, Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment; TO 35-1-3, Corrosion Prevention and Control, Cleaning, Painting, and Marking of USAF Support Equipment; TO 1-1-691 Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment.

2.4.2.6. Ensure effective use of the assigned AF Engineering and Technical Services (AFETS), Contractor Engineering and Technical Services (CETS), and contracted Field Service Representatives (FSRs) IAW **Chapter 11**.

2.4.2.7. Ensure the applicable section “safes” all static display aircraft/systems IAW the applicable 00-80-series and weapon system-specific TOs.

2.4.2.8. Ensure the MXG Oil Analysis Program (OAP) complies with **Chapter 11**. **(T-3)**

2.4.2.9. Ensure Engine Health Management Plus (EHM+) duties are performed IAW AFMAN 20-116 for EHM products managed by Air Force Life Cycle Management Center AFLCMC/LP. If EHM data is not managed by AFLCMC/LP, ensure Contractor Logistics Support (CLS) provided EHM products are managed according to respective contract. **(T-3)**

2.4.2.10. Appoint a hot refueling/hot defueling OPR for the Wing (WG) and designate an OPR for hot refuel training (if applicable). **(T-3)**

2.4.2.11. Ensure unit personnel collect and report Aircraft Structural Integrity Program (ASIP) data IAW DAFI 63-140, *Aircraft Structural Integrity Program and Air and Space Equipment Structural Management,* and **Chapter 11**. **(T-3)**

2.4.2.12. Ensure aircraft and equipment sunshades are maintained IAW **Chapter 15**. **(T-3)**

2.4.2.13. Ensure management of the Weight and Balance (W&B) program IAW **Chapter 6**. **(T-3)**

2.4.2.14. Coordinate with the Operations Group (OG) and establish Functional Check Flight (FCF), Operational Check Flight (OCF), and High-Speed Taxi Check programs. **(T-3)**

2.4.2.15. Implement the Hangar Queen Program IAW **Chapter 11**. **(T-3)**

2.4.2.16. Ensure compliance with Identification Friend or Foe Program or equivalent IAW **Chapter 11** (if equipped). **(T-3)**

2.4.2.17. Provide Subject Matter Expertise (SME) support for the development of the wing or installation instruction to control tools, equipment, and electronic devices from all wing agencies dispatching to aircraft parking, runway, taxi areas, and aircraft maintenance areas IAW **Chapter 2** and **Chapter 8**. **(T-3)**

2.4.2.18. Ensure Air Force Repair and Enhancement Program (AFREP) is managed IAW **Chapter 11**. **(T-3)**

2.4.2.19. Establish procedures to ensure assigned units have sufficient eTools available for technical order viewing. **(T-3)**

2.4.2.20. Develop procedures and assign responsibilities to ensure aircraft, aircraft system forms, equipment forms, and MIS documentation are complete, accurate, and are thoroughly reviewed each shift. **(T-3)** Documented procedures as a minimum will include:

2.4.2.20.1. The process for recovering aircraft, aircraft systems from extensive maintenance events, and down time ((cannibalization (CANN), local depot maintenance (MX)) include independent screening and validation that all maintenance actions (IPIs, operational checks, configuration management, W&B, serial number (S/N) tracking (COMSEC/CCI and other significant items as designated by an asterisk in the applicable WUC/LCN Manual)) and AFTO Form 95, *Significant Historical Data*, have been accurately documented in the forms, MIS, or both before being scheduled for a sortie or mission. **(T-3)**

2.4.2.20.2. The process for determining if an OCF or FCF is required. **(T-3)**

2.4.2.21. Ensure that when no 2W1X1 weapons AFSCs are assigned and units are required to install/remove chaff/flare on unique mission aircraft, personnel will be trained and qualified to perform these tasks IAW procedures outlined in AFMAN 21-206, *Aircraft Armament Systems Management,* and **Chapter 11** and approved by the WWM.

2.4.2.22. Ensure storage, physical security, corrupt systems quarantine procedures, and cyber threat mitigation management of MXG assigned PIT and eTools is supported and

sustained. **(T-3)** If deployed without an MXG/CC, corrupted systems and cybersecurity issues will be coordinated with the WG/CC.

2.4.2.23. Ensure personnel are trained and appointed as Aircraft Battle Damage Evaluators IAW **Chapter 11**. **(T-3)**

2.4.2.24. Establish minimum requirements that ensure units maintain an equitable distribution of supervision (Officer and Senior Non-Commissioned Officer (SNCO)) across all on-duty shifts. **(T-3)**

2.4.2.25. Ensure compliance with the local Impoundment Program. **(T-3)**

2.4.2.26. Be the Impoundment Release Authority, along with the MXG/CD. **(T-3)**

2.4.2.27. Designate Impoundment Authorities and track them on the SCR. **(T-3)**

2.4.2.28. Determine the need for an FCF for an uncommanded flight control movement. **(T-3)**

2.4.2.29. Coordinate with all wing organizations that work in or enter any maintenance area under his or her responsibility to ensure they have documented tool/equipment control procedures. **(T-3)**

2.4.2.30. Approve all locally manufactured, developed, or modified tools and equipment. **(T-3)**

2.4.2.31. Coordinate to ensure direct mission generations support focuses on readiness and the unit's ability to execute daily and deployed flying operations simultaneously. **(T-3)**

2.4.2.32. Approve items identified in **Table 11.1.**, **Note 1**. **(T-2)** The MXG/CC at their discretion, may delegate approval authority to MXG Squadron Commanders. **(T-3)**

2.4.2.33. Coordinate with the OG/CC or WG/CC to develop procedures to ensure pilots and aircrew members account for all equipment and personal items after each flight and ensure any items that become lost during flight are documented in the aircraft AFTO Form 781A. **(T-3)**

2.4.2.34. Approve CANN Authorities (CA). **(T-3)**

2.4.2.35. Designate qualified TSgts or higher, civilian equivalent, fully qualified/certified contractors, or AFETS/CETS personnel to serve as engine run certifying officials IAW criteria established in **Table 11.1**. **(T-3)**

2.4.2.36. Select maintenance, TD, or AFETS/CETS personnel as instructors, and ensure instructors maintain blade blending proficiency and certification requirements. **(T-3)**

2.4.2.37. Approve and track Hot Pit certifying officials on the SCR. **(T-3)**

2.4.2.38. Ensure CDDAR mobility UTC equipment requirements are available to deploy and accounted for on an AS (if applicable). **(T-3)**

2.4.2.38.1. Coordinate functional and emergency action checklist with Fire Emergency Services, Wing Safety, and the Airfield Operations Flight in developing adverse weather procedures for protecting aircraft and equipment IAW DAFMAN 91-203, DAFI 10-2501, *Air Force Emergency Management Program*, and MDS-specific technical data. **(T-3)**

2.4.2.38.2. In coordination with the MSG/CC, determine unit vehicle/equipment requirements beyond those authorized in the AS(s) to provide 24/7 CDDAR response/runway clearing capability. **(T-3)** Units must identify vehicles and SE designated to support CDDAR recovery in a local publication to ensure 24-hour availability. **(T-3)**

2.4.2.38.3. Ensure as a minimum, units with a CDDAR requirement possess sufficient equipment to accomplish a recovery of the assigned MDS aircraft. **(T-3)**

2.4.2.38.4. Establish an IFE response capability. **(T-3)**

2.4.2.38.5. Participate in CDDAR training exercises. **(T-3)**

2.4.2.38.6. Manage CDDAR equipment to minimize duplication of resources. **(T-3)**

2.4.2.38.7. Ensure an annual CDDAR equipment inventory is completed and an inventory report containing DPAS Property Accountability (PA) inventory of CDDAR equipment that indicates excess, or shortage items is completed, signed by MXG/CC or equivalent, and sent to the MAJCOM CDDAR OPR, NLT 30 Sep. **(T-3)**

2.4.2.39. Ensure EM is the wing focal point for both the ET&D, Engine Health Management (EHM+) and Condition Based Maintenance Plus (CBM+) program when applicable. **(T-3)**

2.4.2.40. Review and approve the assessment of the wing's ability to execute the FHP, in coordination with the OG/CC, prior to submission to the WG/CC. **(T-3)**

2.4.2.41. Review first look packages before being presented to the WG/CC. **(T-3)**

2.4.2.42. Formalize the next month's flying and maintenance plan prior to presenting it to the WG/CC for approval NLT the third scheduling meeting of the preceding month. **(T-3)**

2.4.2.43. Review the weekly, monthly, quarterly, annual flying or test schedules IAW **Chapter 5** and **Chapter 14**. **(T-3)**

2.4.2.43. **(AETC)** Support the primary mission with materiel, maintenance, and management functions. Ensure realistic schedules are developed that meet the training objectives without jeopardizing the health of the fleet. Recommend approval of maintenance plans and schedules for presentation to the WG/CC.

2.4.2.44. Ensure effective management of the Engine Trending and Diagnostic (ET&D) program IAW AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*.

2.4.2.45. Focus unit MSEPs on problem areas where improvements are needed. **(T-3)**

2.4.2.46. Ensure maintenance actions for Ground Instructional Training Aircraft (GITA)/Training Aircraft Aids (TAA) are documented IAW TO 00-20-1.

2.4.2.47. Ensure repair cost evaluations are performed and appropriate levels of review and repair authorization are established in squadrons, flights, and repair sections IAW TO 00-20-3, *Maintenance Processing of Repairable Property and The Repair Cycle Asset Control System*, TO 00-25-240, *Uniform Repair/Replacement Criteria for Selected USAF Support Equipment* (SE), and TO 35-1-24, *Air Force Economic Repair/Replacement Criteria For Selected Warner Robins Logistics Complex* (ALC) *Managed Support Equipment* (SE).

2.4.2.47. **(AETC)** Ensure repair cycle data is reviewed and updated with LRS semi-annually.

2.4.2.48. Collaborate with the WG/CC and forward a recommendation to the MAJCOM if an initial OTI sampling indicates the discrepancy is widespread and has the potential for personal injury and/or further equipment damage. **(T-3)**

2.4.2.49. Approve requests for assistance IAW **Chapter 1** after they are coordinated with Plans, Scheduling, and Documentation (PS&D), Quality Assurance (QA), and all applicable maintenance organizations. **(T-3)**

2.4.2.50. Appoint a Wing Corrosion Manager (2A7X3, 2A7X5) to implement local requirements, ensure implementation of MAJCOM directed requirements and act as the focal point for communicating with external stakeholders. **(T-3)**

2.4.2.51. Be the approval authority for cannibalization of egress explosive components and/or seats to ensure system integrity and validation of explosive CAD/PAD listing. **(T-3)**

2.4.2.52. Establish a Memorandum of Understanding (MOU) for organizational level Maintenance Interoperability or Aircraft Cross-servicing with joint forces or partner nations, if requested. See DAFI 25-301, *Aircraft Cross-Servicing Agreements*, for further guidance.

2.4.2.53. If applicable, establish a Primary, Alternate, Contingency, and Emergency (PACE) plan(s) to conduct operations in a contested, degraded, or operationally limited environment. (T-3) Note: Use AFTTP 3-4.21V1, *Aircraft Maintenance*, Attachment 10, *Contested, Degraded, and Operationally Limited Operations*, as a guide for development of PACE plan and AFI 90-802, *Risk Management*.

2.4.3. The MXG/CC will:

2.4.3.1. Approve and publish In Process Inspection (IPI) listings every two years IAW **Chapter 6. (T-3)**

2.4.3.2. Approve MXG Key Task List (KTL) and Routine Inspection Lists (RIL). **(T-3)**

2.4.3.3. Implement MAJCOM Lead the Fleet (Pacer) Program for engine type IAW AFMAN 20-116. **(T-2)**

2.4.3.4. Ensure aircraft possessed by AFMC for depot maintenance are not cannibalized without coordination through the MAJCOM functional manager who will then request approval from the applicable Air Logistics Complex (ALC) Maintenance Group Commander/Director and Program Manager. **(T-2)**

2.4.3.5. Establish local procedures for management and maintenance of assigned GITA and TAA to ensure they remain useful and safe within guidelines stated in **Chapter 11**, AFI 84-103, *Department of the Air Force Heritage Program*, DAFI 21-103, and 23-series publications. **(T-3)**

2.4.3.6. Appoint a Wing Avionics Manager (WAM) or designated representative to act as the maintenance focal point for wing avionics related programs. **(T-3) Note:** See **Chapter 11** for WAM responsibilities.

2.4.3.7. Determine the Routine Inspection List (RIL) frequency if not mandated by the MAJCOM. **(T-3)**

2.4.3.7.1. Approve Maintenance Supervision inputs and suggested changes to the RIL submitted from QA. **(T-3)**

2.4.3.7.2. Approve the Evaluation and Inspection (E&I) Plan. **(T-3)**

2.4.3.7.3. Establish AQLs for tasks/inspections not included on the MAJCOM AQL listing. **(T-3)**

2.4.3.7.4. Establish quarterly meetings to review a summary of MSEP data. **(T-3)**

2.4.3.8. Oversee GITA/TAA IAW **Chapter 11**. **(T-2)**

2.4.3.8.1. Develop an installation publication or supplement to define the scope of training functions for GITA/TAA use, functional responsibility for funding, operations, maintenance, and records management. **(T-3)**

2.4.3.8.2. Ensure maintenance support of GITA/TAA used for training. **(T-3)** Units that do not have organic maintenance capability will establish a Support Agreement or MOA assigning maintenance responsibility for GITA/TAA training use. **(T-3)**

2.4.3.8.3. Ensure explosive components are removed that are not required to support training requirements.

2.4.3.8.4. Place retained systems and subsystems not currently being used for training into extended storage IAW applicable technical data.

2.4.3.8.5. Ensure standard maintenance practices regarding inspection appearance, cleanliness, ground safety, and prevention of corrosion are met. Corrosion control procedures are outlined in TO 1-1-691.

2.4.3.8.6. Develop and prepare inspection technical data check lists for use in inspecting the condition and safety of equipment before use and ensure inspections are performed. **(T-3)**

2.4.3.8.7. Prepare a separate memorandum for each GITA/TAA, addressed to the appropriate PM for the aircraft and inform them of the systems and subsystems that will be maintained in operational configuration. **(T-3)**

2.4.3.8.7. **(AETC)** Provide an informational copy of all memorandums to 2 AF/A6A workflow and the applicable logistics support function.

2.4.3.8.8. Report air and space vehicle inventory IAW DAFI 21-103 as required for ground trainers. Aircraft used for ground trainers are exempt from status and utilization reporting.

2.4.3.8.9. Ensure proper coordination and documentation of parts removed from training aircraft are accomplished.

2.4.3.8.10. Designate a GITA/TAA Manager as an additional duty. **(T-3)**

2.4.3.9. Ensure all items being repaired by AFREP have been approved by the appropriate repair authority. **(T-3)**

2.4.3.9.1. Assign an AFREP Manager. **(T-3)**

2.4.3.10. Chair a maintenance and FHP planning meeting quarterly, NLT 14 days before the next quarter. **(T-3)**

2.4.3.11. Establish Minimum Equipment Levels (MELs) for essential maintenance assets to include engines, pods, AGE, vehicles, advocate and reconcile authorized shortfalls and overages. **(T-2)** Coordinate with the applicable MAJCOM functional to advocate with the respective Program Manager to address any requests to change authorized quantities. **(T-3)**

2.4.3.12. Establish the group maintenance awards and recognition program to meet AF and MAJCOM requirements refer to https://access.afpc.af.mil/Trophies/searchtrophies.aspx. **(T-3)**

2.4.3.13. Ensure an orientation program is developed and conducted for all personnel newly assigned to MXG maintenance or equivalent maintenance activities IAW AFI 36-2650.

2.4.3.14. Develop a MXG Impoundment Program and ensure compliance with the procedures IAW **Chapter 7**. **(T-3)**

2.4.3.15. Establish written procedures to review and clear "repeat", "recur", and "cannot duplicate" (CND) discrepancies. **(T-3)**

2.4.3.16. Approve the Dedicated Crew Chief (DCC) program, when implemented.

2.4.3.17. Review and coordinate the AGE MEL annually with applicable Maintenance Supervision. **(T-3)** The MXG/CC approves the identified types and quantities of AGE for the MEL.

2.4.3.18. Develop and implement a standardized Impound Official training course and Impoundment Program. **(T-3)**

2.4.3.19. Appoint an Identification Friend or Foe Program Manager for Identification Friend or Foe systems cryptographically keyed by MXG personnel. **(T-3)**

2.4.3.20. Appoint a Radar Warning Receiver/Radar Threat Warning Manager (if equipped as required). **(T-3)**

2.4.3.21. Develop a 10-year facility plan specifying maintenance, upgrade, and replacement projections for the group's facilities. **(T-3)**

2.4.3.22. Ensure aircraft shelters at bases are maintained, unless otherwise stipulated in contracting arrangements, IAW **Chapter 11**. **(T-2) Note:** If an aircraft shelter is used for other than its designed purpose, the using activity will maintain it.

2.4.3.23. Establish and document MXG local manufacture procedures and controls in a supplement to this instruction. **(T-3)**

2.4.3.24. Appoint a Stock Record Account Number (SRAN) Engine Manager (EM) or a Unit Engine Manager (UEM) to accomplish duties outlined in TO 00-25-254-1, *Comprehensive Engine Management System* (CEMS) (D042) *Engine Status, Configuration, and TCTO Reporting Procedures*.

2.4.3.25. Establish written guidance on individual responsibilities and specific procedures for Cannibalization (CANN) actions IAW **Chapter 11**. **(T-3)**

2.4.3.26. Publish directives outlining procedures covering the manufacture of items source coded local manufacture. **(T-3)**

2.4.3.27. Ensure the MT develops and manages an effective engine run certification program. **(T-3)**

2.4.3.28. For calibration limitation Approval Certification Program, appoint maintenance, TD, or PMEL personnel as instructors, and ensure requisite certification and proficiency requirements are tracked in the MIS by course code.

2.4.3.29. For engine management, appoint a qualified 2A6X1, minimum 7-skill level, (or civilian equivalent) technician to manage the EHM+ and CBM+ program IAW AFMAN 20-116 for EHM products managed by AFLCMC/LP. If EHM data is not managed by AFLCMC/LP, ensure Contractor Logistics Support (CLS) provided EHM products are managed according to respective contract.

2.4.3.30. Ensure the Aero Club is operated IAW DAFI 34-101, *Department of the Air Force Morale, Welfare, and Recreation (MWR) Programs and Use Eligibility*, when assigned.

2.4.3.31. **(Added-AETC)** Ensure vehicles used to tow aircraft are properly equipped/designed and authorized for towing the specific aircraft type. Use of general-purpose vehicles (for example, pickup trucks, step vans, AGE tow tractors) to tow aircraft is not authorized, except for USAF Academy trainer glider aircraft. **(T-2) Exception:** AGE tow tractors are used to tow MQ-9 aircraft. Additionally, properly equipped general-purpose vehicles approved through Vehicle Fleet Management may be used to tow small trainer-type aircraft during emergency situations such as when hangaring an aircraft fleet to avoid inclement weather.

2.4.3.32. **(Added-AETC)** If a two-person tow team is authorized, the towing operation must be supervised by a fully qualified towing supervisor who is also a qualified tow vehicle operator, and established taxi lanes and parking areas with nose-wheel guide lines designed for the particular MDS must be used.

2.4.3.33. **(Added-AETC)** Ensure radio-equipped vehicles assigned to maintenance are clearly identified to indicate the activity to which they are assigned. Use abbreviated call signs (for example, Talon 1, Blue 3, Bravo Super, or Golf). **(T-2) Note:** This is optional for contractor-owned vehicles. Any vehicle markings will be IAW AFI 24-302, *Vehicle Management* and TO 36-1-191, *Technical and Managerial REF for Motor Vehicle Maint*. Written approval from Vehicle Fleet Management will be received before any assigned AF/lease vehicles are marked.

2.4.3.34. **(Added-AETC)** Ensure 19 AF/A4 is notified, within 3 hours during normal duty hours or the beginning of the next day if after hours, of any significant event/FOD/dropped object by completing the information in the links found on the 19 AF/A4 SharePoint as soon as possible following the event **https://usaf.dps.mil/sites/aetc-19af/lg/sitepages/home.aspx**. **(T-2)** This reporting requirement is in addition to formal reporting required according to DAFI 91-204.

2.4.3.34.1. **(Added-AETC)** Types of air or ground events to report are, but are not limited to, formulation of an investigation board; failure of an engine-rotating

component (turbine or compressor components); T-38 engine stall/flameout, including completed AETC Form 209, *Aircraft Flameout/Stall Debrief Checksheet*; explosive or missile mishap; dropped object; FOD; cyber incidents that affect mission readiness; or unusual occurrence that results in damage to aircraft, aircraft components, AGE, maintenance facilities and/or injury to personnel.

2.4.3.34.2. **(Added-AETC)** Designate key individuals within maintenance activity (typically QA or contractor QC) to serve as the significant event mishap/incident reporting POCs. These individuals will be authorized to enter/edit AETC Significant Event/FOD/DOP Reporting on the 19 AF/A4 SharePoint site. Provide the (NAME/RANK/UNIT/OFFICE/DSN) of these individuals via e-mail to 19 AF/A4M who will subsequently grant access. **(T-2)**

2.4.3.34.3. **(Added-AETC)** Designate key leaders/individuals within your maintenance activity authorized viewing access to 19 AF/A4 SharePoint site and provide NAME/RANK/UNIT/OFFICE/DSN via e-mail to 19 AF/A4M who will subsequently grant access.

2.4.3.35. **(Added-AETC)** Serve as OPR for the Repair Network Enhancement Program (RNEP) IAW **Chapter 9** and chair the quarterly RNEP meeting.

2.4.3.36. **(Added-AETC)** Establish and maintain an effective corrosion prevention and control program for all unit assigned MDS aircraft and AGE.

2.4.3.36.1. **(Added-AETC)** Ensure adequate facilities, equipment, manpower, material, and funding are available to support a sound corrosion prevention and control program. The minimum requirements are:

2.4.3.36.1.1. **(Added-AETC)** Provide a year-round maintenance painting facility for assigned aircraft.

2.4.3.36.1.2. **(Added-AETC)** Facilities will meet Federal, State, and Local requirements. **(T-2)**

2.4.3.36.1.3. **(Added-AETC)** Ensure requirements outlined in Unified Facilities Criteria 4-211-02, Aircraft Corrosion and Paint Facilities, and DAFMAN 32-1084, *Standard Facility Requirements*, are met for support equipment (SE) and aircraft small parts. This capability can be incorporated in the aircraft corrosion control facility if space permits.

2.4.3.36.1.4. **(Added-AETC)** Ensure facility control technology meets local, state, and federal Environmental Protection Agency requirements in conjunction with current National Emission Standards for Hazardous Air Pollutants [40 CFR Part 61 and 63].

2.4.3.36.2. **(Added-AETC)** Ensure adequate wash facilities are available year-round. This may be accomplished in any way deemed prudent for the locale and mission of the unit. This requirement may be met with one or more of the following:

2.4.3.36.2.1. **(Added-AETC)** A specially designed corrosion control facility completely enclosed, heated with environmentally controlled ventilation and waste disposal systems, and equipped with all utilities necessary for accomplishing all facets of aircraft corrosion control.

2.4.3.36.2.2. **(Added-AETC)** An environmentally compliant enclosed or covered wash rack.

2.4.3.36.2.3. **(Added-AETC)** An outside wash rack may be used on an interim basis when weather conditions permit and when approved by Base Civil Engineer.

2.4.3.36.3. **(Added-AETC)** Ensure frequency of wash/rinse cycles are maintained in accordance with TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace And Non-Aerospace Equipment* and TO 35-1-3, *Corrosion Prevention and Control, Cleaning, Painting, and Marking of USAF Support Equipment (SE)*.

2.4.3.36.3.1. **(Added-AETC)** Ensure when unique operational requirements, contingencies, droughts, or facility limitations severely impact a unit's ability to wash as prescribed in TO 1-1-691, that a temporary wash waiver is requested from the System Program Office (SPO) via 107, technical assistance request, etc., prior to aircraft wash going overdue.

2.4.3.36.3.2. **(Added-AETC)** Ensure the Command Corrosion Functional Manager and Air Force Corrosion Prevention and Control Office (AFCPCO) are notified of all approved waivers within 10 duty days. Notification shall include mission design series, aircraft tail number(s), date of last wash, reason for overdue condition, and corrective action taken to prevent further occurrences. **(T-2)**

2.4.3.36.4. **(Added-AETC)** Ensure Plans, Scheduling & Documentation schedules aircraft washes through applicable Maintenance Information System (MIS).

2.4.3.36.5. **(Added-AETC)** Ensure QA evaluates corrosion control programs through inspection and maintenance follow-up evaluations.

2.4.3.36.6. **(Added-AETC)** Appoint a Wing Corrosion Program Manager (2A773 and 2A790 or civilian equivalent). **Note:** Contract maintenance Program Managers shall appoint a primary and alternate Corrosion Program Manager.

2.4.3.36.7. **(Added-AETC)** Appoint personnel authorized to sign-off contract washes, as required.

2.4.4. - 2.4.58. DELETED.

2.5. Deputy Maintenance Group Commander (MXG/CD). In organizational structures where an MXG/CC or MXG/CD is not assigned, (i.e., AFORGEN deployed construct), **paragraph 2.5.1** will move up to the WG/CC commander to ensure effective communication across all units.

2.5.1. Establish maintenance production/scheduling meeting. **(T-3)** This meeting is to verify aircraft and equipment utilization, scheduled maintenance requirements, evaluate predictive maintenance forecast, establish work priorities, and coordinate schedule changes. It should synchronize communications necessary to optimize fleet readiness and mission generation capability.

2.5.1. **(AETC)** Consider including all/some of the following topics for the maintenance production/scheduling meeting:

2.5.1.1. -2.5.13. DELETED.

2.5.1.1. **(AETC)** Aircraft and aircraft system status.

2.5.1.2. **(Added-AETC)** MICAP and repair cycle status.

2.5.1.3. **(Added-AETC)** AF Form 2407s, Weekly/Daily Flying Schedule Coordination.

2.5.1.4. **(Added-AETC)** Current day flying and maintenance schedule execution.

2.5.1.5. **(Added-AETC)** Remaining portion of the current day's schedule.

2.5.1.6. **(Added-AETC)** Previous week/day's flying and maintenance schedule deviations to the published schedule.

2.5.1.7. **(Added-AETC)** Prioritizing aircraft requiring/competing for shared resources.

2.5.1.8. **(Added-AETC)** Special inspections (SIs).

2.5.1.9. **(Added-AETC)** Time Change Items (TCIs).

2.5.1.10. **(Added-AETC)** Time Change Technical Orders (TCTOs).

2.5.1.11. **(Added-AETC)** Depot Field Team (DFT)/Contract Field Team (CFT) schedules.

2.5.1.12. **(Added-AETC)** Due In From Maintenance (DIFMs) to ensure no overdue DIFM assets exist.

2.5.1.13. **(Added-AETC)** Condition Based Maintenance (CBM+) component status to ensure proactive aircraft maintenance practices.

2.5.1.14. **(Added-AETC)** Removed/spare engine status.

2.6. MXG Senior Enlisted Leader (SEL) Responsibilities. In addition to the Group SEL responsibilities outlined in Brown Book, *The Enlisted Force Structure*, the MXG SEL is responsible to the MXG/CC and will advise and assist the MXG/CC on their responsibilities as outlined in this **Chapter**. In organizational structures where an MXG is not assigned (i.e., AFORGEN deployed construct), the following responsibilities will remain with the home unit's SEL and any guidance/documentation necessary to support the deployed operation will be brought with the unit. The MXG SEL will:

2.6.1. Conduct a quarterly manning meeting with Squadron SELs and Wing Weapons Manager (WWM) to review MXG manning status, Duty Title Tool usage, and ensure manning resources are strategically distributed to provide the greatest possibility for mission success. **(T-3)** The MXG SEL is the focal point for ensuring squadron SELs receive adequate manpower management training.

2.6.1.1. Meeting will consist of a review and evaluation of the impact on the MXG of personnel actions such as: work center/organizational manpower Authorization Change Requests (ACR), AFSC changes, re-training, special duty requests, special assignment actions (SWAP, Palace Chase), SEI balance, overseas Date Eligible for Return from Overseas extensions/In Place Consecutive Overseas Tour (IPCOT) requests, physical profile changes and personnel rotation plans as applicable to enhance mission effectiveness. **(T-3)**

2.6.1.2. MXG SEL will provide the MXG/CC coordinated manning recommendations that develop enlisted individual experience and knowledge for consideration. **(T-3)**

2.6.2. Ensure all AFSC 2A and 2W maintenance personnel are only assigned authorized duty titles. **(T-3)** Reference the Duty Title Tool: **https://usaf.dps.mil/teams/10820/medac/2A_DTT/SitePages/Home.aspx**, and the AFSC 2W1 Standardized Duty Titles located at **https://usaf.dps.mil/teams/11262/HAF/HAF-A4LW/Standardized%20Duty%20Titles** for all assigned AFSC 2W1X1 and 2W100 positions.

2.7. Wing Weapons Manager. See AFMAN 21-206 for duties and responsibilities.

2.7.1. - 2.7.28. DELETED.

2.8. Squadron Commander (SQ/CC) Responsibilities. The SQ/CC will:

2.8.1. Ensure compliance with AFI 90-821, DAFI 91-202, *The US Air Force Mishap Prevention Program*, DAFMAN 91-203 and other publications necessary to perform the commander functions assigned to the squadron.

2.8.2. Establish and administer squadron training programs IAW AFI 36-2650 and DAFMAN 36-2689, *Training Program*; monitor upgrade training, Personnel Reliability Program (PRP) status, and qualifications of assigned work center personnel; and ensure MAJCOM Mandatory Course List requirements are met (if applicable). **(T-3)**

2.8.3. Ensure upgrade training and maintenance qualification programs emphasize quality and are not primarily focused on meeting minimum upgrade time frames. **(T-3)**

2.8.3.1. Ensure all maintenance personnel who utilize DoD Information Technology have received appropriate Maintenance Cyber Discipline Training. **(T-3)**

2.8.4. Monitor all personnel working outside of their primary AFSC to ensure that it does not degrade mission accomplishment. **(T-3)**

2.8.5. Establish a squadron Vehicle Control Program IAW AFI 24-302, *Vehicle Management*.

2.8.6. Establish and manage squadron FCC program IAW **Chapter 11** (if applicable).

2.8.7. Protect and secure munitions as outlined in DAFI 31-101. The SQ/CC will ensure Intrusion Detection Systems requirements are identified when required to store munitions IAW DoDM 5100.76 and DAFI 31-101.

2.8.8. Appoint equipment custodians to manage the Custodian Authorization/Custody Receipt Listing (CA/CRL) (R14) of assigned equipment IAW AFI 23-101 and DAFMAN 23-122, *Materiel Management Procedures*.

2.8.9. Ensure personnel and equipment are identified and prepared to deploy for taskings IAW AFI 23-101, AFI 10-403, *Deployment Planning and Execution*, DAFI 36-3802, *Force Support Readiness Programs*, and AFMAN 10-409-O, *Support to Adaptive Planning*.

2.8.10. Recommend personnel for QA duty positions. **(T-3)**

2.8.11. Designate Flight CC/Chiefs. **(T-3)**

2.8.12. Ensure the UMD is consistent with the approved organizational structure. **(T-3)**

2.8.13. Coordinate support from the local communication squadron or equivalent functional entity to ensure proper eTools configuration (operating system, virus checkers) are maintained.

(T-3) The SQ/CC will coordinate with lead TODO/Functional System Administrator to resolve TO requirements that are not being satisfied. **(T-3)**

2.8.13.1. Ensure licenses, certification, maintenance, and security of eTools (hardware and software) is conducted IAW 33/17-series AFIs, TO 31S5-4-ETOOL-1, and **Chapter 8**.

2.8.14. Ensure members assigned to the DIT are qualified to accurately assess the Maintenance Data Documentation. **(T-3)**

2.8.15. Ensure maintenance is only performed by personnel who are trained, qualified, and certified, unless under the direct supervision of a trainer or certifier. **(T-3)**

2.8.16. Ensure procedures are followed to properly turn in recoverable and consumable items IAW AFI 23-101. **(T-3)**

2.9. Maintenance Supervision Responsibilities. Maintenance Supervision consists of the Director of Operations (DO) and Maintenance Superintendent (MX SUPT). Maintenance Supervision advises the SQ/CC on technical matters, leads a mission-focused maintenance effort, and manages resources necessary to accomplish the mission. They provide necessary administration to manage assigned responsibilities and control maintenance through Pro Supers, Flight CC/SUPT, and Section NCOICs/Chiefs. The MX SUPT is responsible to the DO. Maintenance Supervision will:

2.9.1. Ensure adequate levels of supervision and manning are balanced across all shifts to accomplish the mission safely and efficiently. **(T-3)**

2.9.2. Ensure timely and accurate engine data is provided to the EM element for all engines IAW **Chapter 14**. **(T-3)**

2.9.3. Enforce procedures to prevent FOD and dropped objects IAW **Chapter 11**. **(T-3)**

2.9.4. Monitor and recommend updates to local IPI requirements and recommendations to QA IAW **Chapter 6**. **(T-3)**

2.9.5. Ensure a sufficient number of personnel are qualified to perform mission critical tasks listed on the SCR **Table 11.1** in **Chapter 11**. **(T-3)** Review and/or recommend individuals for addition to the SCR. **(T-3)** Approve individuals for addition to the SCR. **(T-3)** Review and approve individuals for addition to the SCR. **(T-3)**

2.9.6. Ensure aircraft systems and equipment are available to support unit training objectives. **(T-3)**

2.9.7. Ensure distribution of maintenance cross-tell messages, QA newsletters, policy announcements, technical notifications, and other important maintenance information to all members of the organization. **(T-3)**

2.9.8. Review and evaluate management and production effectiveness. **(T-3)** Maintenance Supervision will analyze personnel and equipment performance history. **(T-3)** Initiate management actions to meet new workloads or correct reported/perceived deficiencies. **(T-3)**

2.9.9. Ensure an annual maintenance plan is developed and reconciled with the flying schedule and flying requirements to ensure maintenance can support the annual flying hour/test program. **(T-3)**

2.9.9.1. Participate in the maintenance planning cycle. **(T-3)**

2.9.9.2. Utilize a sortie production model or equivalent for the assigned MDS (if available). **(T-2)**

2.9.10. Ensure a squadron SERENE BYTE or PACER WARE response capability is available to support reprogramming requirements IAW DAFMAN 10-703, *Electromagnetic Warfare Integrated Reprogramming* (if applicable).

2.9.11. Ensure a squadron Corrosion Control Program is implemented and managed IAW TO 1-1-8, TO 35-1-3, TO 1-1-691, MDS-specific TOs and MAJCOM instructions.

2.9.12. Ensure squadron ASIP responsibilities are accomplished IAW **Chapter 11** and DAFI 63-140.

2.9.13. Develop written procedures in coordination with the WWM, Weapons Safety Manager, and Airfield Management to establish EOR inspection procedures as required by aircraft specific -6 TO, MAJCOM directed requirements and **Chapter 11**.

2.9.13.1. Ensures sufficient personnel, equipment, and facilities are assigned, maintained, and available to properly perform EOR inspections IAW **Chapter 11**.

2.9.13.2. Ensure EOR procedures for transient aircraft are developed IAW TO 00-20-1 and MAJCOM directives.

2.9.14. Review and support the monthly Weapons Load Training (WLT) schedule. **(T-3)**

2.9.15. Ensure deferred maintenance, Pilot Reported Discrepancy, and back-ordered parts are properly managed. **(T-3)**

2.9.15. **(AETC)** Manage deferred discrepancies IAW **paragraph 11.44**.

2.9.16. Review supply products to monitor supply discipline. **(T-3)**

2.9.16.1. Maintenance Supervision will manage DIFMs IAW AFI 23-101. **(T-3)**

2.9.16.2. Monitor and reconcile changes in base-level repair capabilities under their supervision as they occur with the LRS/Material Management activities IAW AFI 23-101.

2.9.17. Ensure lost, damaged, destroyed, or stolen government assets are dispositioned IAW DoD 7000.14-R, *DoD Financial Management Regulation*, Vol 12, Chapter 7, Financial Liability for Government Property Lost, Damaged or Destroyed (Formerly Report of Survey).

2.9.18. Ensure Special Purpose Recoverable Authorized Maintenance (SPRAM) accounts are established IAW DAFI 21-103, Chapter 9, and maintained IAW AFI 23-101.

2.9.19. Ensure reporting of materiel deficiencies IAW TO 00-35D-54, *USAF-Deficiency Reporting, Investigating, and Resolution*.

2.9.20. Monitor requirements for CTK, special tools, and SE and take necessary action to ensure availability, as required IAW **Chapter 8**.

2.9.21. **(Added-AETC)** Maintenance Supervision will ensure they request and schedule a minimum of one (1) AETC Maintenance Management Systems Course annually. Pro Supers are required to attend the course prior to, but no later than one year after assuming Pro Super responsibilities. **Note:** Individuals who have completed previous equivalent Production Superintendent Course (ACC or MAF) are not required to complete the Maintenance Management Systems Course. **(T-2)** Expediters, flight chiefs, and section chiefs are

encouraged to attend. Temporary duty expenses will be unit funded. **(T-2)** Contract Maintenance Organizations may request course quotas with Contracting Officer (CO) approval. All Contract Maintenance Organization requests will be coordinated through the C-COR.

2.10. Flight Supervision. Flight Supervision consists of the Aircraft Maintenance Unit (AMU) Officer in Charge (OIC)/Superintendent and Flight Commander/Flight Superintendent (Flight CC/Chief). Flight Supervision will:

2.10.1. Provide management and oversight and ensure each section is adequately resourced to efficiently execute their mission. **(T-3)**

2.10.2. Manage, distribute, and adjust the flight's manning to support the maintenance plan across all shifts. **(T-3)**

2.10.2.1. Distribute all levels of supervision based on manning and workload to supervise all duty periods. **(T-3)**

2.10.2.2. Identify imbalances between authorizations and the number of personnel assigned, or between authorized and assigned skill levels or grades to SQ/CC and Maintenance Supervision. **(T-3)**

2.10.2.2.1. Review unit DOC Statements, OPLANs, unit-tasked UTC requirements for personnel and equipment then compare requirements to UMD to identify existing shortfalls. Scrutinize critical AFSCs qualifications and equipment based on their impact on mission generation. Document and report personal and equipment deficiencies through the chain of command and monitor until resolved. **(T-3)**

2.10.2.3. Manage additional duties, leaves, ancillary training, and rotate/assign manning across shifts to balance the workload and minimize negative impacts on the workforce. **(T-3)**

2.10.3. Execute the squadron's Mishap Prevention Program for the flight/work center IAW **Chapter 1** and DAFI 91-202.

2.10.3.1. Ensure all personnel obtain the required safety training, and document it on the AF Form 55, Employee Safety and Health Record, or equivalent IAW DAFI 91-202.

2.10.4. Coordinate occupational and environmental health risk assessments with Bioenvironmental Engineering IAW AFMAN 48-146, *Occupational & Environmental Health Program Management*, to identify, assess and evaluate process hazards in the workplace and identify controls. **(T-3)**

2.10.4.1. Monitor and ensure environmental and applicable health requirements, physicals and respirator training, initial and recurring requirements are accomplished when required for assigned personnel IAW AFMAN 48-146; AFI 48-137, *Respiratory Protection Program*; and AFI 48-127, *Occupational Noise and Hearing Conservation Program.*

2.10.5. Ensure organizational compliance IAW the installation ESOHMS/EMS Program. **(T-3)**

2.10.6. Advocate use of the TO improvement program and ensure work center TO files are maintained IAW TO 00-5-1.

2.10.7. Ensure Materiel Potentially Presenting an Explosive Hazard requirements in DAFMAN 21-201 and TO 11A-1-60, *General Instructions Inspection of Reusable Munitions Containers and Scrap Material* Generated from Items Exposed to or Containing Explosives, are complied with when certifying items associated with explosives such as: Multiple Ejector Rack, Triple Ejector Rack, pylons, launchers, rafts, bomb racks, ejection seats, fire suppression bottles, and gun systems and components.

2.10.7.1. Ensure associated items are explosive free prior to being turned in to LRS or the Defense Logistics Agency Disposition Services (DLADS).

2.10.8. Review deferred maintenance in the MIS and coordinate with the Pro Super to schedule and/or validate task accomplishment. **(T-3)**

2.10.9. Ensure operator inspections and user servicing requirements are accomplished on all assigned support equipment IAW TO 00-20-1.

2.10.10. Ensure records of inspection, lubrication, and maintenance of industrial equipment are maintained IAW TO 00-20-1, TO 34-1-3, *Machinery and Shop Equipment*, to include documentation of records maintained in a MIS.

2.10.11. Ensure proper calibration, use, care, handling and transportation of Test Measurement and Diagnostic Equipment (TMDE) IAW TO 00-20-14 and AFMAN 21-113, *Air Force Metrology and Calibration (AFMETCAL) Program Management*, and applicable Calibration Measurement Summaries.

2.10.12. Evaluate maintenance quality, personnel qualifications, and training of assigned personnel. **(T-3)**

2.10.13. Review/update flight IPI requirements listing every two years and route through Maintenance Supervision. **(T-3)**

2.10.14. Ensure only designated personnel identified in the MIS verify MICAPs/Urgency of Need Designator 1A and JA requirements. **(T-3)**

2.10.15. Select personnel to perform special certification tasks IAW **Chapter 11** and **Table 11.1** and forward names to Maintenance Supervision for approval and addition to the SCR. **(T-3)**

2.10.16. Ensure training requirements are executed to support established training plan and individual AFSC Career Field Education and Training Plans (CFETP) IAW DAFMAN 36-2689and AFI 36-2650.

2.10.17. Ensure Cross Utilization Training requirements are identified as required by the unit mission IAW AFI 36-2650.

2.10.17.1. Ensure Cross Utilization Training does not interfere with upgrade/qualification training. **(T-3)**

2.10.17.2. **(Added-AETC)** Due to unique training requirements, Cross Utilization Training into AFSC 2A7X2 Nondestructive Inspection (NDI) is not authorized. **(T-2)**

2.10.18. Review Maintenance Management Analysis (MMA), QA, and other management reports to determine appropriate management actions to meet new workloads, target deficiencies, and identify and correct root causes. **(T-3)**

2.10.19. Develops maintenance and flying schedules and execute scheduled maintenance plans. **(T-3)**

2.10.20. Establish flight/AMU-specific emergency action procedures to respond to disaster control and severe weather and forward to MOC. **(T-3)**

2.10.20.1. Review unit responsibilities pertaining to aircraft/SE movement and personnel evacuation IAW DAFI 10-2501. **(T-3)**

2.10.21. Manage the flight/AMU's participation in the FOD and DOP program IAW **Chapter 11**.

2.10.22. Oversee the flight/AMU's FCC/Dedicated Crew Chief (DCC) Program (if applicable). **(T-3)**

2.10.23. Establish and enforce a flight/AMU Precious Metals Recovery Program, as applicable, IAW AFI 23-101 and TO 00-25-113, *Conservation and Segregation of Critical Alloy and Precious Metal Bearing Parts and Scrap*.

2.10.24. Assign section supervisors IAW this instruction and the UMD. **(T-3)**

2.10.25. Ensure proper asset management by reviewing MIS data records, the Repair Cycle Asset Management Listing (D23) and other pertinent products to minimize shortfalls. **(T-3)**

2.10.25.1. When applicable, ensure warranty items are loaded in MIS according to applicable directives. **(T-3)**

2.10.25.2. Ensure Deficiency Reports (DR) are accomplished IAW TO 00-35D-54.

2.10.26. Ensure repairable/non-repairable parts are promptly processed through repair channels within the required time frame IAW AFI 23-101.

2.10.26.1. Team with Decentralized Materiel Support (DMS) Flight Service Center to conduct a quarterly reconciliation of all DIFM assets and follow up on delinquent DIFMs and document action taken to correct identified discrepancies. **(T-3)**

2.10.26.2. Immediately identify lost, damaged, destroyed, or stolen assets that require a financial liability investigation IAW DoD 7000.14-R, Vol 12, Chapter 7, *Financial Liability for Government Property Lost, Damaged or Destroyed* (Formerly Report of Survey) and forward to Maintenance Supervision for review and processing. **(T-3)**

2.10.27. Approve requirements for bench stocks IAW qualification criteria in DAFMAN 23-122. **(T-3)**

2.10.28. Consolidate lists of items received in supply requiring functional check, operational programming, user calibration or corrosion control/painting. **(T-3)**

2.10.28.1. Submit listing to the LRS Materiel Management Flight IAW TO 00-20-3. **Note:** Does not include TMDE IAW TO 00-20-14.

2.10.29. Coordinate all AGE requirements through the AGE Flight Chief to ensure support capability and eliminate unnecessary duplication of equipment. **(T-3)**

2.10.30. Report cyber threats, incidents, and issues per Wing cyber status reporting procedures. **(T-3)**

2.10.30.1. Consult airframe Security Classification Guides, TOs, and/or applicable technical manuals, instruction and publication when addressing or reporting cybersecurity threats, incidents, and issues. **(T-3)**

2.10.31. Ensure Nuclear Weapons-Related Materiel (NWRM) is controlled IAW AFI 20-110.

2.11. Production Superintendent (Pro Super). Senior NCO responsible for squadron maintenance production. The Pro Super directs the overall maintenance effort of their unit. The Pro Super will be a SNCO or civilian equivalent. **(T-3)** Squadron specific Pro Super responsibilities are outlined in their respective chapters of this DAFI.

2.12. Section NCOIC/Chief. The Section NCOIC/Chief is responsible to the Flight CC/SUPT or AMU OIC/SUPT for the leadership, supervision, and training of assigned personnel. The Section NCOIC/Chief is a first-line manager and supervisor of maintenance production and is the technical authority and advisor in that area. When sections are subdivided, element leaders perform the appropriate functional responsibilities. The Section NCOIC/Chief will:

2.12.1. Establish a Work Center Safety Program IAW DAFI 91-202, DAFMAN 91-203, and include any locally prescribed safety requirements (if applicable).

2.12.2. Monitor, track, and ensure occupational safety, fire prevention, and occupational and environmental health requirements are accomplished for assigned personnel IAW DAFMAN 91-203.

2.12.2.1. Ensure Job Safety Training is documented IAW DAFI 91-202, (AF Form 55 or equivalent) for each assigned individual.

2.12.3. Ensure maintenance is performed by personnel who are trained, qualified, and certified, unless under the direct supervision of a trainer or certifier. **(T-3)**

2.12.4. Advocate use of the TO improvement program and ensure work center TO files are maintained according to TO 00-5-1. **(T-3)**

2.12.5. Establish procedures and ensure configuration control for all applicable software required for the sections assigned systems. **(T-3)** Section NCOIC/Chief will:

2.12.5.1. Access Computer Program Identification Number System (CPINS) in ETIMS or equivalent system. **(T-3)**

2.12.5.2. Ensure technicians check ETIMS/equivalent system for software updates for assigned systems. **(T-3)**

2.12.5.3. Ensure software configuration control is maintained IAW TO 00-5-16, *Management of Computer Program Identification Number System (CPINS)* and equivalent systems are maintained by use of AF approved and authorized publications.

2.12.6. Perform production and supervisory inspections. **(T-3)**

2.12.7. Validate classified parts/materiel are managed IAW AFI 23-101. **(T-3)**

2.12.8. On a daily basis review, monitor, and correct, as needed, the work center's scheduled and deferred events in the MIS. **(T-3)**

2.12.8.1. Close, reschedule, or defer all events beyond their scheduled start date and time (Integrated Maintenance Data System (IMDS)-CDB screen #100/380 and Field

Maintenance Command and Control (FMxC2) Screen #8035/8069/67150). **(T-3) Note:** G081 was renamed to FMxC2 August 2022.

2.12.9. Review transcribed AFTO Form 781-series forms, work center MIS data entries for the previous day, and all preceding non-duty days, for job accuracy and completeness (IMDS-CDB Screen #100 and FMxC2 Screen #9154). **(T-3)**

2.12.10. Validate scheduled aircraft document reviews using applicable MIS/records check package and automated aircraft forms IAW **Chapter 14**.

2.12.11. Develop and manage the Work Center Training Program. **(T-3)**

2.12.11.1. Evaluate the quality of maintenance, training, and personnel qualifications, track training requirements and ensure training documentation is complete and accurate. **(T-3)**

2.12.11.2. Conduct On-the-Job training (OJT)/certifying as required. **(T-3)**

2.12.12. Review and recommend changes for maintenance tasks requiring IPIs to the Flight Supervision. **(T-3)**

2.12.13. Review, evaluate, and take corrective action based on QA and other inspection reports. **(T-3)**

2.12.14. Ensure all required work center publications necessary for the work center to meet its functional requirements are current and available for use. **(T-3)**

2.12.15. Ensure section personnel coordinate all flightline maintenance with the Flightline Expediter. **(T-3)**

2.12.16. Manage CTK and supply programs (such as, bench stocks, and operating stocks) IAW **Chapter 8** and **Chapter 9**. **(T-3)** Section NCOIC/Chief will:

2.12.16.1. Ensure sections are organized with tools, equipment, and materiel as close to the Point of Maintenance as possible, as approved by the Flight Supervision, without jeopardizing accountability and control procedures. **(T-3)**

2.12.16.2. Ensure the Bench Stock Review Listing (M04) is reviewed monthly, and all recommendations are adjudicated to meet mission needs most efficiently. **(T-3)**

2.12.16.2. **(AETC)** Ensure XB3 MICAPs are reviewed for potential addition to bench stock.

2.12.16.3. Ensure work centers team with Decentralized Materiel Support or LRS/materiel management activity, to properly identify and dispose of all unserviceable or excess consumable items IAW AFMAN 23-122. **(T-3)**

2.12.17. Ensure custodial responsibilities are accomplished on all assigned equipment IAW AFI 23-101, and DAFMAN 23-122. **(T-3)**

2.12.18. Manage the section's Repair Cycle Program. **(T-3)** The Section NCOIC/Chief will review the D23 and other pertinent supply products to ensure proper supply discipline daily. **(T-3)**

2.12.19. Establish procedures to control, store, and manage Alternate Mission Equipment (AME); Maintenance, Safety, and Protective Equipment; and -21 equipment IAW DAFI 21-103. **(T-3)**

2.12.20. Identify items requiring calibration (does not include TMDE calibrated by the Precision Measurement Equipment Laboratory (PMEL)) or operational check before installation and provide a list of these items to the Flight Supervision. **(T-3)**

2.12.21. Recommend individuals for addition to the SCR to the Flight Supervision. **(T-3)**

2.12.22. Participate in and enforce the Bad Actor Program IAW TO 00-35D-54.

2.12.23. Manage Hazardous Materiel (HAZMAT) and Environment Safety and Occupational Health (ESOH) items IAW AFI 32-70XX-series instructions, and AFI 90-821.

2.12.23.1. Ensure HAZMATs are used IAW TOs and conform to indicated Military Specifications (MIL-Spec) and monitor the Qualified Products List/Qualified Product Database for changes to specified HAZMAT.

2.12.24. Ensure assigned NCE (applies to both nuclear and non-nuclear tasked units) comply with requirements outlined in AFI 63-125 and associated MAJCOM supplements.

2.12.25. Ensure Dull Sword reports are submitted for nuclear deficiencies IAW AFMAN 91-221 and DAFI 91-204.

2.12.26. Ensure aircraft -6 TO system, inspections, TCTOs and aircraft functional checks (except Isochronal (ISO), Phase (PH)/ Hourly Post-flight (HPO)) are accomplished as required to prevent overdue or over flight of equipment. **(T-3)**

2.12.27. Comply with TCTO performing work center requirements below:

2.12.27.1. Report all deficiencies in technical instructions and applicability to the TCTO managing agency and QA. **(T-3)**

2.12.27.2. Attend TCTO planning meetings. **(T-3)** Review the TCTO prior to the meeting and request clarification of any requirements from QA and the appropriate TCTO managing agency during the meeting.

2.12.27.3. Inventory TCTO kits for completeness prior to starting work. **(T-3)** If a discrepancy exists, contact the TCTO managing agency to resolve shortages.

2.12.27.4. Perform the inspection or modification procedures outlined in the TCTO and document results or findings in the MIS. **(T-3)**

2.12.27.5. If an inspection TCTO generates a requirement for parts, the performing workcenter will create a new Job Control Number (JCN) and enter the discrepancy in the AFTO Form 781A, Maintenance Discrepancy and Work Document, or applicable equipment record and order the required parts. **(T-3)** Inspection TCTOs are complete when the inspection is finished.

2.12.27.6. Order and maintain all HAZMAT required to comply with TCTOs and provide document numbers to the TCTO managing agency and supply TCTO monitor. **(T-3)**

2.12.27.7. Validate technical instructions and data on AFTO Form 82, *TCTO Verification Certificate*, when performing TCTO kit proofing IAW TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

Chapter 3

AIRCRAFT MAINTENANCE SQUADRON (AMXS)/GENERATION SQUADRON.

3.1. General. The AMXS/Generation Squadron provides direct MGN support by consolidating and executing on-equipment activities necessary to produce properly configured, mission ready weapon systems to meet contingency or training mission requirements. AMXS personnel service, inspect, maintain, launch, and recover assigned/transient aircraft (if applicable).

3.2. Maintenance Supervision Responsibilities. In addition to common responsibilities outlined in **Chapter 2**, Maintenance Supervision will:

3.2.1. Ensure standardized procedures and organizations among units as applicable to optimize effectiveness. **(T-3)**

3.2.2. Establish hot brake response procedures in coordination with base support agencies, for example, Fire Emergency Services and CDDAR Team. **(T-2)**

3.2.2. **(AETC)** Establish unsafe egress system response procedures in coordination with base support agencies (i.e., Fire Emergency Services, EOD). **(T-3)**

3.2.3. Monitor the squadron FCC program, if applicable. **(T-3)**

3.2.4. Ensure personnel use and understand the purpose of the AF Form 2408, *Generation Maintenance Plan*, and the AF Form 2409, *Generation Sequence Action Schedule*, or electronic equivalent. **(T-3)**

3.2.5. Ensure an explosive safety and chaff/flare academics and loading program is established for units without a 2W1 AFSC assigned (when applicable) IAW DESR6055.09_AFMAN91-201.

3.2.6. Publish procedures covering the storage, control, and handling of starter cartridges (if applicable). **(T-3)**

3.2.7. Provide input to MMA for the monthly metrics report to MAJCOM. **(T-2)**

3.2.8. Develops the annual maintenance plan IAW **Chapter 14**.

3.3. Aircraft Maintenance Unit (AMU). AMUs may include the following sections: Aircraft, Specialist, Weapons, Debrief, Supply and Support. MAJCOMs may approve additional sections and AFSC make up within existing sections to efficiently meet unique weapon system maintenance support requirements. **Note:** Organization modifications must be approved IAW AFI 38-101. In a Generation Squadron, AMUs are obsolete, but responsibilities of the unit and duty positions remain.

3.4. AMU OIC/SUPT Responsibilities. Allocates personnel and resources to the production effort. In addition to the common responsibilities in **Chapter 2**, the AMU OIC/SUPT will:

3.4.1. Review Pilot Reported Discrepancies daily and ensure proper maintenance actions are taken. **(T-3)**

3.4.2. Review all aborts and ensure proper maintenance actions are taken. **(T-3)**

3.4.3. Monitor aircraft PH/ISO/Periodic (PE)/Home Station Check (HSC) flow. **(T-3)**

3.4.4. Ensure a sufficient number of personnel are engine run qualified to meet maintenance requirements IAW **Chapter 11**.

3.5. Production Superintendent (Pro Super). In squadrons with eight or fewer assigned aircraft, Pro Super and Flightline Expediter duties may be combined. The Pro Super has responsibilities for:

3.5.1. Make the final determination on aircraft status after reviewing aircraft forms. **(T-3)** Additionally, the Pro Super will review the forms after aircrew debrief. **(T-3)**

3.5.2. Sign the Exceptional Release (ER) IAW TO 00-20-1 when authorized by the MXG/CC IAW **Chapter 11** and **Table 11.1**.

3.5.3. Participate in developing and executing the monthly and weekly flying and maintenance schedules/plans. **(T-3)**

3.5.4. Manage the maintenance production effort by assigning priorities to meet the flying and maintenance schedules. **(T-3)**

3.5.4. **(AETC)** Coordinate with PS&D on non-mission capable (NMC) aircraft scheduled to fly on the following day so a replacement aircraft may be selected prior to the daily scheduling meeting. **(T-3)**

3.5.5. Fully understand actions required by the squadron under OPLAN 8010 or contingency plans. **(T-3)**

3.5.5.1. Develop, ensure currency of, and direct the aircraft generation sequence. **(T-3)**

3.5.6. Fully understand and be prepared to implement specific disaster control duties and squadron responsibilities pertaining to aircraft/SE movement and personnel evacuation procedures developed IAW DAFI 10-2501 and emergency response guidebook. **(T-3)**

3.5.6.1. Pro Super will maintain a current copy of the on-base disaster map with cordon overlay and appropriate functional checklists outlining duties during disaster scenarios. **(T-2)**

3.5.7. Determine, track, and report aircraft/systems status IAW DAFI 21-103.

3.5.7. **(AETC)** Coordinate with operations scheduling (through PS&D) on the use of partial mission capable (PMC) or restricted aircraft.

3.5.8. Establish and track Estimated Time In Commission (ETIC). **(T-3)**

3.5.9. Monitor unit CDDAR Program activities and local procedures designed to protect personnel and prevent further damage to aircraft, equipment, and other resources. **(T-3)**

3.5.10. Inform MOC of the maintenance effort and coordinate with MOC, Flightline Expediter, and other squadrons for support. **(T-3)**

3.5.10. **(AETC)** Coordinate tail number changes (interchanges and spares) to scheduled sortie or mission lines with maintenance PS&D and operations scheduling. Inform MOC of any changes.

3.5.10.1. Pro Super will provide MOC with aircraft/systems status updates as required. **(T-3)**

3.5.11. Verify aircraft/system is in an authorized status IAW MDS-specific Minimum Essential Subsystem List (MESL) or MDS equivalent and DAFI 21-103 prior to verifying MICAP conditions. **(T-3)**

3.5.12. Verify aircraft weapons/load configurations are authorized IAW AFI 63-101/20-101. **(T-3)**

3.5.13. Review Condition Based Maintenance (CBM+) component forecast to ensure proactive maintenance practices are accomplished.

3.5.14. **(Added-AETC)** Assess the suitability of aircraft with repeat, recur, and CND discrepancies for continued flight.

3.6. Flightline Expediter. The Flightline Expediter ensures maintenance is accomplished and coordinates on all aircraft maintenance actions. Flightline Expediters manage, control and direct resources to accomplish maintenance. Flightline Expediters or equivalent will:

3.6.1. Remain on the flightline when maintenance personnel are performing flightline maintenance and launching/recovering aircraft. **(T-3)** Flightline Expediters engage in direct sortie generation activities and work directly for the production superintendent.

3.6.1.1. Not perform production inspections (such as, sign off "Red Xs" and perform IPIs) unless authorized by the SQ/CC. **(T-3)**

3.6.2. Coordinate with the Weapons Expediter, ensure requirements in DAFMAN 21-201 for flightline munitions accountability are strictly followed.

3.6.3. Develop and implement disaster control duties and squadron responsibilities pertaining to aircraft/SE movement and personnel evacuation IAW DAFI 10-2501.

3.6.4. Maintain and have available for immediate use copies of the following as a minimum: flying schedule, emergency action and functional checklists, base grid map with cordon overlay, IPI listings, MESL, Quick Reference List (QRL) (if developed), WUC manual, and tracking device for aircraft status. **(T-3) Note:** Base grid maps and cordon overlays may not always be available during contingency operations at austere locations. Effort should be made to obtain maps and overlays but may not be available.

3.6.4.1. Track, as a minimum, the following aircraft status information: aircraft serial number, location, priority, status and ETIC, configuration, OAP condition codes, fuel load, munitions load, and remarks. Show all limitations against the Full Systems List (FSL) and Basic System List (BSL) column as itemized on the MESL or MDS equivalent. **(T-3)** Ensure devices depicting aircraft status comply with program security requirements. **(T-3)**

3.6.5. Follow established CANN procedures and ensure all CANNs are accurately documented in the aircraft/system forms and MIS as described in **Chapter 11**.

3.6.6. Ensure aircraft OAP sampling is completed IAW **Chapter 11** and applicable technical data. **(T-3)**

3.6.7. Ensure parts are ordered with appropriate priorities and relay document numbers to the Pro Super, MOC, and appropriate technicians. **(T-3)**

3.6.7.1. Ensure timely turn in of DIFM items to DMS/supply IAW AFI 23-101.

3.6.8. Request support beyond unit capability to the MOC. **(T-3)**

3.6.9. Direct AGE drivers to position AGE as required and notify the driver of AGE on the flightline or sub-pools that require maintenance. **(T-3)**

3.6.10. Ensure timely and accurate aircraft status (for example, discrepancies, WUC/LCN, ETIC, job completion) and configuration status is reported IAW DAFI 21-103 to the Pro Super and MOC. **(T-3)**

3.6.11. Ensure completed aircraft forms are provided to the debrief function by the end of the flying day if debriefs have been suspended due to surges. **(T-3)**

3.7. Aircrew and Maintenance Debrief Section. Debrief is conducted at the termination of each sortie/mission or when a sortie/mission is aborted. Aircraft scheduled for turn-around sorties/missions need not be debriefed if returned in landing status Code 1 or 2. However, debriefing is required, regardless of landing status, after the last flight of the day for each aircrew. MAJCOMs operating RPAs will develop and publish debrief procedures for Remote Split Operations in their supplements or addendum for both aircraft and ground control stations to adequately capture all maintenance discrepancies. The Debrief Section will:

3.7.1. Use aircraft fault reporting manuals and include fault codes when documenting discrepancies in the aircraft forms. **(T-3)** Debrief Section will use automated debrief tools such as the Computerized Fault Reporting System. **(T-3)**

3.7.1.1. Debrief Section will develop local aircrew debriefing guides when not provided and managed by the Weapon System PM. **(T-3)** QA will review and approve local aircrew debriefing guides every two years. **(T-3)**

3.7.1.1. **(AETC)** Units may implement debriefing guides/checklists developed by the respective weapon system lead command. KC-46 units must use the Lead Command KC-46A Debriefing Checklist **https://www.my.af.mil/gcss-af/USAF/AFP40/d/s6925EC1353610FB5E044080020E329A9/Files/a4m/a4mp/debrief/hello.html**.

3.7.2. Implement procedures for reporting dropped objects, aborts, code 3 flight control malfunctions and engine malfunctions. **(T-3)**

3.7.2. **(AETC)** Ensure T-38 aircrew complete AETC Form 209, to document engine stalls or flameouts for inclusion in AETC Significant Event reporting.

3.7.3. Use operational utilization update screens in MIS to enter flying time information. **(T-2)** Debrief Section will ensure flying times and installed engine Event History Recorder (EHR) readings, for both home station and deployed sorties/missions, are updated no later than the next duty day after occurrence. **(T-3)**

3.7.4. Check AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance*, to ensure updates to airframe time and applicable servicing data (in-flight/hot pit refueling) are entered on the AFTO Form 781H or equivalent and/or applicable debrief system during the pilot/aircrew debrief. **(T-3)**

3.7.5. Input discrepancy verbatim and deviation information, utilization, and applicable flight data (to include landing status, system capability IAW DAFI 21-103 and other applicable cause codes) into the MIS. **(T-3)** Unless using an automated 781 process, do not send AFTO Form 781-series forms to Operations Squadron(s) or to Aviation Resource Management before MIS updates. Use local backup procedures for recording data when the MIS is unavailable.

3.7.5. **(AETC)** Maintenance debriefing is a critical element in the data integrity process. Complete and accurate debriefing must be accomplished to ensure all utilization, deviation, pilot reported discrepancies, and repeat/recur information is captured. Use the specific line/mission number published in the weekly schedule when inputting debrief data into the MIS.

3.7.6. Utilize MIS to identify and research discrepancies for repeat/recur trends and document them accordingly on the AFTO Form 781A. **(T-3)** Debrief Section will ensure previously documented discrepancies are reviewed and identified as repeat/recurs. **(T-3)**

3.7.6.1. Debrief Section will identify repeat/recurs on automated debriefing sortie recaps and on the AFTO Form 781A. **(T-3)**

3.7.6.2. **(Added-AETC)** When a TO requires an in-flight operational check to verify a maintenance action, or required test equipment is not available (inoperative), a repeat will not be counted if the operational check fails on the next sortie. Repeats are not recorded until a successful in-flight operational check has been documented.

3.7.7. Use the appropriate landing status code (**Table 3.1**) and the appropriate system capability code (**Table 3.2**) for the completion of a sortie/mission. **(T-3)**

3.7.8. Provide the MOC with aircraft identification numbers and system WUCs for each aircraft debriefed with a landing status Code-3 IAW **Table 3.1** using the approved MESL or MDS equivalent IAW DAFI 21-103.

3.7.9. Enter one of the deviation cause codes (**Table 3.3**) into the MIS. **(T-3)** Indicate the reason for the deviation and the agency that caused a deviation as referenced in applicable MIS guidance.

3.7.9. **(AETC)** Deviation cause code "Xxx" (**Table 3.3**) will not be used without prior approval from Maintenance Management Branch (19 AF/A4P). **(T-2)**

3.7.10. Collect and submit ASIP aircraft usage data IAW the MDS specific TOs, DAFI 63-140, and **Chapter 11** of this instruction.

3.7.11. If MIS is not available, use blank printouts as manual documentation method. **(T-3)** If deployed, send documents to home station for data transcribing by the most expeditious means available. Debrief Section will turn in, validate, and reconcile all documents with the MIS when it becomes available. **(T-2)**

Table 3.1. Landing Status Codes.

CODE	STATUS
Code 0	Ground Abort
Code 1	Aircraft Mission Capable (MC) with no additional discrepancies
Code 2	Aircraft or system has minor discrepancies but is capable of further mission assignment.
Code 3	Aircraft or system has major discrepancies in mission essential equipment that may require extensive repair or replacement prior to further mission assignment. The discrepancy may not affect safety-of-flight and the aircraft may be Non-Mission Capable (NMC) flyable.
Code 4	Aircraft or system has suspected or known radiological, chemical, or biological contamination.
Code 5	Aircraft or system has suspected or known battle damage.
Note: Debrief will enter code “8” in MIS for aircraft debriefed as code “4” or “5”. MESL or MDS equivalent requirements determine if aircraft status is NMC or Partially Mission Capable (PMC).	

Table 3.2. System Capability Codes.

CODE	STATUS
Code 0	System flown with a known discrepancy; no additional discrepancies noted. System can be used.
Code 1	System used and performed satisfactorily. No maintenance required.
Code 2	System used and performed satisfactorily. A minor malfunction exists, but system is capable of further mission assignment.
Code 3	System performance was unsatisfactory. This system did not cause an abort.
Code 4	System performance was unsatisfactory. This system caused or contributed to an abort.
Code 5	System out-of-commission prior to takeoff.
Code 6	System installed but not used.
Code 7	System not installed.
Code 8	Aircraft or system has suspected or known radiological/biological contamination.

Table 3.3. Deviation Cause Codes.

CODE	DEVIATION REASON
ATx	Air Traffic
GAA	Ground Abort, before engine start, maintenance
GAB	Ground Abort, after engine start, before taxi, maintenance
GAC	Ground Abort, after taxi, maintenance
HQT	Higher Headquarters
HQN	Higher Headquarters, NAF
HQP	Higher Headquarters, other
MTx	Maintenance
OPx	Operations
SUx	Supply
SYx	Sympathy
WXx	Weather
OTx	Other
Xxx	MAJCOM/local use
Note: Use x for any character for MAJCOM/local use.	

3.8. Aircraft Section. The Aircraft Section is the primary work center responsible for maintaining assigned aircraft. This section performs tasks to include servicing, scheduled and unscheduled maintenance, pre-flights, thru-flights, basic post-flights, home station checks, special inspections, corrosion control, cleaning, ground handling, launch/recovery of aircraft, troubleshooting and adjustment, on-equipment repairs and component removal/replacement, documenting maintenance actions, and managing aircraft forms. AMUs with 18 or more Primary Aerospace Vehicle (Aircraft) Inventory (PAI) aircraft may have two Aircraft Sections. The Aircraft Section consists of Aircraft Technicians. Refer to **Chapter 11** for FCC responsibilities.

3.8.1. Aircraft Technician:

3.8.1.1. Perform ground handling, servicing, -6 inspections, alert duties, maintenance ground tests, corrosion control, lubrication and maintenance and modification preparations, as applicable, on the assigned aircraft/system.

3.8.1.2. Inventory on-aircraft -21 equipment when this responsibility is not assigned to another function.

3.8.1.3. Perform engine operation when qualified and certified.

3.8.2. Dedicated Crew Chief (DCC) Program. The objective of a DCC program is to directly assign a maintenance person to each aircraft to provide continuity/accuracy of aircraft forms, aircraft status, scheduled maintenance, and improve aircraft appearance. DCCs manage and supervise maintenance on their aircraft. DCCs are selected on the basis of initiative, management and leadership ability, and technical knowledge. When authorized, ensure the DCC's and Assistant Dedicated Crew Chief name and rank is stenciled or painted on their assigned aircraft. Use only authorized wing paint scheme and marking procedures in TO 1-1-8. In addition to Aircraft Technician responsibilities, DCCs, if assigned:

3.8.2.1. Accompany their aircraft through scheduled inspections and assist the Inspection Section NCOIC/Chief as needed.

3.8.2.1.1. Attend pre- and post-dock meetings.

3.8.2.1.2. Assist the Inspection Section NCOIC/Chief with completing the required document review and validation at the end of the inspection.

3.8.2.2. Coordinate with Pro Supers and expediters for downtime to accomplish scheduled and unscheduled maintenance.

3.8.2.3. Manage deferred discrepancies.

3.9. Specialist Section. The Specialist Section is responsible for aircraft systems troubleshooting, on-equipment repairs, component removal and replacement, aircraft avionics systems, classified item management, aircraft ground handling, servicing, and cleaning. The section may include avionics, propulsion, hydraulic, and electro/environmental technicians, and other specialties approved through higher headquarters. When used, the Specialist Section Expediter coordinates maintenance priorities with the Pro Supers and Flightline Expediters.

3.9.1. In addition to the common responsibilities in **Chapter 2**, the Specialist Section Chief:

3.9.1.1. Ensures accurate and timely pod and support equipment status is updated or verified daily in Reliability, Availability, Maintainability, for Pods IAW DAFI 21-103 for pods under the control of the Aircraft Maintenance Squadron.

3.9.2. Avionics Specialists:

3.9.2.1. Perform PACER WARE, SERENE BYTE message, or TCTO reprogramming of avionics systems. **(T-3)**

3.9.3. Electronic Warfare (EW) specialist functions may be combined with the avionics specialists. EW Specialists:

3.9.3.1. Maintain inventory control of all installed Electronic Counter Measure (ECM) AME and ECM pods. **(T-3)**

3.9.3.2. Perform reprogramming of avionics/electronic warfare systems (to include electronic attack pods) IAW applicable mission directives, PACER WARE/SERENE BYTE messages, or TCTO requirements. **(T-3)**

3.9.3.3. Load contingency and training configuration settings in ECM pods, infrared countermeasures systems, and Radar Warning Receiver/Radar Threat Warning systems, unless the equipment is assigned to another section. **(T-3)**

3.9.4. Propulsion Specialists:

3.9.4.1. Troubleshoot, repair, and replace aircraft propulsion systems and components. **(T-3)**

3.9.4.2. Perform engine flightline blade blending. **(T-3)**

3.9.4.3. Perform flightline engine borescope inspections. **(T-3)**

3.9.4.4. **(Added-AETC)** Accomplish J85 Retained Task Requirements IAW TO 1T-38C-2-6, *Power Plant*; TO 2J-J85-111-1, *Engine Test, Troubleshooting, Preservation, and Post-Test Handling Turbojet Engine;* and the 2J-J85-116 series TOs on installed and removed engines. Refer to **paragraph 13.4.5** for additional requirements.

3.9.4.5. **(Added-AETC)** Ensure J85 engines removed for repair and reinstalled in the same aircraft, which do not require Jet Engine Intermediate Maintenance induction, are Workscope Cost Optimized using the flightline tab of System Engineered Maintenance Planning and Logistics (SEMPL) to ensure engine repairs meet a minimum estimated time on wing goal. **(T-2)**

3.9.5. Electrical & Environmental (E&E) Specialists:

3.9.5.1. Troubleshoot, repair, and replace aircraft E&E system components including aircraft environmental control, bleed air, vacuum, pneumatic, installed fire extinguishing and suppressant systems, Liquid Oxygen (LOX) and Gaseous Oxygen (GOX) systems, and On-Board Oxygen Generating Systems (OBOGS), On-Board Inert Gas Generation Systems (OBIGGS) and components. **(T-3)**

3.9.5.2. Remove and install In Flight Refueling (IFR) carts and fire bottle squibs. **(T-3)** **Note:** Ensure only approved temporary storage locations are used for these components.

3.9.6. Hydraulic Specialists will maintain authorized on-equipment/off-equipment pneumatic and hydraulic systems and components. **(T-3)**

3.10. Weapons Section/Expediter/ Loading Element/ Maintenance Element/ Non-Standard Weapons Sections. See AFMAN 21-206 for duties and responsibilities.

3.10.1. - 3.10.5.8. DELETED.

3.11. Support Section. The Support Section may include the following elements/functions to support unit flightline maintenance activities; support (CTKs/special tools, eTools, test equipment, TOs, bench stock), -21 equipment, AME, mobility equipment and DMS. Personnel will be assigned to the Support Section for a minimum of 12 months. **(T-3)** Personnel may be required to maintain task qualifications/certifications to ensure units can meet readiness and Core Mission Essential Task List (METL) requirements in Defense Readiness Reporting System-Strategic (DRRS-S) IAW AFI 10-201. Support Sections must standardize procedures across the squadron for security, control, and accountability of equipment. **(T-2)** Materiel support procedures in this section do not apply to aircraft supported by Contractor Operated and Maintained Base Supply. The Support Section:

3.11.1. Maintains TOs IAW TO 00-5-1.

3.11.2. Maintains bench, shop, and operating stocks IAW AFI 23-101, and **Chapter 9** of this instruction.

3.11.3. Ensures maintenance, control, and storage of assigned AME, -21 equipment, and Maintenance, Safety, and Protective Equipment IAW DAFI 21-103.

3.11.3.1. Develops local procedures to control and store other equipment not identified as -21 equipment (such as, aircraft galley items, U-2 pod panels, aircraft pylon attachment cover panels, aircraft covers/plugs) using DAFI 21-103 guidelines.

3.11.4. Ensures proper calibration, use, care, handling, and transportation of TMDE IAW TO 00-20-14, AFMAN 21-113, and applicable Calibration Measurement Summaries.

3.11.5. Maintains and manages squadron Land Mobile Radio (LMR) IAW **Chapter 11** (as applicable).

3.11.6. Monitors the status of critical support equipment and testers for serviceability, accountability, and status of TCTO modifications. **(T-3)** Support Section will provide monthly critical support equipment status update to Maintenance Supervision. **(T-3)**

3.11.7. Maintains tools/CTKs IAW **Chapter 8**.

3.12. Unit Decentralized Materiel Support (DMS). In addition to the responsibilities in **Chapter 9** for DMS procedures, DMS personnel:

3.12.1. Requisition parts and use supply management products. Initiate follow-up action when necessary. **(T-3)**

3.12.2. Notifies Flightline Expediter of all back-ordered parts. **(T-3)**

3.12.3. Develops and maintains a QRL as needed and provide it to technicians. **(T-3)**

3.12.4. Tracks and processes DIFM assets, to include warranty parts IAW AFI 23-101. **(T-3)**

3.12.4.1. Notifies unit leadership when DIFM asset turn-in times exceed requirements outlined in AFI 23-101. **(T-3)**

3.12.5. Manages reusable containers IAW DAFI 24-602V2, *Cargo Movement*, and TO 00-20-3. **(T-3)**

3.12.6. Controls and manages aircraft TNB if stored within the Support Section. **(T-3)** When FOM assets are collocated with TNB, the items must be similarly controlled and managed. **(T- 3)**

3.12.7. Coordinates with the Pro Super and Flightline Expediter(s) for “mark for” changes. **(T- 3)**

3.12.8. Manages the unit’s CANN program supply transactions and the associated documentation. **(T-3)**

Chapter 4

MAINTENANCE SQUADRON (MXS)/GENERATION SQUADRON.

4.1. General. The MXS/Generation Squadron supports MGN operations by providing centralized back shop support to perform on and off equipment maintenance tasks that are assigned to a specific back shop function. The MXS provides both organizational and intermediate level maintenance described in the "Maintenance Concept" section in **Chapter 1** of this DAFI. Bases with permanently assigned Centralized Repair Facilities (CRF), which support enterprise RN functions, will develop, and document the division of responsibilities between the MGN and RN, as outlined in **Chapter 13** of this DAFI, to ensure both local and enterprise mission requirements are met. IAW AFI 38-101, the MXS may consist of personnel from various AFSCs organized into flights: Propulsion Flight, Avionics Flight, TMDE Flight, Accessories Flight, AGE Flight, Fabrication Flight, Armament Flight, Maintenance Flight, and Munitions Flight. The MXS maintains AGE, munitions, off-equipment aircraft, and support equipment components; performs on-equipment maintenance of aircraft and fabrication of parts; and provides repair and calibration of TMDE. **Note:** For purpose of this instruction, MXS represents MXS, Equipment Maintenance Squadron (EMS), and Component Maintenance Squadron (CMS).

4.2. Maintenance Supervision Responsibilities. Maintenance Supervision manages the resources to accomplish the workload. **Note:** In a Generation Squadron, MXSs are obsolete but responsibilities of the unit and duty positions remain. In addition to general responsibilities in **Chapter 2**, Maintenance Supervision:

4.2.1. Reviews and consolidates monthly maintenance plan inputs from flights/sections and forward to Maintenance Operations PS&D. **(T-3)**

4.2.2. Optimizes local repair capability by ensuring base level repair constraints (for example, lack of equipment, manpower, parts) are elevated to the Repair Network Manager (RNM) and applicable stakeholder(s) IAW DAFI 20-117, TO 00-20-3, and **Paragraph 1.3.2** of this DAFI, and MAJCOM supplements to keep repair at the lowest level. **(T-2)**

4.2.3. Ensures EOR procedures for transient aircraft are developed IAW TO 00-20-1 and MAJCOM supplements. **(T-3)**

4.2.4. Ensures the MXS and WS develop procedures for required weapons loading actions on transient aircraft, storage of transient aircraft impulse cartridges, and requisition and maintenance of weapons safing equipment for common transient types of aircraft. **(T-3)**

4.2.5. Ensures local manufacture capability and fabrication process is controlled IAW this instruction. **(T-3)**

4.2.6. Ensures MXS personnel utilize Engineering Technical Service (ETS) personnel and the Joint Engineering Data Management Information and Control System (JEDMICS) **https://jedmics.af.mil/webjedmics/index.jsp** to obtain information and specifications when the information in TOs does not provide enough detail. **(T-3) Note:** For drawings not available electronically, contact the appropriate JEDMICS help desk.

4.2.7. DELETED.

4.3. MXS Production Superintendent (Pro Super). Monitor backshop production and flightline operations and coordinate support and priority with other squadron Pro Supers and MOC.

(T-3) Focuses overall maintenance efforts toward MXG maintenance priorities. Identifies production requirements and shortfalls to Maintenance Supervision. **(T-3)**

4.3.1. & 4.3.2. DELETED.

4.4. Accessories Flight. The Accessories Flight normally consists of four sections; Electrical and Environmental (E&E), Egress, Fuels, and Hydraulics and is responsible for performing on/off-equipment maintenance of systems and equipment.

4.4.1. Accessories Flight CC/Chief Responsibilities. In addition to the common responsibilities in **Chapter 2**, the Accessories Flight CC/Chief:

4.4.1.1. Ensures an egress training program is established IAW this instruction. **(T-3)**

4.4.1.2. Coordinates with squadron superintendents or civilian equivalent to ensure assigned personnel rotation plans are established to comply with core task upgrade requirements. **(T-3)**

4.4.1.3. Ensures explosives are controlled and stored in approved storage areas/containers IAW DESR6055.09_AFMAN91-201.

4.4.2. Electrical and Environmental (E&E) Section. The E&E Section performs authorized local manufacture, repair, overhaul, testing, modification, and inspection of aircraft and SE electrical components, wiring harnesses, batteries, and charging units. The E&E Section:

4.4.2.1. Ensures battery disposal procedures meet applicable environmental standards and batteries are controlled for accountability purposes. **(T-0)**

4.4.2.2. Performs on/off-equipment maintenance on aircraft electrical and environmental systems and components. **(T-3)**

4.4.2.3. Repairs LOX/GOX/Liquid Nitrogen servicing units/carts. **(T-3) Note:** AGE performs chassis, enclosure, and trailer maintenance on gaseous and cryogenic servicing units and all maintenance on Self-Generating Nitrogen Servicing Carts.

4.4.2.4. Performs off-equipment maintenance for aircraft and aircrew Carbon Dioxide cylinders. **(T-3)**

4.4.2.5. Performs off-equipment maintenance on type MA-1 portable breathing oxygen cylinders (portable walk around bottles) and regulators, to include removing/replacing the regulator and purging the bottle. **(T-3) Note:** Ownership and storage of these cylinders remain with the appropriate support section.

4.4.3. Egress Section. The Egress Section maintains aircraft egress systems, components, and trainers (such as, aircraft ejection seats, extraction and escape systems, egress components of jettisonable canopies, explosive components of escape hatches/doors) and stores egress explosive components that are removed to FOM. Wings will identify the base level organization responsible for locating inadvertent beacon activations on the flightline and configuring survival kit personnel locator beacons (on-aircraft). **(T-3)**

4.4.3.1. The Egress Section:

4.4.3.1.1. Performs all off-equipment ejection seat maintenance in the egress maintenance facility compliant with Defense Explosives Safety Regulation 6055.09_DESR6055.09_AFMAN 91-201and TO requirements.

4.4.3.1.2. Ensures all personnel use the Demand Response Team during any task requiring the removal/installation of explosive components, and during egress final inspections. **(T-3)=3**

4.4.3.1.2.1. Demand Response Teams will be comprised of individuals who are certified to perform egress maintenance. **(T-3)** At least one team member must be a certified egress journeyman. **(T-3)**

4.4.3.1.2.1. **(AETC)** Egress augmentees may be utilized as part of an egress maintenance team to perform on-equipment maintenance, such as ejection seat and canopy removals or installations and egress final inspections, but not modular component removals or installations. Do not use augmentees to perform egress off-equipment maintenance actions. **(T-2) Note:** Ejection seats undergoing periodic maintenance are exempt from the demand-response concept once explosive components have been removed.

4.4.3.1.3. Coordinate with PS&D and monitor the weekly maintenance schedule to identify egress items requiring removal for scheduled time changes/maintenance. **(T-3)**

4.4.3.1.4. Utilize a facility that meets the requirements of DAFMAN 32-1084, *Facility Requirements*. Locations are established IAW DESR6055.09_AFMAN 91-201 to store explosive components and ensure they are properly licensed.

4.4.3.1.4.1. Egress Section will ensure licensed explosive area will not exceed the licensed Net Explosive Weight capacity for each Hazard Division without approval from Wing Safety. IAW DESR6055.09_AFMAN 91-201.

4.4.3.1.4.1. **(AETC)** Only egress section personnel will be authorized unescorted entry to the egress licensed explosive location. **(T-2)**

4.4.3.1.5. **(Added-AETC)** Accomplish the removal and replacement of drogue chutes, if applicable. In addition, only egress personnel will remove and install parachutes and survival kits on T-6 and T-38 aircraft. **(T-2)**

4.4.3.2. The Egress Section NCOIC/Chief will:

4.4.3.2.1. Ensure ejection systems are “safed” IAW with 00-80G-series technical orders and DESR6055.09_AFMAN 91-201 prior to an aircraft being placed on static display. **(T-3)**

4.4.3.2.2. Ensure egress systems on training aircraft are de-armed/“safed” IAW MDS specific TOs when an aircraft is used for Fire Emergency Services and/or aircrew extraction training. **(T-3)**

4.4.3.2.2. **(AETC)** For T-6 aircraft, and T-38 aircraft after TCTO 1T-38C-546, the egress system will be made safe for fire department training and aircrew extraction training by using tie-straps to lock the ejection handle safety pin to the ejection handle. **(T-2)**

4.4.3.2.3. Ensure aircraft (to include GITA) are "safed” IAW 00-80-series TOs.

4.4.3.2.4. Ensure all permanently decommissioned static display aircraft explosive devices are removed and turned in to munitions inspections IAW DAFMAN 21-201. Egress Section will sign the appropriate block on the AF Form 3580, *USAF Heritage*

Program Aerospace Vehicle Static Display Egress and Safety Certificate, which is retained by the Historical Property Custodian(s). **(T-3)**

4.4.3.2.5. Request assistance from Explosive Ordnance Disposal (EOD) when egress explosive devices are damaged or suspected to be unsafe. **(T-3)**

4.4.3.2.5. **(AETC)** Request assistance from Explosive Ordinance Disposal when any mechanical linkage/equipment that, if not in its normal condition could result in an inadvertent actuation of the egress sequence, are damaged or suspected to be unsafe.

4.4.3.2.6. Establish egress training program requirements and conduct reviews IAW AFI 36-2650. **(T-2)**

4.4.3.2.6.1. As a minimum, the program will include: a master training plan, explosive safety certification requirements, and MIS time change documentation qualification minimums. **(T-3)**

4.4.3.2.6.2. Certification requirements.

4.4.3.2.6.2.1. Trained and certified egress 5-levels and above reassigned to another base or unit are not required to complete the Organizational Maintenance (on-equipment) egress technician course unless required by the Egress Section NCOIC/Chief.

4.4.3.2.6.2.1. **(AETC)** Ensure civil service and contractor egress personnel have completed the Aircrew Egress Systems Apprentice Course. Civil service and contractor egress maintenance personnel who possess, as a minimum, one year of experience within the last three years performing egress maintenance, repair, inspections, etc., may be considered for a waiver. Waiver requests will be submitted to the Aerospace Systems Branch (19 AF/A4MS) for review and forwarded to the 2A6X3 Career Field Manager for approval/disapproval IAW AFI 36-2650.

4.4.3.2.6.2.2. **(Added-AETC)** Egress personnel assigned to work T-6/T-38 aircraft must also complete a Maintenance Resource Branch (19 AF/A4PR)/A4MS approved egress technician course for the T-6/T-38 aircraft. **(T-2)**

4.4.3.2.6.2.3. **(Added-AETC)** Initial qualification/certification training is provided to a selected cadre of civil service and contractor egress personnel on new equipment or processes as specified by the statement of work or PWS. The contractor shall develop a comprehensive training program. As a minimum, training plan shall include a service provider Familiarization Course, a structured MDS specific on the job training program and a position task evaluation/certification process. The training program shall also contain procedures to ensure employees are fully trained, task proficient, and task certified prior to being declared position qualified. **(T-2)**

4.4.3.2.6.2.4. **(Added-AETC)** 19 AF/A4PR and 19 AF/A4MS will approve the egress technician course at all T-6 and T-38 civil service and contract organizations. Revisions to courses must be approved by 19 AF/A4PR, /A4MS, and A4RP. **(T-2)** The approval level for periodic course reviews that do not

result in changes will be IAW AFI 36-2650.

4.4.3.2.6.2.5. **(Added-AETC)** Contracting Officer Representative (COR) training: All newly appointed aircraft maintenance CORs at locations with egress-equipped aircraft will attend an AETC approved egress familiarization training course for all assigned aircraft. In addition, newly appointed CORs who will directly evaluate egress maintenance activities will complete an egress training course on at least one aircraft type that they will evaluate. **(T-2)** Chief CORs are to request this training through 19 AF/A4PR and will make every effort to coordinate this training to coincide with the individual's initial COR training.

4.4.3.2.6.2.6. **(Added-AETC)** QA personnel (active duty, civil service, and contractor) assigned to inspect egress system maintenance must first complete egress explosive safety training, followed by an AETC Egress Technician Course (Plan of Instruction conducted locally) for the specific aircraft they are responsible to inspect. Once training is completed, QA personnel will be certified initially and annually by a certified egress technician by demonstrating their ability to safely conduct egress systems inspections.

4.4.3.2.6.3. Decertification requirements:

4.4.3.2.6.3.1. Decertify egress personnel after not having performed egress maintenance for more than 18 months. **(T-3)** Instructing and inspecting egress maintenance is not considered performing maintenance.

4.4.3.2.6.3.2. Document decertification IAW DAFMAN 36-2689.

4.4.3.2.6.4. Recertification requirements:

4.4.3.2.6.4.1. Recertify egress personnel who have not performed egress maintenance for 18 months. **(T-3)**

4.4.3.2.6.4.2. Recertification must be accomplished by a 2A673 trainer and certifier. **(T-3)**

4.4.3.2.7. Review and validate all egress familiarization training documents at least every 24 months. **(T-3)**

4.4.3.2.8. Ensure the egress Time Change Item (TCI) data in the MIS is accurate. **(T-3)**

4.4.3.2.8.1. Ensure automated data products will be updated whenever an egress item is replaced to ensure the annual TCI forecast is correct. **(T-3)**

4.4.3.2.8.2. Ensure separate databases are not used to manage the egress TCI program. **(T-3)**

4.4.3.2.8.3. Ensure component background information is provided to PS&D to include a list of all components having multiple part numbers with a different service life. **(T-3)**

4.4.3.2.9. Reconcile and verify each aircraft's egress data annually with PS&D. **(T-3)**

4.4.3.2.9.1. Document the annual verification on the AF Form 2411, *Inspection Document* maintained in the aircraft jacket file. **(T-3)**

4.4.3.2.9.2. **(Added-AETC)** Verification will ensure the data recorded in the MIS corresponds with the items installed on ejection seat(s), canopy, and aircraft as applicable. **(T-2)** Use of MIS time change screen(s) (257, 469, 396, etc.), which are validated against section records meets this intent. Verify shelf/service life due dates against current TO life frequencies, correct load of JST, and item data matches. **(T-2)**

4.4.3.2.10. Establish local egress systems documentation requirements: **(T-3)**

4.4.3.2.10.1. Egress Section will maintain an egress tail number binder for each assigned aircraft. **(T-3) Note:** This binder should not be confused with the aircraft jacket file of historical records maintained by PS&D but serves to standardize the format for maintaining egress documentation requirements across AF egress shops. As a minimum the binder will include:

4.4.3.2.10.1.1. Binder Spine - Aircraft assigned Serial Number. **(T-3)**

4.4.3.2.10.1.2. Front Cover - Delayed Discrepancies. **(T-3)**

4.4.3.2.10.1.3. Tab A – PRA or 5th Gen equivalent (Cross reference sheet stating digital location of data). **(T-3)**

4.4.3.2.10.1.4. Tab B – Completed In-Shop Maintenance Flow Sheet(s). **(T-3)**

4.4.3.2.10.1.5. Tab C – Completed Major Inspection Flow sheet(s) (for example, 36 month), or equivalent (if Mission Design Series applicable). **(T-3)**

4.4.3.2.10.1.5.1. Annotate pull check/inspection results on the flow sheet. **(T-3)**

4.4.3.2.10.1.6. Tab D – Egress Configuration Screen (IMDS 257 or 5th Generation equivalent), current manual Cartridge Actuated Device/Propellant Actuated Device (CAD/PAD) collection sheets. **(T-3)**

4.4.3.2.10.1.7. Tab E – Completed Time Change Item Replacement Sheets, for example, locally generated or equivalent. **(T-3)**

4.4.3.2.10.1.8. Tab F – Significant Historical Data (AFTO 95 or equivalent (cross reference to MIS maybe used), Depot/Program Depot Maintenance (PDM) package, -107 TAR or ETARs). **(T-3)**

4.4.3.2.10.1.9. Tab G – Misc. (example, PAIR, Extension Letters). **(T-3)**

4.4.3.2.10.1.10. Tab H AF Form 2411, *Inspection Document*. **(T-3)**

4.4.3.2.11. A certified egress inspector (for example, Red X, IPI certified and tracked on the SCR IAW **Table 11.1**) will inspect any integral part of the egress system when any maintenance other than a visual inspection is performed. **(T-3)**

4.4.3.2.11.1. The inspection must be an egress final inspection unless another inspection is prescribed by technical data. **(T-3)**

4.4.3.2.11.2. Egress personnel will conduct an egress final every 30 days on ejection seats that have integrated personnel/recovery parachutes and/or survival kits as part of the seat if prescribed by technical data. **(T-3)**

4.4.3.2.11.2. **(AETC)** If egress final inspections are not performed in conjunction with aircrew life support 30-day inspections, egress supervisors will establish procedures with plans and scheduling to ensure no aircraft goes overdue on an inspection.

4.4.3.2.12. Egress Sections may store spare parachutes and survival kits for use in responding to Red Ball and unscheduled maintenance events.

4.4.3.2.13. **(Added-AETC)** Ensure (CAD/PAD) verification procedures are followed. **(T-2)**

4.4.3.2.13.1. **(Added-AETC)** CAD/PAD verification and validation will ensure the data recorded in the MIS corresponds with the items installed on the ejection seat, canopy, and aircraft. An optional method of maintaining CAD/PAD verifications is to provide PS&D and egress a shared drive where read-only, password-protected planning requirements (PRAs) are posted. The focus of the CAD/PAD verification is to ensure the MIS is always correct.

4.4.3.2.13.2. **(Added-AETC)** As a minimum, CAD/PAD components and harnesses installed on non-Advanced Concept Ejection Seat II (ACES II) egress systems will be validated during major periodic inspections (PE). **(T-2)** Validate ACES II CAD/PAD components during the 36-month seat inspection. Limit verification of ACES II and non-ACES II CAD/PAD installed components to visually accessible items; however, the full extent of physical CAD/PAD inspections is left to the discretion of the respective egress section chief/foreman. The survival equipment function will perform drogue chute verifications during chute repacks. T-38 inertia reels do not require removal for the sole purpose of obtaining information from the rotary actuator.

4.4.3.2.13.3. **(Added-AETC)** Egress will correct any discrepancies discovered in the MIS during the verification procedures outlined in paragraph **4.4.3.2.13.4** through **4.4.3.2.13.8**. **(T-2)** Egress will request a current MIS egress-only PRA from the data base manager and provide PS&D a signed, verified, and updated copy of the PRA. **(T-2)** Egress sections using IMDS-CDB may utilize screen 257, *Egress Configuration Listing*, in place of the PRA.

4.4.3.2.13.4. **(Added-AETC)** Egress personnel will reconcile the data listed on their CAD/PAD verification sheet (extracted from the installed components) with the data listed on the existing PRA filed in the work center file. **(T-2)** The minimum data requiring verification include the component part or serial number, lot number, position installed, date of manufacture, date of installation, date of expiration, egress indicator, and time change frequency listed in applicable 11A- or 11P-series TOs.

4.4.3.2.13.5. **(Added-AETC)** If the data matches (no errors or omissions are noted), egress will request an updated MIS egress-only PRA from the data base manager to ensure the accuracy of CAD/PAD components and harnesses recorded in the MIS. The egress technician or supervisor performing the verification will sign all copies of the current PRA and forward one copy to PS&D to file in the aircraft jacket file. **(T-2)** File the original in the egress work center for subsequent

verifications.

4.4.3.2.13.6. **(Added-AETC)** If errors or omissions are noted before the aircraft's next scheduled sortie, the egress technician or supervisor performing the verification will update the MIS to match what is actually installed. **(T-2)** Annotate the correct data in red on the existing PRA and place the PRA in a suspense file. **(T-2)** Request an updated MIS egress-only PRA, ensure the corrections have been made to the MIS, sign all copies, forward a copy to PS&D, and dispose of the suspense copy. **(T-2)** Retain the original in the egress work center for subsequent verification.

4.4.3.2.13.7. **(Added-AETC)** PS&D will review the corrected PRA for any TCI due dates that may change as a result of an incorrect data base. **(T-2)** Current TCI forecasts will be for accuracy and an adjusted forecast submitted as required. PS&D will file the signed PRA in the aircraft historical record file. **(T-2)**

4.4.3.2.13.8. **(Added-AETC)** When egress components are replaced between major PEs, egress will update the existing PRA or equivalent online IMDS-CDB product (in red ink) with the new information and complete the event ID in the MIS creating a suspense for PS&D to clear. **(T-2)** As a minimum, maintain this manually updated egress product until the next scheduled 36-month inspection for ACES II seats, major PE, 2-year inspection, and acceptance inspection. **(T-2)** At the next inspection cycle, request a current updated MIS egress-only product, ensure all red entries and updates have been made to the data base, sign all copies, forward a copy to PS&D, and dispose of the suspense copy. **(T-2)** Retain the original in the Egress work center for subsequent verifications.

4.4.4. Fuel Systems Section. The Fuel Systems Section repairs, functionally checks, and inspects aircraft fuel systems, fuel tanks, hydrazine systems, in-flight refueling receptacle systems, and related components. This section also performs maintenance on AME external fuel tanks, Conformal Fuel Tanks, and Weapons Bay Tanks and provides temporary storage for Conformal Fuel Tanks, and Weapons Bay Tanks.

4.4.4.1. The Fuels Systems Section will:

4.4.4.1.1. Maintain serial number inventory accountability for all removable external fuel tanks IAW DAFI 21-103. **(T-3)**

4.4.4.1.2. Purge and preserve fuel tanks for storage and shipment. **(T-3) Note:** LRS is responsible for the storage, delivery, and shipment of fuel tanks in their possession.

4.4.4.1.3. Establish a local Memorandum of Agreement (MOA) or Memorandum of Understanding (MOU) (MXS with squadron or equivalents) governing the storage, issue, receipt, and inventory control of in-use removable external fuel tanks. **(T-3)**

4.4.4.1.4. Perform all maintenance and inspections on WRM fuel tanks. **(T-3)**

4.4.4.1.4.1. Meet quarterly with installation War Reserve Materiel Officer/WRM Non-Commissioned Officer (NCO) and LRS representatives to review inspection criteria for stored WRM tanks, schedule tank inspections and maintenance, and report discrepancies identified during WRM monthly walk-through inspections. **(T-3)**

4.4.4.1.5. **(Added-AETC)** Establish notification procedures to inform the base fire department when open fuel tank maintenance is in progress and when maintenance is complete. **(T-2)**

4.4.4.2. In addition to the common responsibilities outlined in **Chapter 2**, the Fuel Systems Section NCOIC/Chief will:

4.4.4.2.1. Establish controls to prevent unauthorized entry into fuel cell and hydrazine repair areas. **(T-3)**

4.4.4.2.2. Provide required qualification training to all personnel who enter aircraft fuel tanks and/or open fuel tank areas to perform maintenance or to provide assistance. **(T-3)**

4.4.4.2.3. When required, ensure Hydrazine Response Teams are formed. The HRT supervisors must possess 2A6X4 AFSC. Team members can be any qualified personnel provided they are certified IAW with TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, TO 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information*, TO 42B1-1-18, *General Procedures for Handling of H-70*, and review MDS-specific TOs and MAJCOM/Lead Command directives for additional information on hydrazine hazards and management. **(T-2)**

4.4.4.2.3.1. Ensure initial and refresher hydrazine safety training is completed for all hydrazine response team members IAW TO 42B1-1-18.

4.4.4.2.3.2. Integrate Hydrazine Response Team responsibilities into the CDDAR Program and local In-Flight Emergency (IFE) functional checklists (as applicable). **(T-3)**

4.4.4.2.4. Perform safety inspections on facilities to ensure open tank repair areas, and equipment used for open fuel tank or hydrazine maintenance meet MDS-specific TOs, TO 42B1-1-18 and TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells* requirements.

4.4.4.2.5. Establish a Confined Space Entry Program IAW TO 1-1-3 and AFMAN 91-203.

4.4.4.2.6. Establish a Respiratory Protection Program IAW AFI 48-137.

4.4.4.2.6.1. All respiratory training requirements are documented on AF Form 55 or equivalent IAW DAFI 91-202.

4.4.4.3. Ensure assigned personnel receive periodic physical examinations as established by the base medical service as required IAW TO 1-1-3. Track periodic physical examinations in the MIS. **(T-3)**

4.4.5. Hydraulic Section. The Hydraulic Section performs on- and off-equipment maintenance on pneumatic and hydraulic systems, components (except environmental and egress systems) and provides maintenance support for SE and test equipment. The Hydraulic Section also maintains hydraulic test stands, pumping units, and associated components.

4.4.5.1. The Hydraulic Section will:

4.4.5.1.1. Perform maintenance on munitions loading and handling equipment with discrepancies that exceed the munitions flight repair capabilities.

4.4.5.1.2. Maintain and inspect refueling drogues, booms, and refueling receptacle systems for large aircraft.

4.4.5.1.3. Repairs, overhauls, and bench checks flight control, landing gear, and hydraulic power system components (such as, brakes, struts, accumulators, reservoirs, actuators).

4.4.5.1.4. **(Added-AETC)** Local manufacture and test hose assemblies.

4.4.5.1.5. **(Added-AETC)** Test rigid tube assemblies.

4.5. Aerospace Ground Equipment (AGE) Flight. The AGE Flight is normally organized as a consolidated maintenance unit (repair, inspection, and servicing sections). The AGE Flight is responsible for providing powered and Non-Powered AGE (NPA) as defined in TO 00-20-1 to support both aircraft and non-aircraft weapon systems.

4.5.1. The AGE Flight will:

4.5.1.1. Maintain and inspect AGE, IAW TO 00-20-1, and equipment specific TOs in support of sortie production and back shop maintenance activities.

4.5.1.2. Pick up, service, deliver, repair, and perform approved modifications, TCTOs, inspect AGE and perform corrosion control tasks.

4.5.1.3. Utilize AF Form 864, *Daily Requirement and Dispatch Record*, or MAJCOM-approved electronic product to record all equipment pickup and delivery.

4.5.1.4. Perform chassis, enclosure, and trailer maintenance on gaseous and cryogenic servicing units.

4.5.1.5. Manage maintenance and inspection scheduling activities for flight-maintained equipment. **Note:** Maintain oversight of additional requirements for assigned Nuclear Certified Equipment IAW AFI 63-125.

4.5.1.6. Safeguard any Item Unique Identification (IUID) marks during maintenance activities to the extent possible. **(T-3)** In the event the Unique Item Identifier (UII) is damaged during maintenance activities, the AGE Flight notifies the responsible Equipment Custodian.

4.5.1.7. **(Added-AETC)** Maintain Centralized Aircraft Support System (CASS) according to the CASS *Operation and Maintenance Manual*. **(T-2)** These responsibilities include air compressors, generators, air-conditioner/dryer assembly, air controller, above-ground modules, above-ground plumbing, master control module, pit or module controls to include valves and regulators, and the after cooler assembly. Responsibilities include equipment associated with the T-38 and include all above-ground support equipment on the T-1A and T-6 flight line (e.g., plugs, rectifiers, cables, component frames).

4.5.2. AGE Flight Chief Responsibilities. In addition to the applicable Flight CC/Chief responsibilities in **Chapter 2**, the AGE Flight Chief will:

4.5.2.1. Review and coordinate the AGE MEL annually with applicable Maintenance Supervision. **(T-3)**

4.5.2.1. **(AETC)** Units without an assigned operational flying mission are not required to identify a minimum equipment level. However, units are still required to track status IAW **paragraph 4.5.2.2**.

4.5.2.1.1. Provides copies of the approved MEL to the MOC. **(T-3)**

4.5.2.2. Track AGE status/scheduling daily using the MIS. **(T-3)** Once available and training is complete, DPAS M&U will be the MIS for tracking AGE Status and Scheduling. **(T-2)** Additional guidance for stand up and integration of DPAS M&U is available at: **https://usaf.dps.mil/teams/afdpassemis**.

4.5.2.2.1. Provide status and ETIC information to the MOC when it falls below MEL. **(T-3)**

4.5.2.3. Ensure newly assigned AGE receives acceptance inspections IAW TO 00-20-1. **(T-3)**

4.5.2.4. Control fuel dispensed from issue tanks IAW DAFI 23-201, *Fuels Management*.

4.5.2.5. Ensure the Uniform Repair and Replacement Criteria Program is implemented IAW TO 00-25-240 and TO 35-1-24.

4.5.2.6. Coordinate welding requirements with the Fabrication Flight Chief. **(T-3)**

4.5.2.7. Manage AGE CANN actions IAW **Chapter 9** and **Chapter 11**. **(T-3)**

4.5.2.8. Establish and monitor the AGE Operator Training Program and assist in the development of course control documents in conjunction with Maintenance Training (MT). **(T-3)**

4.5.2.8. **(AETC)** The AGE operator training program will include safety and operating procedures required by DAFMAN 91-203. The program will also include prior-to-use inspections required by TO 00-20-1 and applicable equipment TOs. **(T-2)**

4.5.2.8.1. **(Added-AETC)** Qualified AGE personnel, instructors, or supervisors certified by the AGE function will provide the training. Coordinate with MT to schedule required training. Once training is accomplished, complete an AF Form 2426, *Training Request and Completion*, or class roster and forward to MT.

4.5.2.8.2. **(Added-AETC)** The AGE function will determine if any other training is required when modifications to equipment or changes to TOs are made. **Note:** Specific training requirements are prescribed in AFI 36-2650, as applicable.

4.5.2.9. Ensure an AGE Corrosion Control and Prevention Program is maintained and a field number system is established IAW TO 35-1-3, TO 1-1-8, TO 1-1-691, MAJCOM instructions, and equipment specific TOs.

4.5.2.9.1. **(Added-AETC)** Ensure AGE work center personnel attend corrosion training.

4.5.2.9.1.1. **(Added-AETC)** Coordinate with the Wing or contract maintenance Corrosion Manager and Unit Training Manager to develop a corrosion prevention and control training curriculum tailored to your local environmental conditions. The AF Corrosion Prevention and Control Computer Based Training is available as a supplement to your training. **(T-2)**

4.5.2.9.1.2. **(Added-AETC)** The Wing or contract maintenance Corrosion Manager, in conjunction with AGE supervision, will determine the training interval. The training interval shall be at least annually. **(T-2)**

4.5.2.9.2. **(Added-AETC)** Establish and enforce an effective corrosion program on assigned AGE and SE IAW TO 35-1-3.

4.5.2.9.2.1. **(Added-AETC)** Corrosion and AGE supervision determine repainting requirements.

4.5.2.9.2.2. **(Added-AETC)** Complete over coating of equipment is accomplished on an as needed basis. AGE will not be over coated solely for cosmetic purposes unless the AGE Flight Chief and Fabrication Flight Chief determine it is required. Equipment will be prioritized based on "worst is first" unless downing the equipment would affect AGE Flight mission essential levels.

4.5.2.9.2.3. **(Added-AETC)** Complete over coating of equipment may be accomplished to apply the new SE standard color (26173 FED-STD-595, MIL-PRF-85285); however, this shall be accomplished on the units' regular corrosion schedule and equipment will be aligned with the new scheme on an attrition basis. **(T-2)**

4.5.2.9.3. **(Added-AETC)** Owning work center personnel may treat small chips in the paint with corrosion prevention compounds listed in T.O. 35-1-3. For more permanent repairs of small chipped areas, use authorized non-aerosol coating systems that are contained in items such as, but not limited to, SEMPENS, MILSPRAY Brush and Roller touchup-kits, etc. Larger areas will be treated by aircraft corrosion personnel or if applicable, contracted sources. **(T-2)**

4.5.2.9.3.1. **(Added-AETC)** Units will familiarize themselves with AGE painting materials and processes in accordance with TO 35-1-3 prior to awarding off-base contracts for AGE painting. Units will verify specifications for primer, topcoat, and color number requirements and ensure that these are addressed in the contract. **(T-2)**

4.5.2.9.3.2. **(Added-AETC)** Ensure a paint block is installed IAW TO 35-1-3.

4.5.2.9.4. **(Added-AETC)** AGE SE will be painted in accordance with TO 35-1-3. **(T-2)**

4.5.2.9.4.1. **(Added-AETC)** Ensure maximum use of MIL-PRF-85285, Type IV, Advanced Performance Coating.

4.5.2.9.4.2. **(Added-AETC)** Ensure maximum use of Non-chromate primers over MIL-PRF-85285 paints systems.

4.5.2.9.5. **(Added-AETC)** Ensure an automated system i.e. AvSE MIS is used to schedule and document AGE painting. A historical entry will be made into the automated system upon complete repainting of equipment. **(T-2)**

4.5.2.9.6. **(Added-AETC)** Enforce the proper use of approved cleaning compounds (parts washers, wash rack, spot cleaners, etc.) in accordance with TO 35-1-3 and the Qualified Product List (QPL) or Qualified Product Database (QPD).

4.5.2.10. Develop and implement a tracking system to prioritize complete repainting for AGE equipment based on a “worst is first” principle.

4.5.2.10. **(AETC)** Ensure Item Unique Identification labels are viewable or identified as absent during repainting of AGE equipment.

4.5.2.10.1. Coordinate with Fabrication Flight Chief for work beyond the AGE work center capability.

4.5.2.10.2. **(Added-AETC)** Annotate equipment paint scores in DPAS M&U and provide Equipment Pool report(s) with the annual equipment inventory listing submitted to 19 AF/A4MS.

4.5.2.10.3. **(Added-AETC)** Score equipment paint condition annually. Measure the degree of paint degradation using applicable technical data and orient grading with applicable DPAS M&U categories when documenting results.

4.5.2.10.4. **(Added-AETC)** All Equipment Pool report(s) extracted from DPAS M&U for the purpose of reporting equipment paint condition will include Asset ID, Color, Corrosion Level, Custodian Nbr, Equip Pool, Initial Dt Profiled, Item Desc, Last Painted Date, Maint Activity Name, Maint Mgt Cd, Primers, Serial Nbr, Stock Nbr, Topcoats, UIC, UIC Name.

4.5.2.11. Ensure equipment is prepared for storage or shipment IAW TO 35-1-4, *Processing and Inspection of Support Equipment for Storage and Shipment*, and applicable end item TOs.

4.5.2.12. Submits annual transient aircraft landing data to the respective MAJCOM AGE functional manager by 1 February. Data will reflect previous year's TA aircraft landings by aircraft MDS and is obtained from local Transient Alert managing office.

4.5.2.13. Establish AGE sub-pools, as needed, in coordination with OSS’s Airfield Operations Flight.

4.5.2.14. Ensure AGE tow vehicles are two-way radio equipped, permanent or hand-held, to expedite AGE deliveries. **(T-3)** Ensure any permanent installation of radios are accomplished IAW AFI 24-302. **(T-3)**

4.5.2.15. **(Added-AETC)** Submit an annual (excel spreadsheet) equipment inventory listing to 19 AF/A4MS by the 1st day of February. **(T-2)** Listings must identify all AGE maintained by the flight and all supply requisition/due-out information.

4.5.2.16. **(Added-AETC)** Ensure the status of CASS equipment is maintained in the MIS. **(T-2)** A status board may also be used.

4.5.2.17. **(Added-AETC)** Inform the MOC and production superintendent of status changes to CASS equipment affecting the ability of CASS to support the mission. **(T-2)**

4.5.2.18. **(Added-AETC)** Ensure CASS is placed in standby mode when flying is delayed or canceled. **(T-2)**

4.5.2.19. **(Added-AETC)** Establish a CASS equipment corrosion control and paint program and update requirements annually. **(T-2)**

4.5.3. AGE Pro Super Responsibilities (if not assigned, the AGE Flight Chief will fulfill these responsibilities). The AGE Pro Super will:

4.5.3.1. Monitor the production of AGE Flight and recommend equipment/personnel adjustments to the AGE Flight Chief as required. **(T-3)**

4.5.3.2. Monitor adherence to AGE Flight's safety, training, and CTK programs. **(T-3)**

4.5.3.3. Monitor serviceability status of equipment parked in sub-pools. **(T-3)**

4.5.3.4. Monitor distribution, control, and condition of AGE Flight's assigned vehicles.

4.5.3.5. Monitor shop equipment for condition and documentation. **(T-3)**

4.5.4. AGE Production Support Section. The AGE Production Support Section provides administration and ancillary services for TO file maintenance, supply support, and fuels management. A full-time Materiel Management Journeyman/craftsman (AFSC 2S0X1) should be assigned to the AGE Production Support Section when the workload warrants. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the AGE Production Support Section NCOIC/Chief will:

4.5.4.1. Manage the AGE Flight's TO libraries IAW TO 00-5-1.

4.5.4.2. Manage the AGE Flight's tool storage and issue areas IAW **Chapter 8**. **(T-3)**

4.5.4.3. Manage the AGE Flight's TMDE program IAW TO 00-20-14 and AFMAN 21-113. **(T-3)**

4.5.4.4. Manage the AGE Flight's materiel management function IAW **Chapter 9** and AFI 23-101.

4.5.4.4.1. Pre-assembled part kits are authorized; if required, assemble from bench stock in minimum quantities necessary to support workload requirements.

4.5.4.5. Coordinate the AGE Flight's scheduling function with PS&D. **(T-3)** The AGE Production Support Section NCOIC/Chief will:

4.5.4.5.1. Maintain AGE historical records. **(T-3)**

4.5.4.5.2. Prepare an AGE scheduled maintenance plan and maintain a current equipment scheduling report for all assigned equipment. **(T-3)**

4.5.4.5.2. **(AETC)** Ensure a reproducible copy of the AGE function monthly plan is provided to PS&D by the third Tuesday of the month preceding the effective month. **(T-2)**

4.5.4.5.2.1. **(Added-AETC)** Provide a legible copy of the AGE function weekly schedule annex to PS&D by 1200 on Thursday of the week preceding the effective week for inclusion into the weekly plan. **(T-2)**

4.5.4.5.2.2. **(Added-AETC)** Maintain the JML for all AGE function equipment in the MIS. Update the JML as inspection requirements change in governing TOs. Reconcile the JML with appropriate governing TOs semiannually to ensure inspections and time change frequencies are accurate. **(T-2)** Document the reconciliation on the working copy of the JML, to include the name of the individual accomplishing the reconciliation and the date completed. File this

documentation until replaced by the next reconciliation.

4.5.4.6. Manage the AGE Flight's organizational fuel tank(s) IAW DAFI 23-201.

4.5.4.7. Manage the AGE Flight's HAZMAT/ESOH programs IAW AFI 90-8XX series ESOH instructions and the AFI 32-70XX series environmental instructions.

4.6. Armament Flight. See AFMAN 21-206 for duties and responsibilities.

4.6.1. - 4.6.4.2. DELETED.

4.7. Avionics Flight. The Avionics Flight normally consists of some combination of; a Communication-Navigation Section, an Radio Frequency (RF) Multiplexing Section, an Instrument and Flight Control Systems (IFCS) section, a Weapons Control System Section, a Sensors Section, an Electronic Warfare System (EWS) Section, an Avionics Intermediate Section, a Computer Section, a Surveillance Radar Section, a Combat Systems Section, a Cryptographic Section, an Offensive Avionics Section, and a Cyber/Information Security Section. **Note:** Do not authorize additional manpower positions to form sections resulting from local management decisions.

4.7.1. Sections within the Flight are responsible for maintaining avionics systems and components and the associated test/support equipment. They perform authorized equipment repairs, TCTOs, component programming/reprogramming, troubleshooting, CND/BCS screening of line replaceable units (LRUs), sub-component removal and replacement, management, programming, and status reporting for assigned pods and SE, and in-work classified avionics systems component management. Repairs above and beyond those listed require approval from the appropriate approval authority (Lead Command, Depot).

4.7.2. Avionics Flight CC/Chief Responsibilities. In addition to the applicable Flight CC/Chief responsibilities listed in **Chapter 2**, the Avionics Flight CC/Chief will:

4.7.2.1. Support Wing EW system programming. **(T-3)**

4.7.2.2. Ensure control and storage of assigned AME IAW DAFI 21-103. Develop local procedures for control and storage of items not specified in -21 TOs. **(T-3)**

4.7.2.3. Ensure avionics POD status is updated in RAMPOD or approved MIS IAW DAFI 21-103. **(T-3)**

4.7.2.4. Ensure personnel do not make unauthorized or false transmissions on international distress frequencies IAW TO 31R2-1-251, *General Instructions-Transmission of False Distress Signals on Emergency Frequencies*. **(T-3)**

4.7.2.5. Ensure cryptography components are controlled and maintained IAW National Security Agency publications and directives for the functions performed. **(T-3)**

4.7.2.6. When applicable, determine maintenance responsibility for aircraft adapter group equipment. **(T-3)**

4.7.3. Section NCOICs will maintain AFTO Form 95, or equivalent, on selected, repairable, serialized components for which historical failure data will enhance repair. **(T-3)** Historical records are mandatory for SPRAM LRUs, and items asterisked in weapons system -6 TOs. Historical records will be maintained IAW TO 00-20-1.

4.7.3.1. The record will remain with the component anytime it is undergoing maintenance. **(T-3) Note:** Data is provided from these records, upon request, to the analysis function to aid in defining avionics maintenance problems and recommended solutions.

4.7.4. Avionics Flight's within established Repair Networks will collaborate with the Repair Network Manager (RNM) for maintenance constraint resolution. If the SMR code in the 4th position is "F" (I-Level Repair) will require RNM and all applicable stakeholders to determine next step or appropriate Action Taken Code to use when resolving the maintenance constraint.

4.7.5. Implement the "Bad Actor" program IAW TO 00-35D-54. The purpose of the Air Force Bad Actor Program is to identify serial-numbered items that enter the repair cycle at an abnormally high rate when compared to the total population of like assets and to repair them or remove them from the exhibit holding activity.

4.7.6. Repair Monitor Responsibilities. Monitors the status of items processed into the section for repair. Each shift may have a repair monitor assigned. Maintain records used by the repair monitor according to AFI 33-322. Each Repair Monitor will:

4.7.6.1. Process items into and out of the section, ensuring all documentation is accurate and complete. **(T-3)**

4.7.6.2. Advise the section NCOICs and Pro Supers of item status. **(T-3)**

4.7.6.3. Assist the section NCOICs in managing the DIFM program by complying with MAJCOM instructions to ensure ordered and received parts are documented; and uses, maintains, and files, management and computer records. **(T-3)** Repair Monitors will maintain and update a working copy of the D-23, *Repair Cycle Asset Management Listing*, sorted by location and detail number. **(T-3)**

4.7.6.4. Designate and maintain an AWP area, ensure accurate documentation, and submit supply assistance requests, as required. **(T-3)**

4.7.6.5. Track and monitor MICAP status for all assigned DIFM and parts affecting section repair capabilities using automated Integrated Logistics System -Supply (ILS-S) reports. **(T-3)**

4.7.6.6. Ensure the MIS is updated with current supply data, location changes and DIFM status changes. **(T-3)**

4.7.7. **(Added-AETC)** Integrated Communication-Navigation Section.

4.7.7.1. **(Added-AETC)** Perform off-equipment maintenance and/or CND screening on integrated communication-navigation/mission systems and components, including assigned SE, designated "user responsibility" in TO 33K-1-100-2-CD-1, *TMDE Calibration Interval Technical Order and Work Unit Code Reference Guide*. **Note:** When other test equipment, including contractor-maintained test equipment, requires calibration or repair, submit it to the TMDE function IAW TO 33K-1-100-2-CD-1.

4.7.7.2. **(Added-AETC)** Maintain radar altimeters, Mark XII systems, identification friend or foe systems, direction finder equipment that is an integral part of airborne radios, secure voice systems and global positioning systems.

4.7.7.3. **(Added-AETC)** Maintain typical communication-navigation/missions systems including high frequency, ultra-high frequency, very high frequency, identification friend

or foe, automatic direction finder, very high frequency omni directional range/instrument landing system, tactical air navigation, AF satellite communication/satellite communication, Cockpit Voice Recorder, Emergency Location Transmitter, secure voice, interphone, search/weather/doppler radars, radar/radio altimeters, global positioning satellite, Traffic Collision Avoidance System, and associated data-bus management system components.

4.7.7.4. **(Added-AETC)** When authorized, this section may perform on-equipment maintenance. **(T-3)**

4.7.8. **(Added-AETC)** Integrated Instrument and Flight Control Systems.

4.7.8.1. **(Added-AETC)** Includes automatic flight control systems, all-weather landing systems, attitude heading reference systems, instrument systems, attitude reference and bombing systems, flight director systems, auxiliary flight reference systems, pressure altimeters and encoders of the Mark XII systems, engine test cell aircraft instrumentation, inertial navigation systems and navigation computers.

4.7.8.2. **(Added-AETC)** Maintain compass and stability augmentation systems, weapons release computer systems, flight data recorders, maintains fuel savings advisory systems, Doppler systems, navigational computers, loads environment spectra survey recorder systems, ground proximity warning systems and assigned SE not maintained by TMDE Flight.

4.7.8.3. **(Added-AETC)** Maintain engine test cell aircraft instrumentation and test equipment designated user responsibility in TO 33K-1-100-2-CD-1. **Note:** When other test equipment, including contractor-maintained test equipment, requires calibration or repair, submit it to the TMDE Flight IAW TO 33K-1-100-2-CD-1. Performs off-equipment maintenance and/or CND screening on guidance and control components/systems (to include assigned SE not maintained by the TMDE Flight).

4.7.8.4. **(Added-AETC)** Maintain typical ground control system including automatic flight control, compass, flight director, attitude heading reference, stability augmentation, air data, flight/engine instruments, fuel/liquid quantity instruments, flight recorders, inertial navigation, flight management and associated data-bus management system components.

4.7.8.5. **(Added-AETC)** When authorized, this section may perform on-equipment maintenance. **(T-3)**

4.7.9. **(Added-AETC)** Weapons Control System Section.

4.7.9.1. **(Added-AETC)** Maintain aircraft weapons control systems, lead computing optical sight systems and assigned SE not maintained by TMDE Flight.

4.7.9.2. **(Added-AETC)** This section also performs on-equipment calibration of weapons control systems.

4.7.10. **(Added-AETC)** Integrated EWS Section.

4.7.10.1. **(Added-AETC)** Perform on- and off-equipment maintenance on aircraft EWS and components, including assigned SE when not maintained by the TMDE function.

4.7.10.2. **(Added-AETC)** Maintain EWS status, EWS histories on AFTO Form 95 and scheduling records.

4.7.10.3. **(Added-AETC)** Report electronic attack pod status in Reliability, Availability, Maintainability for Pods IAW DAFI 21-103 if maintaining electronic attack pod equipment. Report other EWS status IAW TO 00-20-1 and TO 00-20-2.

4.7.10.4. **(Added-AETC)** Store and control non-installed electronic attack pods according to applicable directives. Other removed EWS components are controlled IAW TO 00-20-3.

4.7.10.5. **(Added-AETC)** Manage CANN actions to ensure pods are returned to service, as a minimum, every time the Preventive Maintenance Inspection is due.

4.7.10.6. **(Added-AETC)** Maintain inventory control of EWS AME. Loads proper contingency and training configuration settings in electronic countermeasure pods, infrared countermeasures systems and radar warning receiver unless equipment/ responsibility is assigned to another repair section.

4.7.10.7. **(Added-AETC)** Develop a EWS assessment program to verify system operation IAW applicable aircraft and system TOs.

4.7.10.8. **(Added-AETC)** Maintain aircraft adapter group equipment when directed.

4.7.10.9. **(Added-AETC)** Load proper contingency and training software in reprogrammable EWS IAW applicable system TOs and DAFMAN 10-703.

4.7.10.10. **(Added-AETC)** Perform avionics/electronic warfare systems (to include electronic attack pods) reprogramming as required by applicable mission directives, Pacer Ware/Serene Byte messages, or TCTO requirements.

4.7.11. **(Added-AETC)** Avionics Intermediate Section.

4.7.11.1. **(Added-AETC)** Maintains programs and performs TCTOs on avionics components specific to assigned test stations and support equipment.

4.7.11.2. **(Added-AETC)** Maintain, calibrate, certify, and perform TCTOs on assigned SE not maintained by the TMDE Flight.

4.7.12. **(Added-AETC)** Cryptographic Section.

4.7.12.1. **(Added-AETC)** Aircraft installed Controlled Cryptographic Items and keying materials shall be handled IAW AFMAN 17-1302-O and AFI 23-101.

4.7.12.2. **(Added-AETC)** Document aircraft Controlled Cryptographic Item removal and installation in AFTO Form 781B, *Communication Security Equipment Record*, IAW TO 00-20-1.

4.8. Fabrication Flight. The Fabrication Flight may consist of four sections; Aircraft Structural Maintenance (ASM), Metals Technology, Nondestructive Inspection (NDI), and Low Observable Aircraft Structural Maintenance (LOASM) and is responsible for performing on/off-equipment maintenance of systems and equipment.

4.8.1. Fabrication Flight CC/Chief Responsibilities. In addition to the applicable Flight CC/Chief responsibilities outlined in **Chapter 2**, the Fabrication Flight CC/Chief will:

4.8.1.1. Provide local manufacture capability to meet mission requirements and monitor all local manufacture work order requests. **(T-3)**

4.8.1.2. Coordinate AGE welding requirements with the AGE Flight Chief. **(T-3)**

4.8.1.3. *Assist WG Corrosion Manager in efforts to ensure effective corrosion prevention and control requirements, wash rack procedures, and established paint schemes are accomplished IAW TO 1-1-691, TO 1-1-8, TO 35-1-3, MAJCOM/Lead Command instructions, and MDS-specific TOs.*

4.8.1.4. Coordinate with squadron SUPTs or civilian equivalent to ensure assigned personnel rotation plans are established to comply with core task upgrade requirements. **(T-3)**

4.8.1.5. **(Added-AETC)** Recommend a Corrosion Manager to the MXG/CC or equivalent. **(T-2)**

4.8.1.5.1. **(Added-AETC)** Forecast funding for Wing or contract maintenance Corrosion Manager training, attendance at Corrosion Control Working Groups, Technical Interchange Meetings, Corrosion Prevention Advisory Boards (CPAB), Aircraft Structural Integrity Programs (ASIPs), and other pertinent meetings as required.

4.8.1.5.2. **(Added-AETC)** Ensure Fabrication representation for ASIP and CPAB conferences are in person or via telecom.

4.8.1.6. **(Added-AETC)** Appoint an aircraft wash rack facility manager, in writing (a qualified 2A753, 2A755 or civilian equivalent) to ensure proper tools/equipment, consumables, and hazardous materials are maintained at the facility in accordance with applicable technical data, instructions, and publications. **Note:** Not required when utilizing contracted washes and this position is captured in the contract.

4.8.2. Aircraft Structural Maintenance (ASM) Section. Manages structural repair, corrosion control, Low Observable, inspection, damage evaluation, repair, manufacture, and/or modification of metallic, composite, fiberglass, plastic components, and related hardware associated with aircraft and SE. In addition to applicable Section NCOIC/Chief responsibilities in **Chapter 2**, the ASM Section NCOIC/Chief will:

4.8.2. **(AETC)** The aircraft structural maintenance section also performs maintenance on trainers.

4.8.2.1. Ensure appropriate resources are available to all personnel to chemically or mechanically inspect, remove, and treat corrosion on aircraft, engines, AGE, and components. **(T-3)**

4.8.2.2. Monitor the aircraft wash and corrosion inspection schedule in the weekly and monthly maintenance plans. **(T-3)**

4.8.2.3. Provide training and assistance to sections managing their own corrosion programs to include cleaning operations, corrosion prevention, inspection, removal, and treatment techniques. **(T-3)**

4.8.2.4. Develop maintenance procedures IAW **Chapter 11** of this instruction, DAFMAN 91-203, and ensure assigned ASM personnel are trained and qualified on aircraft intake maintenance. **(T-3)**

4.8.2.5. Review the Qualified Product List/Qualified Product Database for changes to cleaners that must conform to a MIL-Spec as specified in applicable TOs for aircraft wash rack. **(T-3)**

4.8.2.6. Stock supplies and equipment necessary to support aircraft and equipment washing, inspection, and treatment. **(T-3)**

4.8.2.7. **(Added-AETC)** Ensures only metal-working technicians certified in the use of the jo-bolt fastener removal kit actually remove jo-bolt fasteners from the T-38 lower wing skin. **(T-2) Note:** This kit is the only authorized means of removing jo-bolt fasteners from the lower wing skin.

4.8.2.8. **(Added-AETC)** For C-130 units: Ensure shop personnel have access and are trained in the use of AIRCAT/ICARR-3D to facilitate annotation of inspections and requirements IAW TOs 1C-130A-6, 1C-130A-23CL-1, 1C-130J-6, 1C-130J-23CL-1, 1C-130(AHM) J-6 and 1C-130(AHM) J-23CL-1.

4.8.2.9. **(Added-AETC)** Ensure ASM representative participates in weekly MXG Shared Resources meeting to discuss paint scores, hangar availability and paint touch up/repaint scheduling.

4.8.3. Metals Technology Section. Inspects, repairs, services, manufactures, fabricates, performs heat treating, cleans, welds, and tests aircraft and equipment, components, and tools. In addition to responsibilities outlined in **Chapter 2**, the metals technology section NCOIC will:

4.8.3.1. Ensure assigned welders are certified in all base metal groups prescribed by the MAJCOM Fabrication functional manager (or equivalent) IAW TO 00-25-252, *Aeronautical Equipment Welding*. **(T-3)**

4.8.3.1.1. Ensure assigned welders conducting Gas Tungsten Arc Welding, Gas Metal Arc Welding, or Shielded Metal Arc Welding repairs on support equipment are certified IAW TO 00-25-252.

4.8.3.1.2. Ensure welding proficiency is documented IAW TO 00-25-252.

4.8.3.1.3. **(Added-AETC)** IAW TO 00-25-252, the following Base Metal groups are required for certification of the weapon system identified: **(T-2)**

4.8.3.1.3.1. **(Added-AETC)** C-17, KC-135, T-6 and T-1 require Base Metal group I, II, III, IV and VI.

4.8.3.1.3.2. **(Added-AETC)** C/H/M-130 require Base Metal group I, II, III, IV, V, VI and VII.

4.8.3.1.3.3. **(Added-AETC)** F-16 require Base Metal group I, II, III, IV and VII.

4.8.3.1.3.4. **(Added-AETC)** CV-22, HH-60, TH-1H and UH-1 require Base Metal group I, II, III, IV, V, VI and VII.

4.8.3.1.3.5. **(Added-AETC)** J85 require Base Metal group I, II, III, IV, V and VII.

4.8.3.1.3.6. **(Added-AETC)** T-38 require Base Metal group I, II, III, IV and V.

4.8.3.2. Provide safety briefings stressing Arc radiation hazards. **(T-3)**

4.8.3.3. Ensure special tools, jigs, and fixtures are designed, fabricated, protected, and properly stored. **(T-3)**

4.8.4. Nondestructive Inspection (NDI) Section. Performs NDI of aircraft, engines, AGE, other equipment and manages the Oil Analysis Program (OAP). Inspection findings are limited to a description of the size, location, and type of any defect discovered. NDI personnel do not make serviceability determinations except for "inspect only" TCTOs and if NDI actions constitute a completed maintenance action. In addition to the applicable Section NCOIC/Chief responsibilities in **Chapter 2**, the NDI Section NCOIC/Chief will:

4.8.4. **(AETC)** Ensure questionable indications of defects are confirmed, using another NDI method. **(T-2)** For indications that cannot be confirmed beyond doubt by using an alternate NDI procedure, contact responsible level 3 at appropriate Air Logistics Center.

4.8.4.1. Ensure OAP requirements are accomplished (if applicable to assigned MDS) IAW AFI 21-131, Joint Oil Analysis Program and **Chapter 11**. **(T-3)**

4.8.4.1.1. If the NDI laboratory providing OAP support is not located on the same base as the supported unit, or the supported unit does not have NDI/OAP personnel assigned, assign the OAP responsibilities to the owning organization IAW TO 33-1-37-1, *Joint Oil Analysis Program Volume II* and TO 33-1-37-3, *Joint Oil Analysis Program Laboratory Manual, Volume III*, TO 33-1-37-4, *Joint Analysis Program Manual, Volume IV*. The owning organization provides samples in an expeditious manner to the supporting OAP laboratory.

4.8.4.1.1.1. The owning organization will establish collection points and procedures to receive and forward OAP samples to the supporting laboratory, monitor sample collection, assign control numbers, and provide blocks of sample control numbers for use in other squadrons. **(T-3)**

4.8.4.2. Advise Maintenance Supervision, MOC and the owning work center of abnormal OAP trends. **(T-3)**

4.8.4.3. Ensure capability exists to perform optical, dye-penetrant, magnetic particle, ultrasonic, eddy current, radiographic, and special inspections as required. **(T-3)**

4.8.4.4. Ensure process control procedures IAW TO 33B-1-2, *Nondestructive Inspection General Procedures and Process Controls* are completed at the required or established frequency. **(T-3)**

4.8.4.5. Establish technique files using AFTO Form 242, *Nondestructive Inspection Data*, and TO 33B-1-1, *Nondestructive Inspection Methods Basic Theory*. **(T-3) Note:** Locally developed inspection techniques for use on aircraft and their components will be approved by the responsible ALC NDI manager prior to use. All other non-aircraft related AFTO Form 242 established techniques may be approved by the lab Chief.

4.8.4.6. Maintain coordination with the base medical service that provides occupational physicals, emergency treatments, film badge services, and acts as radiographic advisors IAW DAFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*, and TO 33B-1-1.

4.8.4.7. Ensure a Radiation Safety Program is established IAW TO 33B-1-1.

4.8.4.8. Control and dispose of radiographic silver-bearing materiel IAW AFI 23-101.

4.8.4.9. Ensure radiographic film files and computed radiography files contain, as a minimum:

4.8.4.9.1. The last complete set of radiographs taken by owning organization, for each assigned aircraft and engine by serial number or identification number. **(T-3)**

4.8.4.9.2. The name of the person who interpreted the radiography. **(T-3) Note:** Radiography identification procedures will be followed IAW TO 33B-1-1.

4.8.4.9.2. **(AETC)** Include the interpreter's initials, the date of film interpretation, greyscale value, and aircraft or engine serial number for each individual radiograph.

4.8.4.9.2.1. Ensure the person interpreting the film also initials the set of radiographs or a locally developed interpretation worksheet, as applicable. **(T-3)**

4.8.4.9.3. All NDI radiographic film exposures, to include paper, will be filed and maintained for all One Time Inspection (OTI), TCTO, -6 TO, -9 TO, and -36 TO inspection requirements. **(T-3)** The NDI Section NCOIC/Chief will ensure disposition of radiographic film IAW Air Force Records Disposition Schedule located at **https://afrims.cce.af.mil. (T-3)**

4.8.4.10. Ensure all NDI technicians are certified IAW TO 33B-1-1.

4.8.4.11. **(Added-AETC)** Refer to TO 33B-1-1 for specific certification requirements for civil service labs. Refer to TO 33B1-1 and the most current version of NAS410 specific certification requirements for contract managed labs.

4.8.4.12. **(Added-AETC)** Ensure NDI large exposure rooms are not used to perform unscheduled maintenance actions not in direct support of NDIs. The MXG/CC may waive this requirement on a case-by-case basis if the radiation safety requirements specified in TO 33B-1-1 are met.

4.8.4.13. **(Added-AETC)** Ensure quarterly scanning electron microscopy with energy dispersive X-ray spectroscopy (SEM/EDX) reports are submitted to AF OAP office.

4.8.5. Low Observable (LO) Aircraft Structural Maintenance Section. LO ASM Section manages structural repair, corrosion control, composite repair, LO coatings. **Note:** The Fabrication Flight CC/Chief will determine which tasks listed in **Paragraph 4.8.2** in this instruction (ASM Section) will be applicable to this section based on flight configuration. In addition to applicable Section NCOIC/Chief responsibilities in **Chapter 2**, the LO ASM Section NCOIC/Chief will:

4.8.5.1. Provide inspection, damage evaluation, repair, manufacture, and/or modification of LO components, and related hardware associated with aircraft. **(T-3)**

4.8.5.2. Ensure appropriate resources are available to perform all LO related tasks. **(T-3)**

4.8.5.3. Stock supplies and equipment necessary to support aircraft inspection, and treatment. **(T-3)**

4.8.5.4. Monitor the inspection schedule in the weekly and monthly maintenance plans. **(T-3)**

4.8.5.5. Ensure protective/LO coatings are applied to aircraft, AGE, applicable munitions, and components IAW applicable TOs. Ensure protective/LO coatings are applied IAW local, state, and federal environmental directives. **(T-0)**

4.8.5.6. Provide training and assistance to sections managing their own LO programs. **(T-3)**

4.9. Maintenance Flight. May consist of Repair and Reclamation, Wheel and Tire, Inspection, and TA Sections.

4.9. (AETC) Maintenance Flight. The aero repair function and wheel and tire function may be combined at the discretion of the MXS/CC or EMS/CC as applicable.

4.9.1. The Maintenance Flight CC/Chief will comply with the common Flight CC/Chief responsibilities in **Chapter 2** and locally established management requirements. **(T-3)**

4.9.2. Repair and Reclamation Section. When established, removes, replaces, and rigs flight control surfaces/systems on assigned aircraft. Troubleshoots, rigs, and replaces landing gears, actuated doors, canopies, and associated equipment requiring component maintenance beyond the capability of other activities. MAJCOM or MXG/CC may identify delineation of complex tasks to optimize maintenance capability in supplements or addendums to this DAFI as required.

4.9.2. **(AETC)** AETC Form 403, *Landing Gear/Flight Control Malfunction History* may be used for recording malfunction history.

4.9.2.1. Repair and Reclamation Section, when established, will remove, install, and repair towed targets and airborne reel pods. **(T-3)**

4.9.3. Wheel and Tire Section. Manages the build-up, repair, test, and storage of wheel and tire assemblies and components. Wheel and Tire Section will:

4.9.3.1. Degrease and disassemble wheel components for NDI inspection IAW TO 4W-1-61, *Maintenance and Overhaul Instruction - All Types Aircraft Wheels*, prior to processing through the ASM and NDI Sections.

4.9.3.2. Clean, inspect, and properly store (do not co-mingle) wheel bearings. **(T-3)**

4.9.3.3. **(Added-AETC)** Due to the volume of wheel assembly inspection requirements, it is not necessary to load and track inspection frequencies in the MIS if inspection dates are recorded on the wheel assembly.

4.9.4. Aircraft Inspection Section. Performs aircraft PH, PE, ISO, or letter check inspections. **Note:** Section may be divided into separate elements for each type aircraft maintained. In addition to the applicable Section NCOIC/Chief responsibilities in **Chapter 2**, the Inspection Section NCOIC/Chief will:

4.9.4.1. Ensure assigned non-powered SE (such as, dock stands) is maintained. **(T-3)**

4.9.4.2. Review inspection schedules and ensure dock teams are available to meet inspection needs. **(T-3)**

4.9.4.3. Develop standardized inspection flow plan to aid in managing the inspection progress and to control dock personnel and support specialists. **(T-3)**

4.9.4.3.1. DELETED.

4.9.4.3.2. Inspection Section NCOIC/Chief will ensure flow plan data remains current with -6 TO requirements. **(T-3)**

4.9.4.4. Inform the MOC and owning agency of all MICAP parts. **(T-3)**

4.9.4.4. **(AETC)** To minimize delays in inspection dock flow, commonly replaced components (other than items located on bench stock) may be forecasted. The following procedures apply: **(T-2)**

4.9.4.4.1. **(Added-AETC)** Compile a list of components for each type of PE (major or minor), PH, or ISO inspection on each type aircraft.

4.9.4.4.2. **(Added-AETC)** Order necessary items/components for forecasted time change items IAW AFI 23-101. AFMC managed reparable parts will not be ordered until an aircraft has been inducted into the inspection and local repair capability has been determined.

4.9.4.4.3. **(Added-AETC)** Store and control dedicated aircraft parts within the inspection function.

4.9.4.4.4. **(Added-AETC)** Process items removed and replaced through the repair cycle IAW AFI 23-101.

4.9.4.5. Provide PS&D with an inspection document record upon completion of the inspection. **(T-3)**

4.9.4.5. **(AETC)** Include AF Form 2410, *Inspection/TCTO Planning Checklist*, and the transaction ID code (TRIC) QMS listing or AETC Form 246, *Inspection Workcard Control*.

4.9.4.6. Ensure components are tagged with an AFTO Form 350, *Reparable Item Processing Tag*, IAW TO 00-20-2.

4.9.4.6.1. Ensure serially controlled components are reinstalled on the same aircraft and position from which they were removed. **(T-3) Exception:** If it is absolutely necessary to install serially controlled components in a different position, the Inspection Section NCOIC/Chief will notify PS&D to update the records.

4.9.4.7. **(Added-AETC)** Coordinate with PS&D or Engine Management (EM) to ensure changes to inspection work cards are updated in the JML. For SIs accomplished on selected components and assemblies requiring entry on AFTO Form 95, work center supervisors will ensure the accuracy of MIS inputs prior to PS&D or EM processing the suspense validation.

4.9.4.8. **(Added-AETC)** Units may develop kits for recurring maintenance actions. Kits are pre-assembled from bench stock in minimum quantities necessary to support workload requirements. Repair cycle assets are not included in kits. Unused kit items will be returned to bench stock.

4.9.5. Transient Aircraft (TA) Section. Recovers, services, inspects, maintains, and launches transient aircraft. Transient aircraft are those aircraft not assigned to a base that are enroute from one location to another that may require routine servicing. Aircraft are not considered transient aircraft when deploying to, staging from, or departing from any location for the purpose of flying sorties or conducting training, either with or without the necessary maintenance support from the aircraft's home base. MOC coordinates specialist support for transient aircraft through appropriate squadrons. For off-station recovery procedures refer to owning MAJCOM instructions and command-to-command agreements. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the TA Section NCOIC/Chief will:

4.9.5.1. Recover and deliver all deceleration chutes for assigned, transient, and tenant aircraft to the AFE. **(T-3)**

4.9.5.2. Complete reimbursement documentation. **(T-3)**

4.9.5.2.1. AFTO Form 726, T*ransient Aircraft Service Record*, may be used for documenting maintenance servicing requirements and necessary billing information and is prescribe in TO 00-20-1.

4.9.5.3. Record arrivals and departures of transient aircraft on AF Form 861, *Base/Transient Job Control Number* Register or locally approved form if it captures all AF Form 861 fields. **(T-3)** TA Section NCOIC/Chief (or equivalent) will:

4.9.5.3.1. Assign each aircraft a single Event Identification Description (EID) for all support general work performed by TA. **(T-3)**

4.9.5.3.2. Enter, as a minimum, "P" for park, "I" for inspect, "S" for service, "L" for launch, and "E" for EOR in the job description/remarks block. **(T-3)**

4.9.5.3.3. Forward completed AF Form 861 for contracted TA activities to the COR monthly. **(T-2)** The COR forwards completed forms to the applicable contracting officer managing the TA contract for inclusion in the contract file.

4.9.5.3.4. Route the AF Form 861 for non-contracted TA activities to the Maintenance Flight CC/Chief for review. **(T-3)**

4.9.5.3.4.1. After review, the TA Section NCOIC/Chief will file AF Form 861 for a minimum of 1 year. **(T-3)**

4.9.5.3.4.2. AF Form 861 may be used as a reference to quantify tasked performed to validate manpower and equipment requirements against current AF standards.

4.9.5.4. Close out support general EIDs daily. **(T-3)**

4.9.5.4.1. Use the same last four digits on subsequent days for the same aircraft.

4.9.5.4.2. Use a separate EID for each discrepancy that is not support general.

4.9.5.5. Ensure that when a FCF is required on transient aircraft, QA at the transient base serves as the focal point and ensures all FCF requirements are completed. **(T-3)**

4.9.5.5.1. DELETED.

4.9.5.5.2. If no off-station agencies exist, owning MXG/CC and owning OG/CC will issue guidance directly to the aircraft commander and off-station maintenance personnel. **(T-3)**

4.9.5.6. Supervise maintenance performed by assigned personnel on transient aircraft. **(T-3)**

4.9.5.7. Maintain the appropriate TOs for aircraft that can be expected to transit the function on a regular basis. **(T-3)**

4.9.5.8. Ensure personnel are trained and strictly adhere to oil sample requirements specified in the respective -6 TO. **(T-3)**

4.9.5.9. Ensure personnel authorized to run engines are qualified IAW **Chapter 11**.

4.9.5.9.1. Request the aircrew to run engines if TA or maintenance personnel are not authorized.

4.9.5.9.2. If qualified aircrew members are not available, contact MOC to request assistance from the home station.

4.9.5.10. Ensure transient aircraft status changes are reported to MOC. **(T-3)** If support is required, the MOC notifies the home station for support.

4.9.5.10. **(AETC)** When a transient aircraft experiences a mission-limiting condition, the MOC will notify the owning unit to jointly establish mission need and negotiate repair priority. If the capability exists (possessing like aircraft), the unit will provide the necessary support (to include non-duty hours and weekends) to return the aircraft to mission-capable status based on mission need. The unit possessing the aircraft will report the aircraft status according to DAFI 21-103. Units receiving transient aircraft will develop procedures to ensure mission-limiting status information is provided to the possessing unit.

4.9.5.11. Ensure EOR procedures for transient aircraft are developed IAW TO 00-20-1.

4.9.5.12. Ensure procedures exist for required weapons loading actions on transient aircraft, transient aircraft impulse cartridge tracking and storage, and weapons "safing" equipment requisition and maintenance for frequently transiting aircraft. **(T-3)**

4.9.5.12.1. Arming, de-arming and munitions unloading/loading operations on transient aircraft will be performed by a weapons load crew certified/qualified on the munitions and aircraft. **(T-3)**

4.9.5.12.2. DELETED.

4.9.5.12.2.1. In such cases, the aircrew will be available for consultation on aircraft peculiarities. **(T-3)**

4.9.5.12.2.2. If these criteria cannot be met, request assistance from higher headquarters.

4.9.5.13. Ensure checklists exist to ask pilots about explosive egress systems pertaining to unfamiliar aircraft that do not normally transit their base. **(T-3)**

4.9.5.13.1. Aircrew members remove and install flight status safety pins on aircraft when transient maintenance personnel are not qualified.

4.9.5.13.1.1. DELETED.

4.9.5.13.1.2. If TA cannot accomplish the required inspections, servicing, or repairs because of a lack of qualified personnel, facilities, or materiel (or there is no TA support available), and the transient aircraft commander does not wish to continue the flight without accomplishment of these items, the transient aircraft commander is responsible for requesting assistance through the appropriate external organizations.

4.10. Munitions Flight. Controls, accounts for, stores, ships, receives, inspects, maintains, assembles, and delivers conventional, precision guided and nuclear munitions. Manages and maintains all assigned tools, test and munitions handling equipment. Refer to AFI 21-2XX series instructions for specific guidance. **Note:** Munitions may be part of the MXS or established in a Munitions Squadron IAW AFMAN 21-200.

4.11. Propulsion Flight. Maintains aircraft engine propulsion units, propulsion components, and propellers. Performs engine/module/accessory disassembly, inspection, assembly, test, and repair. Responsible for Jet Engine Intermediate Maintenance (JEIM); Engine Test Stands (ETS) and Noise Suppression Systems (NSS); accessory and Quick Engine Change (QEC) repair; small gas turbine; module/accessory repair section; support equipment; and turboprop/turbo-shaft repair, engine PH/ISO inspections, as required. Sections may be combined or grouped at the discretion of the squadron commander. When an engine CRF is co-located with an operational wing, a MOA or MOU may be developed to clarify mutual support responsibilities. In addition, the flight will be the focal point for common propulsion support equipment, for example, flexible borescopes, engine trailers and download equipment.

4.11. (AETC) Propulsion Flight. If the MXG/CC elects, the AGE Flight may accomplish engine trailer maintenance with concurrence/approval from 19 AF/A4M.

4.11.1. In addition to the applicable Flight CC/Chief responsibilities in **Chapter 2**, the Propulsion Flight CC/Chief will:

4.11.1.1. Perform as the wing focal point for propulsion maintenance programs, focusing on continuity, compliance, and standardization, provide advice to wing leadership on propulsion issues and monitor all aspects of wing propulsion maintenance program. **(T-3)**

4.11.1.2. Act as the wing 2A6X1 AFSC functional manager and provide technical guidance to maintain propulsion systems to support the wing mission. **(T-3)**

4.11.1.3. Coordinate with Engine Manager (EM) and organization leadership to support War Readiness Engine (WRE) requirements. **(T-3)**

4.11.1.3. **(AETC)** War Readiness Engine and Target Serviceable Requirement (TSR) are synonymous in AETC. Units will compute requirements using TSR IAW AFMAN 20-116.

4.11.1.3.1. Track the status of ready spare engines using a visual display or automated product showing serial number, configuration (type and position, if applicable), time remaining until next scheduled engine removal, overhaul or reconditioning, preservation date, type accomplished, re-preservation due date, OAP code (if applicable), and remarks. **(T-3)**

4.11.1.4. Review production data to ensure propulsion units and components processed through the flight are repaired and functionally checked IAW TO 2-1-18, *Aircraft Engine Operating Limits and Factors*, including QEC configuration when applicable. **(T-3)**

4.11.1.5. Coordinate with the EM to ensure accurate engine and equipment status reporting IAW **Chapter 14**, DAFI 21-103, AFMAN 20-116, AFPAM 63-129, and TO 00-25-254-1.

4.11.1.6. Develop guidelines to comply with AF and wing OAP requirements IAW 33-series TOs and **Chapter 11**. **(T-3)**

4.11.1.7. Review/analyze all unscheduled engine or module removals and ETS rejects. **(T-3)**

4.11.1.7.1. Review/analyze major component failure trends. **(T-3)**

4.11.1.8. Ensure in-shop CANN actions are accomplished IAW local procedures, **Chapter 9**, **Chapter 11**, and TO 00-20-2.

4.11.1.8.1. Ensure local procedures are coordinated with Engine Management (EM) to ensure sufficient time remains on TCIs prior to CANN action approval. **(T-3)**

4.11.1.9. Coordinate with base civil engineering to provide maintenance on NSS and ETS supporting structures that are categorized as real property. **(T-3)** If the wing or squadron is a tenant, incorporate this maintenance requirement into the host-tenant support agreement. **(T-3)**

4.11.1.9.1. Ensure NSS and/or ETS repair discrepancies that exceed the base repair capability are reported in Web Applications Software Product (WASP). **(T-3) Note:** Entering repair requirements into WASP establishes official repair request and ensures visibility to MAJCOM and SE Product Group Manager at Robins AFB (AFLCMC/WN).

4.11.1.10. Ensure an uninstalled engine run qualification and certification program is established IAW **Chapter 11**.

4.11.1.11. Ensure specialized and long-life shipping devices and containers are accounted for and maintained in a serviceable condition IAW AFI 23-101 and TO 00-85-20, *Engine Shipping Instructions*.

4.11.1.12. Ensure engines and engine components removed from crash damaged aircraft are correctly dispositioned for termination IAW DAFI 21-103 and disposed of IAW AFI 23-101.

4.11.1.13. Ensure an engine flexible borescope certification and blade-blending certification program, for each Type, Model, Series (TMS) possessed, is established IAW **Chapter 11**.

4.11.1.14. Monitor scheduled and unscheduled engine removals to balance Propulsion Flight workload with production capability and coordinate with EM section to program engine removals for the weekly and monthly maintenance plans. **(T-3)**

4.11.1.14.1. Coordinate with EM to develop a 6-month plan to smooth surges in the engine maintenance workload. **(T-3)**

4.11.1.14.1.1. Use automated methods to develop the 6-month plan and include

scheduled engine removals for TCIs, PE, TCTOs and a projected unscheduled removals factor.

4.11.1.14.1.2. Ensure Reliability-Centered Maintenance principles IAW AFMAN 20-116 are followed. **(T-3)**

4.11.1.14.1.2. **(AETC)** For J85 engines, ensure SEMPL tools are used. **(T-2)**

4.11.1.15. Ensure Engine Automated Work Package (EAWP) user permissions mirror current training and certification authorizations. **(T-3)**

4.11.1.15.1. Ensure EAWP users use the EAWP program in lieu of a work folder to meet minimum requirements of this DAFI.

4.11.1.16. Coordinate with the OAP laboratory to obtain maximum benefits from OAP data when abnormal wear-metal trends are indicated. **(T-3)**

4.11.1.16.1. Ensure all OAP responsibilities are performed IAW **Chapter 11**.

4.11.1.16.2. Establish procedures to monitor OAP trends. **(T-3)**

4.11.1.16.3. Ensure personnel are trained to identify and respond to wear metal limits for assigned and maintained engines and are trained to perform sampling procedures IAW TO 33-1-37-2.

4.11.1.16.4. Ensure oil samples taken at the ETS are promptly delivered to the OAP laboratory. **(T-3)**

4.11.1.16.5. Act as a central point-of-contact for all abnormal OAP laboratory results. **(T-3)**

4.11.1.16.6. Forward information to the OAP laboratory concerning actions taken as a result of OAP recommendations. **(T-3)**

4.11.1.16.7. Review OAP response time (from sampling to receipt at the laboratory and return to the unit) to ensure processing time meets mission needs. **(T-3)**

4.11.2. Support Section. The Support Section manages the flight's HAZMAT program and operates tool storage areas. DMS or designated personnel process supply requests to facilitate the issue request, tracks MICAP due-outs, monitors bench stock, conducts bench stock/adjusted stock level reviews IAW DAFMAN 23-122. **(T-3)** In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the Support Section NCOIC/Chief will:

4.11.2.1. Ensure a flight due-out release point and holding bins are established, and Urgency of Need Designator "A" and Urgency Justification Code BQ requirements are verified. **(T-3)**

4.11.3. Jet, Turboprop, Turbo-shaft Engine Intermediate Maintenance (JEIM) section. Stores, builds up, tears down, inspects, modifies, and repairs engines, QEC kits, and tests components. In addition to the applicable Section NCOIC/Chief responsibilities in **Chapter 2**, the JEIM Section NCOIC/Chief will:

4.11.3.1. Plan and monitor the progress of propulsion system maintenance production, ensuring maintenance schedules are met by anticipating materiel required and managing

delays to prevent schedule disruptions to support operational requirements and maintain required WRE levels. **(T-3)**

4.11.3.1. **(AETC)** Units will compute requirements using TSR IAW AFMAN 20-116.

4.11.3.1.1. Report production to Propulsion Flight CC/Chief and immediately inform EM of engine status changes.

4.11.3.2. Ensure personnel prepare propulsion units and components for shipment and properly identify units to be returned to depot. **(T-3)**

4.11.3.2.1. Attach CEMS and/or MIS paper products to life-limited components IAW 00-20-series TOs if required by the source of repair.

4.11.3.3. Ensure documentation of TCTO compliance IAW 00-20-series TOs.

4.11.3.4. Ensure CEMS and/or MIS products obtained from EM are used for all assigned engines. **(T-3)**

4.11.3.4.1. CEMS and/or MIS products will list all parts and serial numbers installed on the engine. **(T-3)**

4.11.3.5. Establish procedures to ensure all parts and serial numbers are inventoried when an engine is received or released by the section. **(T-3)**

4.11.3.5.1. The JEIM Section NCOIC will notify EM when a different serial numbered part is installed or changed so the automated record is updated. **(T-3)**

4.11.3.5.2. EAE is the change correction authority on Part Number/Serial Number Record updates in EAWP. **(T-3)**

4.11.3.6. Ensure an engine work folder is established for each engine during PE, reconditioning, or other maintenance. **(T-3)**

4.11.3.6.1. One work order is initiated in MIS for an entire job.

4.11.3.6.1.1. MIS work orders are completed during inspection, reconditioning or maintenance.

4.11.3.6.1.2. Separate JCN/Work Center Event (WCE)/Work Event Separator are initiated for discrepancies found during the look phase of an inspection, subsequent to repair, or when maintenance is required beyond the scope of the JEIM induction JCN.

4.11.3.6.2. Establish engine work folders on all possessed engines and EM or JEIM will maintain the folders until the engine is transferred. **(T-3)** As a minimum, engine work folders will contain the following:

4.11.3.6.2.1. List of all parts, TCTOs and TCI requirements for the engine. **(T-3)**

4.11.3.6.2.2. Engine/Module/Accessories Information Worksheet. **(T-3)** This document is used to provide a quick synopsis of maintenance accomplished. Minimum requirements will include engine serial number, type, position (if applicable), engine operating time, date started work, date turned serviceable, job control number, maintenance required, reason for removal, list of time change and TCTO requirements. **(T-3)**

4.11.3.6.2.2.1. A supervisory review of signature blocks (Crew Chief, Support Section, EM Section) to verify all repair requirements have been accomplished and are correctly documented in the work folder. **(T-3)**

4.11.3.6.2.2.2. Validation that a JCN was created by the JEIM/Module/Accessories Section or EM section and used to account for maintenance events completed in the process of repairing the engine and modules. **(T-3)** This procedure ensures all maintenance data is documented against one JCN and engine failure information is connected to the in-shop action.

4.11.3.6.2.3. Receiving Inspection Worksheet. **(T-3)** The worksheet is used for documenting items to be accomplished by JEIM prior to engine repair. Minimum requirements will include: FOD check of engine inlet and exhaust, inspection of engine for general condition and fluid leakage, EHR/Turbine Engine Monitoring System data (if applicable), ET&D (if applicable), borescope inspection (if applicable), a check with OAP lab for possible problems, and a list of unique or problem areas to be checked prior to engine disassembly or maintenance. **(T-3)**

4.11.3.6.2.4. Serially Controlled/Time-Tracked Item Replacement Record. **(T-3)** This document shows a list of components replaced by nomenclature, old and new part number (if applicable), and serial number.

4.11.3.6.2.5. Daily Summary Record. **(T-3)** This document provides a synopsis of maintenance performed during each shift.

4.11.3.6.2.5.1. Each entry in the Daily Summary Record includes the Employee Number of the person who accomplished the maintenance action. For EAWP users, this process may be automated.

4.11.3.6.2.5.2. Include a sufficient reference in the summary block (such as, work package, TO) used to perform the task or determine the work performed (subordinate work packages are not required to be listed if the work package for the primary task identifies all required work packages for the task).

4.11.3.6.2.5.3. At the end of each shift, the crew chief who verified the entries listed in the Daily Summary Record will annotate their shift, rank, last name, and employee number. **(T-3)** Units may use a general purpose or MAJCOM/locally approved form.

4.11.3.6.2.6. IPI Worksheet. **(T-3)** This form includes the WUC, nomenclature, specific step required for the IPI, and space for employee numbers and signatures of technicians and inspectors performing maintenance. **Note:** Organizations using digital systems may file a printed report in lieu of signatures (such as, Interactive Electronic Technical Manual (IETM)).

4.11.3.6.2.7. Parts Requisition Record. **(T-3)** This document is used to list all parts (including TCIs) on order. As a minimum, this document will include the following headings: Engine/ Module/Accessory, TMS, Engine/Module/Accessory Serial Number, Nomenclature, Part Number, National Stock Number (NSN), Requisition Number, Priority, Status, and DIFM Clear with “Yes” and “No” sections. **(T-3)**

4.11.3.6.2.8. JEIM ETS Preparation Worksheet. **(T-3)** This worksheet contains a list of items/tasks to be accomplished by JEIM prior to sending an engine to the ETS. As a minimum, document the following:

4.11.3.6.2.8.1. Inlet and exhaust FOD inspection; any pre-run servicing required (such as, cap open lines, cannon plugs, engine intake and exhaust inspection). **(T-3)**

4.11.3.6.2.8.2. A thorough tool inventory and an inspection for loose hardware. **(T-3)**

4.11.3.6.2.8.3. The section supervisor will document a review of the work folder to ensure maintenance performed or required actions are documented. **(T-3)**

4.11.3.6.2.9. ETS Pre-run Worksheet. **(T-3)** ETS personnel will complete this document prior to an engine run. **(T-3)**

4.11.3.6.2.9.1. As a minimum, this document will include the following headings: Engine TMS; Engine Serial Number; Engine Operating Time (EOT)/Cycles; JCN; Remarks; Pre-run Emergency Briefing Accomplished with run Supervisor's Name, Signature and Date sections; and Inspection with Area, Employee Number, and Date sections. **(T-3)**

4.11.3.6.2.9.2. As a minimum, area inspections will include Inlet FOD/Foreign Object (FO); Exhaust FOD/FO; Engine Exterior and FO; General Engine Serviceability; Test Stand/Thrust Bed/Test Equipment for FO; CTK Inventory Complied With (C/W); Engine Servicing Check; all preliminary engine installation and run requirements C/W; and serviceable fire extinguisher on hand. **(T-3)**

4.11.3.6.2.9.2.1. Each area inspection will have the performing technician's employee number and date accomplished annotated. **(T-3)**

4.11.3.6.2.10. ETS Post Run Worksheet. **(T-3)** This document is used to document items/tasks accomplished by ETS personnel after engine run.

4.11.3.6.2.10.1. As a minimum, this document will include the following headings: Engine TMS; Engine Serial Number; EOT/Cycles; JCN; Maintenance Actions Performed; Engine Monitoring System (EMS) operational/performance data collected and provide to EM; ETS Supervisors Post-run Review with Name, Signature and Date; and Area Inspections, Employee Number and Date. **(T-3)**

4.11.3.6.2.10.2. As a minimum, area inspection will include: Inlet FOD/FO; Exhaust FOD/ FO; CTK Inventory C/W; Post-Run OAP Samples C/W (if applicable); AFTO Form 350 or AFTO Form 20, *Caution and Inspection Record,* annotate: Engine Preservation Type and Date; Throttle Secured to Off Position (if applicable) and Tagged; Cap Open Lines/Cannon Plugs; Install Intake/Exhaust Covers; Servicing Amount; ETS Discrepancies Cleared; 7-Level Inspection of Components Replaced or Disconnected; and Final Leak Check. **(T-3)**

4.11.3.6.2.10.3. ETS personnel will leak-check items not accessible with the engine installed in or on the aircraft prior to leaving ETS. **(T-3)**

4.11.3.6.2.10.4. Each area inspection will have the performing technician's employee number and date accomplished annotated. **(T-3)**

4.11.3.6.2.11. Final Inspection Worksheet. **(T-3)** This document is used to document JEIM requirements after repair or testing has been completed.

4.11.3.6.2.11.1. As a minimum, this worksheet will include: FOD inspection of intake, exhaust, and external engine; borescope engine (if applicable); ensuring throttle is secured and tagged to "off" position (if applicable); capping, plugging and covering fittings and lines; attaching AFTO Form 350 to lines, fittings or plugs that require "leak check" when installed in aircraft (items not accessible in aircraft must be leak checked on ETS); attaching AFTO Form 350 and/or serviceable tag to engine, ensure supply accounts and MIS entries have been cleared. **(T-3)**

4.11.3.6.2.12. Borescope Worksheets. **(T-3)** Borescope inspection worksheets will be used for engines requiring borescope documentation. **(T-3)**

4.11.3.6.2.13. Uninstalled Engine/Module Blade Blending/FOD Damage Worksheet. **(T-3)** This worksheet is used to document blade blending/FOD damage for uninstalled engines/modules. As a minimum, this worksheet will include Engine/Module Serial Number, Date, Discrepancy, Stage and Corrective Action including number of blades blended, depth of damage before and after blend, area of damage and Employee Number. **(T-3)**

4.11.3.6.2.14. Reliability Centered Maintenance Worksheets (if applicable). **(T-3)**

4.11.3.6.2.14.1. For JEIM engine builds, a copy of the "Reliability Centered Maintenance Build Options" and "Reliability Centered Maintenance Calculator Summary" worksheets are maintained in the engine work folder or EAWP for documenting life-limited component engine build recommendations.

4.11.3.6.2.14.1. **(AETC)** For J85 engines, a copy of the SEMPL "Workscope Cost Optimization Summary" worksheets are maintained in the engine work folder or Engine Automated Work Package. **(T-2)**

4.11.3.6.2.14.1.1. Utilize Reliability Centered Maintenance calculator software accessed through CEMS prior to engine build.

4.11.3.6.2.14.1.1. **(AETC)** For J85, utilize the cost optimization tools of SEMPL to get the most effective estimated time on wing prior to engine build. **(T-2)** Using SEMPL, perform a workscope cost optimizer calculation to determine the most effective repair for all retained tasks. **(T-2)** Retained Task Centers will workscope inducted engines using SEMPL Retained Task Center tab and will adhere to the SEMPL "Workscope Cost Optimization Summary". **(T-2)**

4.11.3.6.2.14.1.2. The sheets are required only if life-limited components (excluding LRU) are removed and replaced during the JEIM engine build and the TMS engine is available in the Reliability Centered Maintenance

Calculator. The calculator is not used for engines which do not have the calculator developed.

4.11.3.6.2.15. Worksheets that document engine historical information, critical maintenance management stages, and employee numbers of technicians and supervisors completing maintenance and inspections.

4.11.3.6.2.15.1. Supplement work folders and worksheets to fit unit needs.

4.11.3.6.2.15.2. Flights may use computer-generated products, provided they include all required information. If TMS has an established EAWP, it will be utilized. **(T-3)**

4.11.3.6.2.15.2.1. EAWP users will ensure all maintenance discrepancies are documented in the system's appropriate discrepancy block. **(T-3)**

4.11.3.7. Ensure MICAPs are processed in Enterprise Solution-Supply; ensure all pertinent data is included. **(T-3)**

4.11.3.8. Upgrade, downgrade and cancel MICAP requirements. **(T-3)**

4.11.3.9. **(Added-AETC)** Accomplish J85 Retained Task Requirements IAW TO 1T-38C-2-6, TO 2J-J85-111-1, and the 2J-J85-116 series TOs on installed and removed engines. Refer to **paragraph 13.4.5** for additional requirements.

4.11.4. Noise Suppression Systems (NSS) and Engine Test Stands (ETS) Section. Tests engines to evaluate the quality of maintenance, engine performance, and accomplish engine preservation including engines installed on aircraft in coordination with owning squadron. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the NSS and ETS Section NCOIC/Chief will:

4.11.4.1. Assign primary and alternate AutoTAR or Air Force Lifecycle Management (AF-PLM) custodians to perform -107 ETAR and status updates in AutoTAR/AF-PLM for AFLCMC/WN-managed NSSs and ETSs. **(T-2)**

4.11.4.2. Monitor repair activity and ensure reporting and status updates are timely, accurate, and kept current in AutoTAR/AF-PLM. **(T-3)**

4.11.4.3. Ensure NSS and ETS personnel accomplish minor maintenance, make adjustments to engines, document engine condition, and collect EMS operational/performance data and deliver to EM. **(T-3)**

4.11.4.3.1. Ensures ETS components are calibrated on site, if practical. **(T-3)**

4.11.4.4. Brief maintenance personnel on NSS/ETS operating/emergency procedures. **(T-3)**

4.11.4.5. Handle and report halon releases IAW AFMAN 32-7002.

4.11.5. Module/Accessory Repair Section. Repairs, stores, and maintains fuel nozzles, fuel manifolds, oil pumps, accessory housings, afterburners, thrust reversers, augmentors, engine components, time change modules, and shop replaceable units. Operates and maintains the bearing room IAW TO 44B-1-15, *General Instructions - Jet Engine Anti-friction Bearing Handling, Removal, Cleaning, Inspecting, and Installation at Jet Engine Base Maintenance Facilities* (if applicable).

4.11.6. Small Gas Turbine Engine Section. Repairs and maintains small gas turbines used in aircraft. In addition to applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the Small Gas Turbine Engine Section NCOIC/Chief will ensure personnel are qualified to operate small gas turbine engines and test stands. **(T-3)**

4.11.7. Engine Equipment Maintenance Section. Maintains, manages, and stores engine support and removal/installation/transportation equipment and trailers. The Engine Equipment Maintenance Section NCOIC/Chief will:

4.11.7.1. Ensure engine removal/installation/transportation trailers and adapters status is properly reported IAW DAFI 21-103 and MAJCOM supplements. **(T-3)**

4.11.7.2. Track and schedule all inspections and maintenance, removal, installation, transportation trailers and adapters in the MIS. **(T-3)**

4.11.7.3. Ensure equipment forms and MIS documentation are complete, accurate, and accomplished for all maintenance and scheduled inspections. **(T-3)**

4.11.7.4. Ensure status is accurately reflected in both the maintenance forms and the MIS. **(T-3)**

4.11.8. Propeller Section. Repairs, builds up, tears down, inspects, tests, and modifies propellers, valve housings, pump housings, and associated components.

4.11.9. Quick Engine Change (QEC) Kit Management. QEC kit removals and installations are coordinated with the SRAN EM and loaded in MIS as a part number-serial number item, reflecting where the kit is installed or spared.

4.11.9. **(AETC)** The J85 Retained Task Service Center (RTSC) shall remove and retain those specific QEC components that adapt an engine to either a left or right hand position. The RTSC shall install retained QEC kit components to configure an engine to meet specific position requirements. **(T-2)** The RTSC shall remove, install, inspect, repair, test, replace and control the QEC kit components removed under the "generic" QEC kit application IAW appropriate AFI's and TO 1T-38C-2-6 to include engine mounts.

4.11.9.1. In addition to repair cycle procedures outlined in **Chapter 9** in this instruction, the technician removing a QEC kit item from an engine will complete an AFTO Form 350, enters the reason for removal in Block 14, and annotates the QEC kit inventory for each repairable item. **(T-3)**

4.11.9.2. Technicians will complete the AF Form 596, *Quick Engine Change Kit Inventory* for on repair cycle items and QEC kit unique items, when an engine enters the section for tear down. **(T-3)**

4.11.9.2.1. If TO requirements restrict reuse of items, the technician will mark the AF Form 596 with an asterisk to show a demand has been placed on supply. **(T-3)**

4.11.9.3. **(Added-AETC)** J85 engines shipped to and from the RTSC will have incomplete QEC kit components installed. This "generic" engine configuration will require installation of additional specific QEC kit components to meet engine position requirements.

4.12. Test, Measurement, and Diagnostic Equipment (TMDE) Flight. Maintains, calibrates, and certifies TMDE, traceable through the AF Primary Standards Laboratory (AFPSL) to the

National Institute of Standards and Technology (NIST), or other AF Metrology and Calibration (AFMETCAL)-approved source. Provides base-level support of aircraft, precision-guided munitions, ground systems, and other equipment assigned to the base or GSU. TMDE Flight ensures Calibration, certification, and maintenance of TMDE is accomplished IAW AFMAN 21-113, TO 00-20-14, TO 33K-1-100-1, *Calibration Procedure for Maintenance Data Collection Codes and Calibration Measurement Summaries*. A Rapid Assistance Support for Calibration may also be assigned.

4.12.1. In addition to applicable Flight CC/Chief responsibilities in **Chapter 2**, the TMDE Flight Chief will:

4.12.1.1. Establish a PMEL Quality Assurance Section IAW AFMAN 21-113 and TO 00-20-14. **(T-3)**

4.12.1.2. Publish a monthly PMEL Activity Summary and route it through the Maintenance Supervision to the SQ/CC (or organizational equivalent). **(T-3)**

4.12.1.2.1. The report format will comply with TO 00-20-14 and meet local requirements. **(T-3)**

4.12.1.3. Ensure all Groups with TMDE Flights assigned include the TMDE Quality Program Activity Summary in the QA monthly summary IAW **Chapter 6**. **(T-3)**

4.12.2. The NCOIC, PMEL Logistics will:

4.12.2.1. Ensure TMDE monitors are properly trained and maintain a database or log to track training events (dates, names, organizations). **(T-3)**

4.12.2.2. TMDE will be scheduled with input priorities IAW TO 00-20-14, Air Force Metrology and Calibration Program.

4.12.2.2.1. - 4.12.2.2.3. DELETED.

Chapter 5

MAINTENANCE OPERATIONS (MXO).

5.1. General. MXO is directly responsible to the MXG/CC for the administration, analysis, training management of assigned personnel, and programs and resources necessary to support the group's production effort. MXO is comprised of the following sections: EM, PS&D, MMA, MOC, MT, and Programs and Resources (P&R). In missile organizations, MXO will be organized as a Maintenance Operations Squadron, as applicable. For the purposes of this instruction, the term MXO is equivalent with Maintenance Operations Flight for ANG units.

5.2. Maintenance Operations. MXO is the central agency for monitoring and developing long-range strategies of fleet management to sustain the health of the fleet. Fleet management is defined as the effective utilization of available resources to accomplish the aircraft support cycle from planned maintenance events to operations schedule execution. It is a disciplined and prioritized scheduling effort that optimizes support to aircraft requirements such as flying/operational events, ground training events, scheduled maintenance inspections, aircraft/system configuration control, aircraft/system modification schedules and aircraft/system recovery maintenance. Effective fleet management results in consistent availability of quality aircraft/systems to meet operational requirements. The Maintenance Operations Superintendent position will be filled by SNCO 2RXXX personnel and act as the 2R Base Functional Manager for their component. **(T-2)**

5.2.1. Base 2R Functional Manager will be the senior ranking enlisted member, possessing a 7-skill level or higher, assigned to the host MAJCOM of the installation. **(T-2)** They are responsible for both AFSC 2R0X1 and 2R1X1 personnel development, training, and assignment for their component. HQ MAJCOM personnel may not fill this position.

5.2.2. Develop a 2R0X1 and 2R1X1 training plan for all assigned personnel, to include tenant units. Determine utilization and assignment of installation AFSC 2R0X1 and 2R1X1 personnel and a rotation plan for their respective 2R0X1 and 2R1X1 wing resources based on mission requirements. **(T-3)**

5.2.3. Ensure 2R0X1 and 2R1X1 are trained and qualified by establishing a structured training program. **(T-3)** Ensure training sessions for 2R0X1 and 2R1X1 are conducted and documented monthly. Maintain training session documentation to include attendance logs for at least one year.

5.2.4. Maintenance Operations, Director of Operations /Superintendent (DO/SUPT). In addition to the applicable Maintenance Supervision responsibilities in **Chapter 2**, the MXO OIC/SUPT will:

5.2.4.1. Develop and publish the wing operations/maintenance schedule in coordination with other squadrons and submit to both the OG/CC and MXG/CC for approval. **(T-3)**

5.2.4.2. Determine long-range fleet health maintenance priorities. **(T-3)**

5.2.4.3. Manage the data collection process, review data, and verify analysis for maintenance data collection requirements. **(T-3)**

5.2.4.4. Evaluate and provide trend analysis information to the MXG/CC and SQ/CCs. **(T-3)**

5.2.4.5. Ensure aircraft status is properly reported and maintained IAW DAFI 21-103.

5.2.4.5.1. Coordinate with the PS&D Aerospace Vehicle Distribution Officer (AVDO) to ensure all assignment and possession changes are accurately reported to the MAJCOM AVDO IAW DAFI 21-103 and AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*.

5.2.4.6. Initiate, review, and validate special analysis studies. **(T-3)**

5.2.4.6.1. Determine planning factors for the next year's flying hour program. **(T-3)**

5.2.4.6.2. Utilize a sortie production model or equivalent for the assigned MDS, if available. **(T-3)**

5.2.4.7. Develop procedures to update Geographical Location (GEOLOC) codes for all on and off-station possessed aircraft and ensure GEOLOC codes are updated/correct in the MIS "Location Subsystem" (FMxC2 units are exempt as long as a HHQ agency accomplishes this requirement). **(T-3)**

5.2.4.8. IMDS units will use code "XXXX," and FMxC2 units will use "CCCC" for classified locations. **(T-3)**

5.2.1.8.1. DELETED.

5.2.4.9. Host DFTs/CFTs, provide in-briefs on unit-specific maintenance and tool-control requirements, review plans, coordinate/monitor status of aircraft and progress of repair work. **(T-3)**

5.2.4.10. Participate in the review of base level repair capability IAW TO 00-20-3, AFREP in **Chapter 11** of this DAFI, and supplements.

5.2.4.11. Publish wing notification requirements for munitions-loaded or unloaded aircraft. **(T-3)**

5.2.4.12. Establish/sustain local radio call signs for maintenance LMR networks IAW AFI 17-210, Radio Management. **(T-3)**

5.2.4.13. Develop a training plan for individuals assigned to QA that will inspect MXO functions. Minimum training requirements will include MIS (FMxC2/IMDS/or equivalent) online and background products for inspections, time changes, TCTOs, and aircraft configuration management. **(T-3)** For units with IMDS, the QA inspector will be trained on the use of DS Maintenance Scheduling Module (MSM) to provide the capability for a qualified QA inspectors to evaluate and report PS&D compliance with functional requirements. **(T-3)** The senior 2R in the MXO will provide assistance to the inspector as required. **(T-3)**

5.2.4.14. Ensure MAJCOM Master Course Listing includes 2R weapon system familiarization courses requirements. **(T-3)**

5.2.4.14.1. As a minimum, the course will include weapon system/communications electronics familiarization, flightline and shop operations, organizational structure and roles of each group, squadron, and flight. **(T-3)**

5.2.4.14.2. Analysts will attend the course within 6 months of assignment to the unit. **(T-3)**

5.2.4.14.2. **(AETC)** Schedulers will attend the course within 6 months of assignment to the unit.

5.2.4.14.3. For remote assignments, analysts will attend within 1 month of assignment. **(T-3)**

5.2.4.14.4. DELETED.

5.2.5. Maintenance Operations Center (MOC). The MOC monitors and coordinates sortie generation, maintenance production, and execution of the operations and maintenance schedules while maintaining visibility of fleet health indicators. Through coordination with maintenance units, the MOC communicates priorities for competing limited resources (such as, fuel or calibration docks, wash racks, and dispatched specialists from the maintenance squadron(s) (for example, egress) based on daily operations schedule and maintenance priorities. The exchange of information between squadrons and the MOC must be in sufficient detail to allow the MOC to comply with reporting requirements and to identify potential problems.

5.2.5. **(AETC)** The Maintenance Operations Center (MOC). The MOC will utilize the MIS to review daily debrief sortie recaps to ensure accuracy of deviation reporting. **(T-2)** The MOC will also review all uncompleted operational events daily to ensure any uncompleted sortie lines are reported properly in the MIS. **(T-2)** The MOC will record additions, cancellations before crew show, tail swaps and spare usage in the MIS as they occur. **(T-2)** Deviation reporting provides an audit trail to identify variations to the printed schedule for analysis and scheduling sections.

5.2.5.1. The MOC will:

5.2.5.1.1. Monitor the status of aircraft/systems, as directed, (through the use of electronic or manual visual aids) including ETIC, progress of FCFs, and location of each aircraft on station. **(T-3)**

5.2.5.1.2. Track contingency and exercise aircraft generation activities. **(T-3)**

5.2.5.1.2.1. Maintain and update aircraft generation line up and display aircraft status using AF Form 2408, *Generation Maintenance Plan* and AF Form 2409, *Generation Sequence Action Schedule* or locally computer-generated equivalents. **(T-3) Note:** If the tail number, mission number or specifically tasked no-later-than times are linked, this form becomes classified. See DODM 5200.01V1_AFMAN 16-1404, *Information Security Program: Overview, Classification and Declassification*.

5.2.5.1.2.2. Monitor and report aircraft generation progress with a minimum of the following information: ETIC, location of each aircraft, status of generation actions, progress against timeline necessary to meet mission requirements. **(T-3) Note:** The display format should be compatible with OPLANS and command post displays.

5.2.5.1.3. Utilize the Enhanced Maintenance Operations Center. **(T-3) Note:** BLADE will be used to track classified aircraft status.

5.2.5.1.3. **(AETC)** [DEV] Not required for units that utilize FMxC2.

5.2.5.1.4. Track aircraft maintained or supported by the unit but not on station. (Aircraft cross-country). **(T-3)**

5.2.5.1.5. Coordinate maintenance on the alert force, if applicable. **(T-3)**

5.2.5.1.6. Ensure status boards depict aircraft status and location comply with Security Program guidelines. **(T-3)**

5.2.5.1.7. Monitor the status and ETIC of MEL-designated AGE if it falls below critical levels. **(T-3)**

5.2.5.1.8. Monitor the status of ECM and sensor pods IAW AFI 10-201, *Force Readiness Reporting*. **(T-3)**

5.2.5.1.8.1. When MC pod availability falls below requirements per the DOC or OPLAN, the MOC will track/monitor the following information: pod serial number, status (AWP/Awaiting Maintenance (AWM)), MICAP NSN, off-base requisition numbers, and ETIC. **(T-3)**

5.2.5.1.9. Classify information IAW AFI17-130, *Cybersecurity Program Management.*

5.2.5.1.10. Verify aircraft status and ETICs with the Pro Super(s) and ensure they are properly documented in the MIS IAW DAFI 21-103**.** Reference AFCSM, 21-564, V2, *Status and Inventory Reporting Software User Manual* or equivalent for MIS guidance.

5.2.5.1.10. **(AETC)** Notify plans and scheduling to process possession code changes when a change is required. Input start and stop actions for all applicable operational events. Manage start and stop operational events when the automatic option (MIS TRIC operating time update) is not used. Monitor aircraft, trainers, and trainer-related equipment and the status of scheduled and unscheduled maintenance requirements.

5.2.5.1.10.1. When the Production Superintendent (Pro-Super) or equivalent notifies the Maintenance Operations Center (MOC) that an aircraft is "Crew Ready" the MOC will review the Maintenance Information Systems (MIS) for each Crew Ready aircraft to ensure there are no open Red Xs. **(T-3)** If open Red X(s) are present in the MIS, the MOC will notify the Pro-super or equivalent for action. **(T-3)**

5.2.5.1.11. The MOC will verify aircraft status using the MIS and ETIC before reporting it. **(T-3)**

5.2.5.1.11. **(AETC)** Will ensure WUC being used to sign off/close a job is the full 5-digit WUC.

5.2.5.1.12. Inform affected activities of changes in priorities, plans, and schedules. **(T-3)**

5.2.5.1.13. Coordinate on changes to the operations schedule with applicable agencies by use of AF Form 2407. **(T-3)**

5.2.5.1.14. Ensure all deviations to the daily operations schedule are reviewed and accurately reported. **(T-3)**

5.2.5.1.14.1. Forward a copy of each AF Form 2407 and the daily flying schedule,

with all annotated deviations, to MMA. **(T-3)**

5.2.5.1.15. Request support services outside the scope of the MXG (such as, standby firefighting capability, aircraft water, snow removal, fueling and defueling service, civil engineer support, or control tower clearances for ground movement of aircraft and equipment). **(T-3)**

5.2.5.1.15.1. Coordinate on all aircraft engine runs and all aircraft ground movements conducted by maintenance personnel prior to execution. **(T-3)**

5.2.5.1.16. Develop, coordinate, implement, and maintain functional and emergency action checklists. **(T-3)** Checklists contain those actions required to be taken by functional area(s).

5.2.5.1.16.1. Functional checklists are required for use during actions such as nuclear mass loads, Broken Arrow, Dull Swords, Bent Spear, aircraft crash/mishap/incident, aircraft FOD, aircraft damage, flightline fire, severe weather warning or evacuation, runway closure, hazardous chemical release (example, Hydrazine, Broken Pod Glass release of Thorium Fluoride or Americium), Quick Reaction Checklists, injuries resulting from aircraft maintenance and any other unusual circumstances deemed necessary.

5.2.5.1.16.1. **(AETC)** Develop the following functional checklists as required: emergency war order notification; major accident response (such as an explosive mishap, chemical spill, or fuel spill); aircraft in-flight emergency; aircraft crash, unauthorized aircraft movement; hijacking; sabotage, maintenance area, hangar, or flight line fire; resource protection; threatening phone call or bomb threat; attack response; recovery and decontamination of damaged aircraft; power or communication failure, including MOC evacuation; off-station aircraft recovery; and aircraft impoundment.

5.2.5.1.16.2. For OPLAN 8010 notification, use the plan implementation checklists.

5.2.5.1.16.3. Use unit OPLANs as a guide in developing these checklists.

5.2.5.1.16.4. DELETED.

5.2.5.1.16.5. The MOC will maintain checklists that implement all approved MAJCOM and local requirements. **(T-3)**

5.2.5.1.16.6. Establish a command/contingency focal point to coordinate ABDR and or Joint Combat Assessment Team (JCAT) response requests with AFMC. **(T-3) Note:** If data collection forms are required forms will be forwarded to the Aircraft Battle Damage Repair (ABDR) Technical Support Office (TSO) and JCAT. **(T-3)** For ABDR TSO, CLASSIFIED messages must be sent to: **usaf.wright-patt.afsc-lg.mbx.afsc-lgpm-abdr-tso@mail.smil.mil** and UNCLASSIFIED messages must be sent to NIPR: **afsc.lgpm.abdrtso@us.af.mil** for filing in the historical archives. For JCAT, CLASSIFIED data must be submitted via the Intellipedia Secret Internet Protocol Router Network (SIPRNET) link **https://www.intellipedia.intelink.sgov.gov/wiki/Portal:Joint_Combat_Assess**

ment Team. UNCLASSIFIED data can be sent to: JCAT (JCAT@us.af.mil).

5.2.5.1.17. Coordinate munitions delivery priorities with flying units and munitions maintenance activities, and control when tasked. **(T-3)**

5.2.5.1.17.1. Maintain a contact list and notify the base Fire Emergency Services and all applicable agencies that require notification of munitions-loaded or unloaded aircraft. **(T-3)**

5.2.5.1.17.1.1. The MOC will provide agencies with the aircraft type, tail number, location, type of explosives, and arming status. **(T-3)**

5.2.5.1.18. Upon notification of deployments, ensure all deploying equipment is identified and loaded into the IMDS-CDB, Aerospace Expeditionary Force subsystem or designated MIS equivalent for the duration of the deployment. **(T-3)**

5.2.5.1.19. Monitor and manage reporting of Hangar Queen aircraft/systems IAW **Chapter 11**.

5.2.5.1.19. **(AETC)** Report Hangar Queen data to MMA according to AETCI 21-105, *Logistics Performance Measures Reporting Procedures*. **(T-2)**

5.2.5.1.20. Notify Flightline Expediters of all OAP code conditions. **(T-3)**

5.2.5.1.20. **(AETC)** Notify the EM section of any codes that restrict or limit engine operation/aircraft flight. **(T-2)**

5.2.5.1.21. Ensure facilities and visual aids meet the following minimum standards:

5.2.5.1.21.1. A completely enclosed room with air conditioning and heating. **(T-3)** An observation room is permitted.

5.2.5.1.21.1.1. Doors to the MOC and the observation room will be either mechanically or electrically locked to control access. **(T-3)**

5.2.5.1.21.2. Isolate MOC electrical power circuits and provide a standby power source and emergency lighting. **(T-3)**

5.2.5.1.21.2.1. The MOC will establish procedures to operate standby power sources. **(T-3)**

5.2.5.1.22. Maintain the status and location of all transient aircraft. **(T-3)**

5.2.5.1.22.1. Post the priority of each transient aircraft on the status board, based on the maintenance priorities listed in **Table 1.2** **(T-3)**

5.2.5.1.22.2. Coordinate with the appropriate agency for aircraft maintenance support. **(T-3)**

5.2.5.1.22.3. Contact WS for arming or de-arming of transient aircraft IAW **Chapter 11**. **(T-3)**

5.2.5.2. MOC Maintenance Communications. Reliable, redundant, and effective communications systems are essential for efficient operation. Communications equipment will be operated and managed IAW AFI 17-210, DAFI 17-220, *Spectrum Management*, and AFI 17-130. The MOC NCOIC/SUPT will:

5.2.5.2.1. Establish a procedure to process requests for specific radio equipment to support MXG maintenance activities IAW DAFMAN 23-122.

5.2.5.2.1.1. Specific radio allowances are stated in Allowance Standard 660 at **https://usaf.dps.mil/teams/12599/AFKN_Docs/ASC%20Prefaces/ASC%20660%20Ground%20Communications%20-%20Operations%20Support.pdf**.

5.2.5.2.2. Ensure a Very High Frequency (VHF) and/or Ultra High Frequency (UHF) and/or High Frequency (HF) radio is authorized and available to provide communications between aircraft and maintenance.

5.2.5.2.3. Ensure the MOC has a hotline on the secondary crash phone net. **(T-3)**

5.2.5.2.3.1. When required, direct communications lines will be provided to QA, Munitions Control, EOD, airfield operations, base fire department, NDI, control tower and the central security control. **(T-3)**

5.2.5.2.4. Develop and exercise comm-out procedures to include loss of radios, Local Area Network (LAN) and phone. **(T-3)**

5.2.5.2.5. Ensure MOC personnel receive initial radio operating training before assuming duties involving radio operations IAW AFI 17-210 and **Chapter 11**. **(T-3)**

5.2.6. Engine Management. EM manages unit efforts to maintain adequate engine support for mission requirements by monitoring engine removals and replacements, component tracking, engine TCTOs and TCIs, engine records in the MIS and CEMS; and perform Engine Manager duties. Functions supporting EM will be combined within the wing and physically co-locate with the Propulsion Flight. **(T-3)** The SRAN Engine Manager works and is co-located with the EM section. **(T-3)**

5.2.6. **(AETC)** The 33 FW engine management function is performed by Lockheed Martin and Pratt Whitney with inputs from the unit.

5.2.6.1. Specific EM responsibilities are detailed AFMAN 20-116, AFPAM 63-129, TO 00-25-254-1, -2 and **Chapter 14**.

5.2.7. Plans, Scheduling, and Documentation (PS&D). PS&D is responsible for coordinating aircraft maintenance requirements and utilization scheduling between maintenance, operations, and external agencies. PS&D oversees the entire maintenance scheduling effort throughout the wing and notifies applicable senior managers of scheduling process discrepancies and recommended courses of action.

5.2.7.1. Specific PS&D responsibilities are detailed in **Chapter 14**.

5.2.8. Maintenance Management Analysis (MMA). MMA tracks, analyzes, and presents information to help senior leadership assess the health of the units' weapon systems and equipment. MMA acts as the group POC for MIS issues and performs analyses to assess and improve unit performance (such as, effectiveness and efficiency of unit resources and logistical support processes). The MIS provides the main source of information used by analysts to assess unit performance and capability.

5.2.8. **(AETC)** Autonomic Logistics Information System (ALIS) is the primary source of data for the F-35 aircraft.

5.2.8.1. MMA will:

5.2.8.1.1. Be centrally organized but may locate analysts in the squadron to enable maximum responsiveness and effectiveness. **(T-3)**

5.2.8.1.1.1. When analysts are located in the squadron, they will still work directly for the MMA Section NCOIC/Chief who will provide their training and monitor the quality/relevancy of their workload. **(T-3)**

5.2.8.1.2. Provide information on analysis services, capabilities and training to units and maintenance supervision. **(T-3)** At a minimum, the following will be covered; MIS changes, on-going special studies, trend analysis, performance indicators/metrics TTP. **(T-3)** For units where MMA is centralized, perform monthly visits to maintenance work centers directly associated with aircraft generation. **(T-3)**

5.2.8.1.2.1. Work with MTS and/or FTD for opportunities to provide training on analysis services and capabilities (example, Mx Orientation, DCC Course). **(T-3)**

5.2.8.1.2.2. DELETED.

5.2.8.1.2.2. **(AETC)** MMA workcenter visitations will be documented to include the minimum requirements in **paragraph 5.2.8.1.2**. **(T-2)** The Director of Operations or MX SUPT (or equivalent) will determine any additional documentation. Visits can be virtual for geographically separated units or units where the mission dictates. **(T-2)**

5.2.8.1.3. Calculate maintenance metrics and compare unit performance against MAJCOM and locally developed goals (if applicable). **(T-3)**

5.2.8.1.4. Develop products to track, monitor and identify seasonal and cyclical trends at the group, squadron, and unit level for MAJCOM reportable leading and lagging indicators. **(T-3)**

5.2.5.1.4.1. & 5.2.5.1.4.2. DELETED**.**

5.2.8.1.5. Review data for anomalies, variations, and trends to identify areas requiring further study. **(T-3)**

5.2.8.1.5.1. When significant seasonal or cyclical trends are identified in leading or lagging indicators, accomplish and document further analysis. **(T-3)**

5.2.8.1.5.1.1. Provide presentations, reports, studies/analyses, and briefings as requested or deemed appropriate. **(T-3)**

5.2.8.1.5.2. Units with like MDSs will compare and contrast metrics to identify significant variation. **(T-3)**

5.2.8.1.5.2.1. When significant variation is identified, accomplish and document further analysis. **(T-3)**

5.2.8.1.5.2.2. Provide presentations, reports, studies, analyses, and briefings as requested or deemed appropriate. **(T-3)**

5.2.8.1.6. Monitor wing, group, and squadron utilization rates. **(T-3)**

5.2.8.1.6.1. When operational requirements are not achieved, determine if

assignable causes are present. Recommend corrective actions or measures when necessary. **(T-3)**

5.2.8.1.7. Assist unit leaders with the application and interpretation of maintenance data. **(T-3)**

5.2.8.1.8. Coordinate with PS&D and unit's Maintenance Supervision to provide monthly airframe, facility, and personnel capabilities (as required), attrition, and spare factors for use in planning the annual FHP. **(T-3)**

5.2.8.1.8.1. MAJCOMs will publish attrition and spare factors computations in a supplement to this instruction reference TO 00-20-2.

5.2.8.1.8.1. **(AETC)** Develop annual attrition factors for weather, maintenance, supply, operations, and other variables into a total attrition factor. Compute and develop logistics attrition factors by month for the year (recorded from the printed weekly schedules) and provide these historical annual attrition factors to maintenance PS&D and operations scheduling prior to the start of the annual planning process. Historical attrition encompasses a minimum of 5 years of previous data for the month being planned. Historical attrition is divided by a percent in each of the following categories: weather, maintenance, supply, operations, other, and a total. Refer to AETCI 21-105 for determining attrition factors and reporting procedures. **Note:** Units with new aircraft will use attrition factors from the most comparable aircraft in their unit's inventory for a minimum of 2 years to formulate baseline attrition data for the new aircraft.

5.2.8.1.8.1.1. MMA will use MAJCOM supplement guidance to calculate attrition and spare factor computations. **(T-3)**

5.2.8.1.8.1.1. **(AETC)** Compute spare aircraft requirements annually IAW AETCI 21-105.

5.2.5.1.8.1.2. DELETED.

5.2.8.1.9. Analyze equipment performance trends to identify problems affecting the unit mission and, whenever possible, provide predictive analytical information with recommendations to unit's Maintenance Supervision. **(T-3)**

5.2.8.1.10. Verify accuracy of Job Data Documentation (JDD), flying schedule deviations, aircraft status and utilization within the MIS. **(T-3)**

5.2.8.1.10.1. Validate data entered into the MIS as part of daily analysis duties and inform affected agencies of discrepancies. **(T-3)**

5.2.8.1.10.2. Identify erroneous or missing data to the responsible agency for correction or completion. **(T-3)**

5.2.8.1.11. Control the assignment of unit work center and mnemonic codes. **(T-3)**

5.2.8.1.11.1. Coordinate with P&R, MTS, or responsible agency on the assignment of alphanumeric and work center codes. **(T-3)**

5.2.8.1.11.2. Publish written guidance to control these codes when not provided by higher headquarters. Multiple mnemonic codes may be used within a work center

code to accommodate different AFSCs assigned. **(T-3)**

5.2.8.1.11.3. Coordinate new or revised mnemonic codes with affected activities for planning purposes. **(T-3)**

5.2.8.1.11.4. **(Added-AETC)** IMDS units will ensure work center numbers comply with TO 00-20-2, Appendix A.

5.2.8.1.12. Be responsible for MIS database management. **(T-3)**

5.2.8.1.13. Assists MIS users in developing procedures for collecting information from deployments and exercises where the MIS is not available. **(T-3)**

5.2.8.1.14. **(Added-AETC)** Review sortie scheduling effectiveness and flying deviations for trends.

5.2.8.1.15. **(Added-AETC)** Inform the Operations Squadron (OS) scheduling and maintenance PS&D of schedule deviations and make recommendations based on the data extracted from the MIS, AETC Form 206C, *Aircraft Deviation Record,* or AF Form 2407*, Weekly/Daily Flying Schedule Coordination.*

5.2.8.2. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2**, the MMA Section NCOIC/Supervisor will:

5.2.8.2.1. Ensure growth of analysis personnel by developing and maintaining a plan to rotate personnel through various duty positions within MMA.

5.2.8.2.1. **(AETC)** N/A for contract units.

5.2.8.2.1.1. Establish and coordinate plans for rotating 2R0XX personnel to increase field knowledge and experience every 24 months, not to exceed 36 months. **(T-3)**

5.2.8.2.1.2. This rotation plan applies to TSgts and below as well as 3- or 5-skill level personnel of any rank. **(T-3)**

5.2.8.2.2. Define the daily, weekly, monthly, and annual roles and responsibilities for each duty position within MMA. **(T-3)**

5.2.8.2.3. Ensure the CFM approved AFSC duty titles are utilized for all MMA personnel. **(T-3)**

5.2.8.2.3. **(AETC)** N/A for contract units.

5.2.8.3. Maintenance Information Systems (MIS). For management of IMDS-CDB, FMxC2, and Reliability and Maintainability Information System (REMIS), follow AFCSM 21-556, Vol 2, *Intro to IMDS CDB*, MAJCOM/Lead Command guidance, unit procedures, and REMIS user manuals. Personal computers and software used as "stand-alone" systems are not considered MIS.

5.2.8.3.1. Request to modify/create new functionality within IMDS-CDB IAW AFCSM 21-556V2. FMxC2 units will submit a System Change Request for any new requirements or corrections to existing features. **(T-3)**

5.2.8.3.2. Database Manager (DBM) will identify functions that require subsystem monitors and provide applicable training to those responsible for ensuring the accuracy/sustainment of their subsystem. **(T-3)**

5.2.8.3.2.1. Subsystem monitors will be appointed by the Section Chief of subsystem functions (such as, PS&D Section Chief appoints and signs appointment letter for configuration management). **(T-3)**

5.2.8.3.2.2. MMA is responsible for the overall management of the JDD subsystem. **(T-3)**

5.2.8.3.3. MAJCOMs will provide guidance describing the management of the MIS listed in **paragraph 5.2.8.3** within their command.

5.2.8.3.3. **(AETC)** IMDS-CDB Subsystems Monitors. Each IMDS-CDB subsystem is controlled by a specific subsystem monitor who ensures using personnel are qualified to use the respective subsystem, serve as the first line of help for users with subsystem specific problems, and are knowledgeable of Air Force Computer System Manual (AFCSM) 21-series manuals. If the subsystem monitor cannot resolve a problem, elevate it to the DBM. Each subsystem monitor reports hardware/software problems to the unit DBM, assists Maintenance Training in developing and conducting familiarization courses for IMDS-CDB users, monitors access to their subsystem via TRIC security and approves/disapproves requests for TRIC access for users and forwards to DBM for processing. The following list assigns functional responsibilities for the various IMDS-CDB subsystems: **(T-2)**

5.2.8.3.3.1. **(Added-AETC)** PS&D is responsible for overall management of aircraft operational event, special inspection, time change, TCTO, aircraft equipment transfer, Generic Configuration Status Accounting Subsystem, and aircraft inventory subsystems. Coordinate with MMA on the Air Expeditionary Force subsystem.

5.2.8.3.3.2. **(Added-AETC)** The EM section is responsible for CEMS.

5.2.8.3.3.3. **(Added-AETC)** MOC is responsible for overall management and control of the location subsystem and aircraft status reporting (IMDS-CDB/ REMIS corrections).

5.2.8.3.3.4. **(Added-AETC)** Avionics section is responsible for overall management and control of the Automatic Test Reporting System (IMDS-CDB/REMIS corrections).

5.2.8.3.3.5. **(Added-AETC)** Egress section is responsible for overall management and control of the egress configuration management (IMDS-CDB/REMIS/ALIS corrections).

5.2.8.3.3.6. **(Added-AETC)** MT is responsible for overall management and control of the training management subsystem.

5.2.8.3.3.7. **(Added-AETC)** Debriefing section(s) is responsible for overall management and control of the automated debriefing subsystem. If more than one debriefing section exists, local wing procedures will assign the subsystem management to one debrief section.

5.2.8.3.4. At a minimum, the MMA MIS/Host DBM will ensure:

5.2.8.3.4.1. MAJCOM coordination occurs when problems exist that are beyond the scope of responsibilities of Host DBMs. **(T-3)**

5.2.8.3.4.2. IMDS-CDB/FMxC2 security is maintained IAW AFI 17-130, *Cybersecurity Program Management*.

5.2.8.3.4.2.1. MMA personnel coordinate MIS access permission requirements to enable MDD on non-possessed aircraft. **(T-3)**

5.2.8.3.4.3. MMA personnel provide expertise on IMDS-CDB/FMxC2 for resolution of problems beyond the work center and sub-system monitors' control. **(T-3)**

5.2.8.3.4.4. Support is provided to tenant organizations and users. **(T-3)**

5.2.8.3.4.5. Coordination with the Defense Enterprise Computing Center or AF Network Control Center on all matters concerning IMDS-CDB. **(T-3)**

5.2.8.3.4.6. The Defense Enterprise Computing Center supports all requirements concerning the operation and maintenance of IMDS-CDB. **(T-3)**

5.2.8.3.4.7. Scheduled MIS downtime is published for users. **(T-3)**

5.2.8.3.4.7. **(AETC)** The DBM will prepare a maintenance automated data system limited contingency plan for short-term (5 days or less) and long-term (more than 5 days) automation nonsupport. **(T-2)** As a minimum, the plan must address:

5.2.8.3.4.7.1. **(Added-AETC)** Manual backup procedures for MIS as well as restart and recovery priorities and procedures.

5.2.8.3.4.7.2. **(Added-AETC)** Procedures for accomplishing off-site processing and return and distribution of output products.

5.2.8.3.4.7.3. **(Added-AETC)** Restart and/or recovery priorities and procedures for home-site operations upon regaining base.

5.2.8.3.4.7.4. **(Added-AETC)** Refer MIS-related problems that cannot be locally resolved by DBM personnel to the HQ AETC Information Systems Branch (HQ AETC/A4PI). If HQ AETC/A4PI cannot solve the problem, request assistance from system program managers.

5.2.8.3.4.8. MMA personnel control and monitor submissions of IMDS-CDB Difficulty Report(s). **(T-3)**

5.2.8.3.4.9. Coordination occurs on matters pertaining to the interface of other automated systems with IMDS-CDB. **(T-3)**

5.2.8.3.4.9.1. **(Added-AETC)** The host IMDS-CDB DBM will monitor the transmission to and receipt of files from REMIS via defense data network address record, screen 881.

5.2.8.3.4.9.2. **(Added-AETC)** Process the Document Validation Report (DVR), TRIC DVR, format 1, monthly and distribute output as required. **(T-2)**

5.2.8.3.4.10. A functional checklist is developed to establish timelines and MIS

data capture requirements for use in the event of a weapon system mishap. **(T-3)**

5.2.8.3.4.10.1. The checklist must require immediate capture and isolation of the historical data for the mishap weapon system regardless of the time or day of week. **(T-3)** Contact the Host DBM to immediately put the IMDS-CDB in File Update Mode (when required) until the functional checklist can be completed. FMxC2 equipment records will be locked using screen 9012 (Lock/Unlock Aircraft/Data Records). **(T-3)**

5.2.8.3.4.10.2. **(Added-AETC)** FMxC2 DBM aircraft mishap procedures: QA or MOC provides FMxC2 DBM with tail number of mishap aircraft. FMxC2 DBM locks aircraft record via screen 9012 (Lock/Unlock Aircraft Data bases). FMxC2 DBM prints aircraft maintenance history, on-equipment and engine records via batch report 67117 (Discrepancy Search and Print Program). FMxC2 DBM provides aircraft maintenance history printout to production superintendent and investigation team. Aircraft record remains locked until QA or MOC requests FMxC2 DBM unlock record.

5.2.8.3.4.10.3. **(Added-AETC)** IMDS-CDB DBM aircraft mishap procedures: Process screen 931, TRIC: FRZ (equipment record freeze). Put the system in file-update mode by processing IMDS-CDB screen 891. Background and online reports can be accomplished by individual IMDS-CDB screens or via IMDS-CDB screen 986 (aircraft incident report). As a minimum, process the following: Screen 418, TRIC: ARC (automated records check report by equipment ID). Screen 429, TRIC: TRE (equipment transfer format 1 (equipment ID)). Screen 182, TRIC: JRE (enterprise maintenance history report, 2 years minimum or data available). Screen 460, TRIC: EST (summarized/detailed/current status for equipment ID). Screen 510, TRIC: SHD (significant historical data (AFTO 95s)). Screen 380, TRIC DOM (Documented Maintenance Inquiry). Screen 700, TRIC OTP (Update Operating Time).

5.2.8.3.4.10.4. **(Added-AETC)** Perform static data base save and archive dump tapes. For procedures contact HQ AETC/A4PI.

5.2.8.3.4.10.5. **(Added-AETC)** Take the system out of file update mode. Provide copies to investigation team.

5.2.8.3.4.10.6. **(Added-AETC)** Load User-IDs for file-update mode access (Screen 992, TRIC: MIK (Master Instruction Card)). At a minimum, include Unit Database Managers, AETC Command Database Managers, and Enterprise Database Managers. For current User-ID listing contact AETC/A4PI.

5.2.8.3.4.11. Support of the Communications-Electronics maintenance community referring to DAFI 21-103 and TO 00-33A-1001, *Methods and Procedures, General Cyber Defense Operations Activities Management Procedures and Practice Requirements,* for maintenance analysis and host DBM responsibilities.

5.2.8.3.4.11.1. **(Added-AETC)** The host IMDS-CDB DBM will ensure the C-E IMDS CDB/REMIS Reconciliation Program, program NFS5B0, executes as scheduled on screen 730 and distribute output as required. **(T-2)**

5.2.8.3.4.11.2. **(Added-AETC)** Process the C-E Status Summary Report, TRIC SSR, format 1 and 4, monthly and distribute output as required. **(T-2)**

5.2.8.3.4.12. Control of access to specific IMDS-CDB programs and subsystems by utilizing Transaction Identification Codes (TRICs) security profiles or screen 9057 (program access) for FMxC2. **(T-3)**

5.2.8.3.4.12.1. Audit permissions to IMDS security profiles and FMxC2 access keys annually. Take appropriate measures when a compromise is suspected or reported. **(T-3)**

5.2.8.3.4.12.1. **(AETC)** Specific TRICs or options within TRICs will be restricted by the DBM on request from the subsystem manager or when the DBM deems it necessary. **(T-3)** DBM can restrict TRIC options from personnel who are in violation of the TRIC. If TRIC security has been removed due to a violation, the Subsystem Manager of the restricted TRIC will train the member and notify the DBM when to reinstate privileges.

5.2.8.3.4.12.2. Semi-annually audit IMDS ELC access. **(T-3)**

5.2.8.3.4.13. IMDS-CDB subsystem managers are informed of the status of applicable TRICs prior to turning the TRIC on or off. **(T-3)**

5.2.8.3.4.13. **(AETC)** The host IMDS-CDB DBM will review the output files to ensure the proper execution of JDD Delete History, TRIC SHM, Delete History, TRIC DLH, and Detailed Utilization and Maintenance, TRIC DUM as scheduled on screen 730.

5.2.8.3.4.14. **(Added-AETC)** Control and distribute local unit IMDS-CDB products after processing is complete as required. Ensure the IMDS TCTO resynchronization, program NFS1M0, executes monthly as scheduled on screen 730 and distribute the output file to the TCTO monitor.

5.2.8.3.5. MMA is the focal point for codes used on the maintenance data documentation process. This includes maintenance deferred codes, delayed status codes, flying scheduling deviation and cause codes listing. **(T-3)**

5.2.8.3.5.1. Use the MAJCOMs approved codes and narrative for official use. Code listings will be adjudicated yearly by all commands. **(T-2)**

5.2.8.3.5.2. Recommended changes, additions, and deletions to these codes and/or data elements will be adjudicated and approved by all MAJCOMs. MMA will submit request to their respective MAJCOM to initiate and coordinate any updates to the code listings. **(T-2)**

5.2.8.3.6. Data Integrity. MMA is the OPR for the Data Integrity Team (DIT). All maintenance units will participate in the DIT program. **(T-3)**

5.2.8.3.6.1. The purposes of the DIT include: (1) ensuring the unit has complete and accurate data in the MIS and aircraft forms, (2) identifying and quantifying problems within the unit preventing complete and accurate documentation, and (3) identifying and correcting the root causes for poor data integrity. The DIT is established to evaluate/isolate/eliminate documentation problems in IMDS-

CDB/FMxC2/DPAS M&U Module. MMA will ensure that all assigned DIT members are trained in the use of MIS applicable programs for the data integrity review/correction process. **(T-3)** Errors identified by the DIT team will be reconciled IAW **Paragraph 5.2.5.3.6.5**. **(T-3) Note:** DIT should be aware of Logistics Interference (LI) and data errors that may be the result of purposeful efforts. DIT will note possible LI and monitor for trends and report unusual behavior IAW AFI 17-130.

5.2.8.3.6.2. The DIT will include, at a minimum, one representative from each squadron under the MXG. It will include participation from PS&D, MOC, DMS, EM, Debrief Section, and QA as determined by MMA. **(T-3)**

5.2.8.3.6.3. MAJCOMs will determine the frequency of DIT meetings.

5.2.8.3.6.3. **(AETC)** DIT meetings will be held monthly.

5.2.8.3.6.4. Representatives will be at least a SrA that possesses a 5-skill level and is familiar with the unit's assigned weapon system(s). **(T-3)**

5.2.8.3.6.5. As a minimum, the following functions will be performed by the DIT:

5.2.8.3.6.5.1. Educate group, squadron, and AMU leadership on the importance of data integrity including the impacts of erroneous data.

5.2.8.3.6.5.2. Ensure MIS accurately reflects AFTO Form 781-series forms entries.

5.2.8.3.6.5.3. Run maintenance action review background reports for all work accomplished by squadrons and work centers.

5.2.8.3.6.5.3.1. Audit the report by JCN/WCE (Work Event Separator for FMxC2) to identify suspected errors.

5.2.8.3.6.5.3.2. Responsibility for correcting errors belongs to the performing work center.

5.2.8.3.6.5.3.2.1. The use of general WUCs/LCNs when a component level WUC/LCN exists will be counted as an error. **(T-3)**

5.2.8.3.6.5.3.3. Audit for Weapons System status, flying schedule deviation and utilization errors. **(T-3)**

5.2.8.3.6.5.3.4. Use of automated processes is authorized.

5.2.8.3.6.5.3.4. **(AETC)** IMDS units may use the IMDS DIT script (Screen 795) to identify errors until migration to the FMxC2 single MIS, which has an embedded capability to identify errors.

5.2.5.3.6.5.4.1. DELETED.

5.2.8.3.6.5.3.5. Develop a system to track, measure and report data integrity errors by work center, AMU, and squadron. **(T-3)**

5.2.8.3.6.5.3.6. Implement training programs that are geared toward correcting data integrity trends. **(T-3)**

5.2.8.3.6.6. **(Added-AETC)** The AETC standard for After Correction Error Rate

is 2.5%.

5.2.8.3.6.7. **(Added-AETC)** MMA will brief DIT results to the MXG/CC or representative monthly and will include as a minimum: before correction rate, after correction rate, high driver trends, participation rate.

5.2.8.4. **(Added-AETC)** Deficiency Analysis is the responsibility of the MMA section. MMA will:

5.2.8.4.1. **(Added-AETC)** Review QA summaries for positive and negative trends.

5.2.8.4.2. **(Added-AETC)** Review debriefing data and abort information daily to assist in the identification of problem aircraft or systems.

5.2.8.4.3. **(Added-AETC)** As a minimum, perform monthly reviews of:

5.2.8.4.3.1. **(Added-AETC)** Delayed discrepancy lists for technical errors or negative trends.

5.2.8.4.3.2. **(Added-AETC)** Repeat/recur discrepancy lists for problems.

5.2.8.4.3.3. **(Added-AETC)** High CND rates and incidents for inadequate troubleshooting or technical data problems.

5.2.8.4.3.4. **(Added-AETC)** Review aircraft scheduling deviations for negative maintenance practices and trends that impact work force and workload stability.

5.2.8.4.4. **(Added-AETC)** Analyze the performance of selected systems, subsystems, and components to help determine the source of problems affecting the mission of the unit.

5.2.8.4.5. **(Added-AETC)** Attend QA and Product Improvement Working Group (PIWG) meetings and provide trend data as needed.

5.2.8.4.6. **(Added-AETC)** Deficiency Analysts. Deficiency Analyst may be appointed to assist MMA with deficiency analysis. If a Deficiency Analyst is appointed, they will be a 5- or 7- level and should have at least 6 months experience on the weapon system. At least one of the deficiency analysts assigned will be a SSgt with the following skills: aircraft maintenance, off-equipment avionics, flight line avionics, or engines. Other skills may be included to effectively analyze specific functions of an aircraft weapon system. Ensure candidates have sufficient writing and math skills to perform the job. Deficiency analysis technicians will be rotated back to their maintenance section or flight line within 36 months to maintain AFSC proficiency. Deficiency analysts serve a dual role; they provide analytical support to the squadrons and maintenance managers, and also provide technical expertise for the MMA section. They use analytical data and their technical knowledge to identify problems, work with the customer, and help find solutions. They should not limit themselves to pointing out general areas for investigation. They should identify deficiencies applicable to a work center, particular equipment end item, maintenance practice, or management action. Deficiency analysts will not be utilized as full time DIT monitors.

5.3. Maintenance Training (MT). MT consists of the Training Management Element and the Development and Instructor Element. Maintenance Training assists SQ/CCs by providing Unit Training Managers (UTM) to manage the enlisted specialty training program. MT will:

5.3. (AETC) Maintenance Training (MT). AETC maintenance training directives include AFI 36-2650, AFI 36-2650_AETCSUP, *Maintenance Training*, and this supplement.

5.3.1. Provide initial, recurring, and advanced proficiency, qualification, or certification training needed by a technician to perform duties in their primary AFSC and manage course codes to track training IAW AFI 36-2650 and DAFMAN 36-2689.

5.3.2. Serve as the single point of contact for all training matters affecting maintenance. **(T-3)**

5.3.3. The MT Superintendent/NCOIC will maintain administrative responsibility for UTMs whether UTMs are centralized or decentralized. **(T-3)**

5.3.4. Develop and administer appropriate Maintenance Cyber Discipline training. Training will be tailored to DoD Information Technology used locally and will emphasize authorized, and unauthorized uses, prevention, detection, remediation, and provide an overview of recent negative trends and effective mitigation techniques. **(T-3)**

5.3.4.1. Coordinate with Quality Assurance, MXG/CC designated responders, and facilitators for action when discovery that DoD Information Technology lacks the capability to perform a mission function. **(T-3)** Example: Enhanced Technical Information Management System containing software for a TO task that does not have a hardware TO approving its installation or use.

5.3.5. **(Added-AETC)** Corrosion Prevention and Control Training. All aircraft maintenance personnel will receive general corrosion prevention and identification refresher training at least annually, they will also receive local and unique corrosion awareness training. Ensure sufficient training opportunities are provided for classic associate unit personnel during Unit Training Assembly days. Training will be a combination of Interactive Multimedia Instruction (IMI) and local and unique corrosion awareness training will be developed by the Wing Corrosion Manager.

5.3.5.1. **(Added-AETC)** IMI Training will consist of the Corrosion Control Familiarization Course 1 downloadable from **https://www.youtube.com/watch?v=EHMW0_iKzPs**. The CCFC video can also be found on the Air Force Corrosion Prevention and Control Office (AFCPCO) SharePoint at: **https://usaf.dps.mil/teams/21080/Corrosion/Training/Training%20Video%20-%20Corrosion%20Control%20Familiarization%20Course.mp4**.

5.3.5.2. **(Added-AETC)** AFSC 2A7X3 (ASM) 2A7X5 (LOASM) personnel and civilian equivalent are exempt from periodic corrosion familiarization training.

5.3.5.3. **(Added-AETC)** En route personnel must accomplish the IMI but are exempt from the supplemental training. **(T-2)**

5.3.6. **(Added-AETC)** If group block training method is used, supplemental training is conducted by the Wing or contract maintenance Corrosion Manager or designated representative holding a primary AFSC of 2A773 or 2A790. If block or refresher training is done on an individual basis, the supplemental training should be self-supporting, such as a short video, PowerPoint presentation, or other medium that the individual can review.

5.3.7. **(Added-AETC)** The Corrosion Manager, in conjunction with the Unit Maintenance Training Manager, develops formal classroom training curriculum. As a minimum, the curriculum will include: **(T-2)**

5.3.7.1. **(Added-AETC)** Corrosion identification procedures and techniques using the most current available Air Force aircraft corrosion visual training aids and information.

5.3.7.2. **(Added-AETC)** Identification of corrosion prone areas on unit specific weapon systems and equipment.

5.3.7.3. **(Added-AETC)** Reporting and documentation procedures for identified corrosion.

5.3.7.4. **(Added-AETC)** Importance of proper selection and use of sealants, corrosion prevention compounds, and lubricants.

5.3.7.5. **(Added-AETC)** Proper selection and use of all cleaning materials.

5.3.8. **(Added-AETC)** The corrosion manager periodically updates training material and information with the assistance of the unit maintenance training manager and information gained from CPABs and corrosion manager's conferences.

5.3.9. **(Added-AETC)** Periodic corrosion training does not replace normal on-the-job training requirements in any career field.

5.4. Programs and Resources (P&R). P&R serves as the MXG focal point for interaction with external functional support activities to ensure critical mission generations support, infrastructure personnel management and resources are configured to maximize mission capability/AA. P&R program configurations may vary based on mission but generally P&R coordinates with functional base OPRs to interact on Facility Management (FM), Vehicle Control (VCO), Support Agreements, Unit Safety, Security, Resources, Manpower, Environment, Deployment and Maintenance Information System programs as applicable. Units will maximize consolidation of personnel assigned in P&R as described in **Paragraph 2.4.14**. P&R will:

5.4.1. Develop, maintain, and coordinate all applicable AFI-directed programs and plans affecting maintenance. **(T-3)**

5.4.2. Act as the resource advisor to the MXG/CC. **(T-3)**

5.4.3. Coordinate with the MXG/Squadron SUPTs to manage manpower authorizations for the MXG. **(T-3)**

5.4.4. Serve as the focal point within the MXG for management of facilities. **(T-3)**

5.4.4.1. Ensure fire detection and foam suppression training is included in unit facility manager/ occupant training briefings. **(T-3)**

5.4.5. Serve as the Environmental Coordinator focal point within the MXG. **(T-3)**

5.4.6. Serve as the focal point for MXG deployment planning and execution actions. **(T-3)** If designated as a UTC pilot unit IAW DAFI 10-401, *Operations Planning and Execution*, P&R will:

5.4.6.1. Coordinate with other UTC tasked units on cargo and equipment authorizations/requirements to develop and maintain a standardized package to meet specific mission capability requirements. **(T-3)**

5.4.6.2. Coordinate with the unit equipment custodian(s) to review equipment changes and new equipment requirements driven by changes to UTCs and/or Allowance Standards (AS). **(T-3)**

5.4.6.3. Assist with coordination of site surveys for deployment locations and maintain copies of the Expeditionary Site Plan (ESP) Part I for deployment locations IAW AFI 10-404, *Base Support and Expeditionary (BAS&E) Site Planning*.

5.4.6.4. Coordinate with QA biennially to verify aircraft MDS Hot Pit refueling capabilities are current and accurate in Base Support and Expeditionary and ensure applicable ESP/BSP Parts I and II accurately reflect unit capabilities IAW AFI 10-404, if applicable. **(T-3)**

5.4.7. Oversee local, functional or host country unique support agreements applicable to the MXG IAW AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures*.

5.4.8. Develop and coordinate MXG commercial contracts as directed by the MXG/CC. **(T-3)**

5.4.9. Manage readiness reporting for the MXG IAW AFI 10-201.

5.4.10. Coordinate with LRS Deployment & Distribution Flight to obtain unit assistance in interpreting guidance for marking, packing, and marshaling of tasked equipment IAW DAFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*, DAFI 10-401 and DESR6055.09_AFMAN 91-201.

Chapter 6

QUALITY ASSURANCE (QA)

6.1. General. Maintenance quality and equipment reliability is the responsibility of all maintenance personnel. The combined efforts of QA personnel, maintenance leaders, and technicians are necessary to ensure high quality maintenance production and equipment reliability. The QA staff evaluates the quality of maintenance accomplished and performs necessary functions to manage the MSEP. Personnel assigned to QA are not an extension of the work force and will not be tasked to perform sortie production inspections unless authorized by the MXG/CC or MGFE/CC on a case-by-case basis. **(T-2)** QA serves as the primary technical advisory agency in the maintenance organization, assisting maintenance supervision at all levels to identify, validate and/or resolve quality, proficiency and/or compliance issues impacting mission generation. The evaluation and analysis of deficiencies and problem areas identified are key functions of QA that highlight and reveal underlying causes of poor quality in the maintenance production effort. Aircraft and equipment condition and personnel proficiency are validated through the MSEP and recorded in the Logistics Evaluation Assurance Program (LEAP) QA database. Civil service and contracted personnel are to follow requirements established in their respective civilian position description/contract and accepted quality assessment system.

6.1. (AETC) General. Civil Service units will use LEAP. **(T-2)** LEAP is optional for COR. Contract maintenance units follow the applicable PWS.

6.2. Responsibilities. QA is responsible to the MXG/CC or equivalent to perform as the primary technical advisory agency for maintenance actions and to assist work center supervisors in reviewing tasks involved in supporting the maintenance effort. MXG QA Inspectors have the authority to observe, correct and document applicable maintenance activities performed within the MXG. QA will:

6.2.1. Implement and administer the MSEP and other programs as applicable to include:

6.2.1.1. Product Improvement Program (PIP). **(T-2)**

6.2.1.1.1. DR. **(T-2)**

6.2.1.1.2. Product improvement inputs. **(T-2)**

6.2.1.2. Aircraft and equipment impoundment procedures IAW **Chapter 7**.

6.2.1.3. Functional Check Flight (FCF) program IAW this Chapter. **(T-2)**

6.2.1.4. W&B Program IAW this **Chapter**.

6.2.1.5. Hot Refuel/Defuel and Aircraft-to-Aircraft Refuel Programs if applicable. **(T-2)**

6.2.2. Review and analyze aircraft aborts, IFEs, and incidents involving damage to equipment or injury of personnel to determine if trend analysis, cross-tell or MSEP focus is warranted. **(T-2)**

6.2.3. Comply with the configuration management program requirements IAW **Chapter 14**. **(T-2)**

6.2.4. In coordination with PS&D, comply with TCTO Program requirements IAW **Chapter 14**, TO 00-5-1 and TO 00-5-15.

6.2.5. In conjunction with PS&D, develop a local Job Standard (JST) for both gaining and losing aircraft and equipment transfer inspection IAW **Chapter 14**. **Note:** For the purpose of this instruction JST is an alpha code identifying the type of job represented in a job standard (defined in IMDS User's Manual AFSM 21-566, Volume 2).

6.2.6. Coordinate with PS&D on all AFTO Form 103s. **(T-2)**

6.2.7. Manage OTIs. **(T-2)**

6.2.8. Augment evaluations at the request of the WS. **(T-2)** Flightline weapons loading inspections/evaluations are the responsibility of WS evaluators.

6.2.9. Evaluate unit maintenance management procedures, including locally developed forms, publications, OIs, checklists, for accuracy, intent, and necessity as referenced in this DAFI.

6.2.10. Evaluate cyber hygiene, discipline practices, and cyber incident reporting per applicable TO, Wing directive, and this instruction for compliance. **(T-2)**

6.2.10.1. Report weapons system and support equipment cyber related deficiencies to the applicable Program Manager IAW T.O. 00-35D-54.

6.2.10.1.1. Elevate resolution of deficient cyber-requirements or issue via an AF Form 1067, Modification Proposal IAW AFI 63-101/20-101, and/or maintenance assistance request (such as, Technical Assistance Request) IAW TO 00-25-107 *Maintenance Assistance*.

6.2.11. **(Added-AETC)** Serve as evaluators during aircraft crash recovery exercises. Develop functional checklists listing the sequence of critical actions, TO use, and training documentation. **(T-2)** As a minimum, exercises will evaluate aircraft lifting procedures and -2 and -3 TO preparatory actions. Perform these exercises annually IAW TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. Units with multiple MDS are not required to lift each MDS annually, but must incorporate training on procedures for each MDS annually. **(T-2) Note:** Crash recovery exercises may be included in Exercise Evaluation Team conducted exercises.

6.2.12. **(Added-AETC)** Control T-38 flight control decals and administer the challenge and response program according to T-38 series TOs. **(T-2)**

6.2.13. **(Added-AETC)** Ensure QA summaries are uploaded to the 19 AF/A4 AFIS SharePoint site monthly **https://usaf.dps.mil/sites/aetc-19af/lg/afis/default.aspx**, NLT the 10th duty day of each month. **(T-2)** When QA personnel change, ensure 19 AF/A4PP is notified to provide updated permissions.

6.2.14. **(Added-AETC)** Review and coordinate all TO 00-25-107 requests.

6.2.15. **(Added-AETC)** Evaluate at least 10% of all aircraft washes and at least 10% of all AGE washes for technical data compliance.

6.2.16. **(Added-AETC)** Evaluate at least 10% of all aircraft corrosion inspections and at least 10% of all AGE corrosion inspections.

6.2.17. **(Added-AETC)** Evaluate at least 10% of all aircraft paint touchups and at least 10% of all AGE paint touchups.

6.2.18. **(Added-AETC)** Evaluate all aircraft full paints and at least 50% of all AGE full paints.

6.2.19. **(Added-AETC)** Review wash rack cleaning agents for QPL/QPD compliance on a quarterly basis.

6.2.20. **(Added-AETC)** QA in concert with the Wing or contract maintenance Corrosion Manager will ensure an acceptance inspection is accomplished on all off-station paints upon return to home station. **(T-2)**

6.2.21. **(Added-AETC)** Ensure Personal Protective Equipment (PPE) is serviceable and properly utilized.

6.3. QA Superintendent (QA SUPT) Responsibilities. In addition to the applicable Flight CC/SUPT duties in **Chapter 2** the QA SUPT will:

6.3.1. Develop and maintain a master training plan to train all QA Inspectors, and include augmentees, if applicable. **(T-2) Note:** See **Paragraph 5.2.1.13** for minimum MAJCOM training requirements for inspectors inspecting MXO function.

6.3.2. Develop and monitor the MSEP using the LEAP QA database and provide supervisors access to MSEP data. **(T-2)**

6.3.3. Notify the appropriate agencies when deficiencies are found in (AF, MAJCOM/Lead Command, WG, Group (GP)) instructions. **(T-2)**

6.3.4. Review maintenance-related instructions, supplements, operating instructions, forms, and local/functional and emergency action checklists every two years or when source data changes for accuracy, intent, and necessity. **(T-2)**

6.3.4.1. The QA SUPT will document the review once complete. **(T-2)**

6.3.5. Review JSTs annually or when source data changes for accuracy, intent, and necessity. **(T-2)**

6.3.5.1. The QA SUPT will document the review once complete. **(T-2)**

6.3.6. Ensure management and special inspections are performed (when required). **(T-2)**

6.3.7. Ensure the GP portion of the FOD Prevention Program is conducted IAW **Chapter 11**. **(T-2)**

6.3.8. Oversee and implement the GP Impoundment Procedures IAW **Chapter 7**. **(T-2)**

6.3.9. Coordinate on all requests for locally manufactured, developed, and modified tools and equipment, and maintain records for approved requests. **(T-2)**

6.3.9.1. This includes pictures or drawings and a description of the use for each item.

6.3.9.1.1. If applicable technical data contains the option for use of these tools and equipment, QA does not need to coordinate or maintain the records on these items.

6.3.9.1.2. Locally manufactured, developed, or modified equipment for weapons loading, maintenance and the armament systems flight must be coordinated through the WWM before routing to QA. **(T-2)**

6.3.10. Verify IPI requirements from MAJCOM and sources outlined in TO 00-20-1 and publish combined MXG IPI listing every 2 years as a minimum or when source data changes. **(T-2)**

6.3.11. Develop KTL/RIL to supplement MAJCOM listings (if required). **(T-2)**

6.3.11.1. Provide copies of approved KTL/RIL to all affected organizations. **(T-2)**

6.3.12. Ensure Acceptable Quality Level (AQL) Standards are developed for all tasks including key tasks and routine inspections not included on the MAJCOM AQL. **(T-2)**

6.3.13. Ensure agendas and presentations are compiled for the MSEP summary. **(T-2)**

6.3.14. Review wing requests for assistance IAW **Chapter 1** and **Chapter 14**.

6.3.15. Designate a Chief Inspector. **(T-2)**

6.3.16. Designate individuals to be the Technical Order Distribution Office (TODO) and Product Improvement Manager (PIM). **(T-2)**

6.3.17. Designate individuals to be the W&B and FCF Program managers. **(T-2)**

6.3.18. Monitor the ASIP IAW **Chapter 11**.

6.3.19. Maintain DOP program oversight IAW **Chapter 11**.

6.3.20. When hot refueling is performed by maintenance personnel, ensure Hot Refueling Program is accomplished IAW TO 00-25-172 and this DAFI.

6.3.21. Ensure non-resident organizations hot refueling aircraft at an AF certified hot pit coordinate site/personnel certification, utilization and documentation requirements with the supporting QA and Airfield Management/Operations. **(T-2)**

6.3.21.1. Using units are responsible for maintaining currency/reporting requirements. **(T-2)**

6.3.22. Ensure designated Responders/facilitators respond to DoD IT incidents that lack the capability to perform a mission function. **(T-2)**

6.3.22.1. Consolidate and report incidents in conjunction with appropriate POC (e.g., WAM, TODO, or designated official). **(T-2)** Example: ETIMS containing software for a TO task that does not have a hardware TO approving its installation or use.

6.4. Chief Inspector Responsibilities. The Chief Inspector is responsible to the QA SUPT for ensuring functions listed below are performed and is responsible for applicable Section NCOIC/Chief duties in **Chapter 2**. The Chief Inspector will:

6.4.1. Use assigned inspectors/augmentees to provide on-the-spot assistance to correct problems. **(T-2)**

6.4.2. Spot-check TOs, inspection work cards, checklists, job guides and WUC manuals during evaluations and inspections for currency and serviceability. **(T-2)**

6.4.3. Assist MMA with investigations and studies. **(T-2)**

6.4.4. Review QA LEAP MSEP inspection summary inputs for accuracy and content. **(T-2)**

6.4.5. Initiate actions when additional attention is required to resolve adverse maintenance trends or training problems. **(T-2)**

6.4.5.1. Actions include preparing cross-tell information bulletins and messages for MXG/CC release to other similarly equipped units and higher headquarters.

6.4.6. Review and compile inputs for updating the IPI listing. **(T-2)**

6.4.6.1. Maintain a copy of the MXG/CC or equivalent approved IPI listing with the signature and date of review and certification. **(T-2)**

6.4.7. Review Category II major discrepancies for trends quarterly. **(T-2)**

6.4.7.1. If frequency or severity of identified discrepancies warrant inclusion of that item into a specific TO governing an action or inspection, the QA Chief Inspector must submit an RC or develop a local work card, local page supplement or checklist IAW TO 00-5-1.

6.4.8. Establish procedures for QA Inspectors to document completed inspections. **(T-2)**

6.4.9. Perform inspections on GITA IAW **Chapter 11**. **(T-2)**

6.4.10. Construct and maintain a master standardized AFTO Form 781-series forms binder IAW TO 00-20-1.

6.4.10. **(AETC)** The master AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document* binder may be produced and maintained in the form of an instruction instead of keeping a master binder for each MDS.

6.4.11. Develop an aircrew briefing checklist specifically for high-speed taxi checks (see **Paragraph 6.14**). **(T-2)**

6.4.12. Review MSEP data monthly to identify high-missed carded items from Personnel Evaluations and Quality Verification Inspections (QVI). **(T-2)** A high-missed carded item is defined as any work card item missed at least three times during a one-month period.

6.4.12.1. Coordinate with MMA to identify any relationships with repeat, recur and CND trends. **(T-2)**

6.4.12.2. Include this data in the monthly MSEP summary. **(T-2)**

6.4.13. Conduct Evaluator Proficiency Evaluations on each inspector. **(T-2)**

6.4.13.1. Evaluators Proficiency Evaluation (EPEs) will be conducted while the Chief Inspector assesses one Personnel Evaluation (PE) and one technical inspection (QVI/Special Inspection (SI)). **(T-2)**

6.4.13.2. Each QA Inspector, permanent or augmentee, must pass both EPEs prior to performing unsupervised evaluations and inspections. **(T-2)**

6.4.14. Document QA Inspector training in the MyTraining. **(T-2)**

6.4.15. Ensure each discrepancy/finding within rated inspections, evaluation, and observation reports have been assigned both a Category (CAT I or CAT II) and a Finding Severity (Maj or Min).

6.5. Quality Assurance Inspector Responsibilities. QA Inspectors will:

6.5.1. Evaluate flightline and back shop maintenance tasks/inspections and MXO functions to include items identified by the KTL/RIL. **(T-2)**

6.5.2. Enter inspection and evaluation reports into the LEAP QA database. **(T-2)**

6.5.3. Perform QA review of Dull Swords, TCTOs, OTIs, modification proposals, DRs, RCs, instructions, and supplements. **(T-2)**

6.5.3. **(AETC)** Perform QA TCTO review IAW **paragraph 14.3.3.3.1**.

6.5.4. Provide training/instruction as applicable to address deficiencies identified during evaluations/inspections. **(T-2)**

6.5.5. Evaluate forms and MIS documentation to evaluate compliance IAW MXG written procedures described in **Chapter 2**. **(T-2)**

6.5.6. Evaluate maintenance TO files that are kept on the aircraft (G files). **(T-2)**

6.6. Quality Assurance Inspector Training. As a minimum, the local QA Inspector Training Plan will include the applicable items listed below to ensure QA program standardization. **(T-2)**

6.6.1. Training must cover inspection and evaluation techniques, documenting inspection worksheets and actions to prevent injury to personnel or property/equipment damage. **(T-2)**

6.6.2. All EPEs must be tracked in the MIS and/or the LEAP QA database. **(T-2) Note:** Additional requirements for Nuclear Weapons Certifying Officials are located in AFI 21-204.

6.6.3. QA Inspectors inspecting outside of their AFSC will be task qualified on a Work Center Job Qualification Standard (WJQS) in MyTraining for the KTL requirements they evaluate. **(T-2)**

6.6.3.1. Chief Inspectors will identify other critical tasks requiring DAF Form 797, *Job Qualification Standard Continuation/Command JQS*, qualification (QA WJQS) within MyTraining as required. **(T-2)**

6.6.3.2. For all other tasks, QA Inspectors must be familiar with the requirements/procedures of tasks they evaluate. **(T-2)**

6.6.3.2.1. Cross-utilization for QA Inspectors is not allowed for 2W1, 2W0, 2A7X2, or 2P0X1 career field specific tasks. Inspectors will hold the respective AFSC, have accomplished any required ancillary/safety training, and evaluate IAW their respective AFIs/TOs. **(T-2)**

6.6.3.2.1.1. QA inspectors evaluating Scheduling and Analysis functions must be trained and qualified. **(T-2) Note:** See **Paragraph 5.2.1.13** for additional requirements.

6.6.3.3. **(Added-AETC)** For all 2A6X3 career field tasks, inspectors will complete and maintain Annual Egress Explosives Training prior to evaluations. **(T-2)**

6.6.4. & 6.6.5. DELETED.

6.6.6. MAJCOMs will determine if QA personnel who conduct engine run evaluations are required to maintain the engine run proficiency requirements outlined in **Chapter 11** and document requirements in their supplement to this DAFI. **(T-2)**

6.6.6. **(AETC)** QA personnel who conduct engine run evaluations are not required to maintain the engine run proficiency requirements outlined in **Chapter 11.**

6.6.7. - 6.6.10.2. DELETED.

6.6.11. **(Added-AETC)** For C-130 units only, ensure a sufficient number of QA inspectors have access to and familiarity with AIRCAT/ICARR-3D to accomplish inspection requirements.

6.7. Maintenance Standardization and Evaluation Program (MSEP). The purpose of the MSEP is to provide units with a method of evaluating technical compliance and measure how well they comply with established standards.

6.7.1. Units will develop a MSEP and conduct local inspections to ensure their programs, processes, maintenance technician proficiency, equipment condition and other focus areas are in compliance with AF, MAJCOM, and local directives. **(T-2)** The unit level MSEP is not applicable to contract maintenance activities unless required by the contract SOW or PWS.

6.7.1.1. The MSEP will be developed in conjunction with inputs from assigned squadron Maintenance Supervision and Group Leadership and will be executed by QA. **(T-2)**

6.7.1.2. DELETED.

6.7.1.3. The following types of evaluations, inspections and observations support the MSEP: PEs, QVIs, SIs, Management Inspection (MI)s, Detected Safety Violation (DSV)s, Technical Data Violation (TDV)s, Unsatisfactory Condition Report (UCR)s, and when directed, other inspections.

6.7.1.3.1. These inspection terms may differ in the LEAP QA database however, MAJCOMs must provide non-standard terms and definitions in their supplement to this DAFI when used.

6.7.1.3.2. Develop the monthly MSEP on the minimum personnel evaluations, inspections or observation requirements as depicted in Air Force Manpower Standard 21QX Quality Assurance Application Tool, located on the Air Force Manpower Analysis Agency SharePoint site: **https://cs2.eis.af.mil/sites/11190/AFMDandAFMS/AFMS/Forms/FAC1stFAC2nd.aspx**.

6.7.2. Unit MSEP Focus Areas. QA will assess how units are meeting compliance goals and will identify areas of opportunity for improvement. **(T-2)** A unit's MSEP will focus on:

6.7.2.1. Compliance with and currency of TOs and directives. **(T-2)**

6.7.2.1.1. Ensure personnel at all levels are responsible and accountable for enforcing mandatory standards and ensuring all applicable TOs and directives are complete, current, and used.

6.7.2.2. Aircraft, systems, and equipment forms documentation. **(T-2)**

6.7.2.2.1. Ensure forms used to document any maintenance related action for aircraft, systems or equipment are documented IAW 00-20 series TOs, specific equipment TO requirements, and other applicable directives and supplements. **(T-2)**

6.7.2.2.2. MSEP will validate compliance with the MXG's or equivalents' written procedures to ensure aircraft/system forms, equipment forms and MIS documentation are complete, accurate, and accomplished for each shift as referenced in **Paragraph 2.4.53**. **(T-2)**

6.7.2.3. Aircraft, Systems and Equipment Inspections. **(T-2)**

6.7.2.3.1. Ensure aircraft and equipment, including munitions, are inspected IAW TOs and directives. **(T-2)**

6.7.2.4. Compliance and Management of Occupational Safety and Health, Environmental, Bioenvironmental, Housekeeping, and FOD Programs. **(T-2)**

6.7.2.4.1. Personnel at all levels are responsible for minimizing risk to equipment, personnel, and the environment. **(T-2)**

6.7.2.5. Training. **(T-2)**

6.7.2.5.1. Verify training is correctly documented and ensure individuals are qualified/certified to perform evaluated tasks. **(T-2)**

6.7.2.6. Unit-Directed Programs. **(T-2)**

6.7.2.6.1. Verify units' programs are in compliance with local directives. **(T-2)**

6.7.2.7. Key Task List (KTL). The KTL is an AF, MAJCOM or unit developed list of required inspections that cover tasks that are complex and tasks affecting safety of flight.

6.7.2.7.1. MAJCOMs will identify minimum KTLs for each MDS. **(T-2)**

6.7.2.7.1. **(AETC)** [DEV] QA will develop the key task list with inputs from Maintenance Operations. The MXG/CC will approve the key task list. **(T-2)**

6.7.2.7.2. All maintenance actions/functions listed on the KTL require mandatory call-in to QA each time the maintenance action/function is accomplished. **(T-2)**

6.7.2.7.2.1. QA evaluators will respond and perform an evaluation. **(T-2)**

6.7.2.7.2.1.1. The MXG/CC may waive the inspection or designate authorized a representative(s) to waive the inspection.

6.7.2.7.2.1.2. QA will track all KTLs called in, waived, or completed and maintain a list of MXG-designated KTL waiver authorities. **(T-2)**

6.7.2.7.3. QA will review and update the KTL list at least every 2 years to ensure it encompasses those maintenance actions/functions directly affecting quality of maintenance. **(T-2)**

6.7.2.8. Routine Inspection List (RIL). The RIL is an AF, MAJCOM, or unit developed list of routine inspections that must be performed.

6.7.2.8. **(AETC)** Units will use the AETC General, Munitions and MDS Specific RIL, as applicable, located at **https://usaf.dps.mil/sites/aetc-19af/lg/afis/leap%20command%20rils/forms/allitems.aspx**. **(T-2)** The AETC LEAP Functional Administrator will update Command RILs quarterly as required based on coordinated inputs from unit QA and Civil Service Quality Control (QC) sections. The

MXG/CC may approve additions to the standardized RILs as necessary to develop a local inspection plan for their unit.

6.7.2.8.1. QA will consolidate Maintenance Supervision inputs and suggested changes for the RIL. **(T-2)**

6.7.2.8.2. Additional RIL requirements for nuclear capable units are located in AFMAN 21-200.

6.7.2.8.3. Tasks will not be removed from the RIL without issuing authorities' approval (such as, AF, MAJCOM, MXG/CC). **(T-2)**

6.7.2.8.4. The RIL must contain the following if applicable to the unit:

6.7.2.8.4.1. Pre-flight. **(T-2)**

6.7.2.8.4.2. Thru-flight. **(T-2)**

6.7.2.8.4.3. Basic post-flight. **(T-2)**

6.7.2.8.4.4. HSC/HPO inspections. **(T-2)**

6.7.2.8.4.5. Aircraft forms/MIS documentation. **(T-2)**

6.7.2.8.4.6. Equipment forms/MIS documentation. **(T-2)**

6.7.2.8.4.7. Aircraft and munitions flightline accountability/accountable property system of record (APSR). **(T-2)**

6.7.2.8.4.8. Aircraft ground handling. **(T-2)**

6.7.2.8.4.9. Launch and recovery. **(T-2)**

6.7.2.8.4.10. Servicing tasks. **(T-2)**

6.7.2.8.4.11. Technical data. **(T-2)**

6.7.2.8.4.12. CTK Program. **(T-2)**

6.7.2.8.4.13. TMDE calibrations when the performing work center is not a PMEL IAW TO 00-20-14. **(T-2)**

6.7.2.8.4.14. AGE maintenance. **(T-2)**

6.7.2.8.4.15. AGE flightline use. **(T-2)**

6.7.2.8.4.16. Housekeeping. **(T-2)**

6.7.2.8.4.17. Vehicles. **(T-2)**

6.7.2.8.4.18. Aircraft washes/aircraft corrosion inspections. **(T-2)**

6.7.2.8.4.19. Supply discipline (example, TNB, DIFM management & coding). **(T-2)**

6.7.2.8.4.20. Equipment washes/ equipment corrosion inspections. **(T-2)**

6.7.2.8.4.21. Environmental compliance. **(T-2)**

6.7.2.8.4.22. NWRM accountability and forms documentation. **(T-2)**

6.7.2.8.4.23. TCTO Program. **(T-2)**

6.7.2.8.4.24. Time-Change Program. **(T-2)**

6.7.2.8.4.25. FHP management. **(T-2)**

6.7.2.8.4.26. Maintenance Cyber Discipline. **(T-2)**

6.7.2.8.4.26.1. Upload and download of software and data. **(T-2)**

6.7.2.8.4.26.2. Malicious code detection and reporting. **(T-2)**

6.7.2.8.4.26.3. Verify personnel upload required CPINS updates prior to use. **(T-2)**

6.7.2.8.4.26.4. Verify personnel validate antivirus scans of external media are complete prior to use. **(T-2)**

6.7.2.8.4.26.5. Account for ATS/ATE in the appropriate APSR. **(T-2)**

6.7.2.8.4.26.6. Cyber hygiene. **(T-2)**

6.7.2.8.4.27. Repair Network Node Management. **(T-2)**

6.7.2.9. QA will coordinate with the Munitions Activity (Munitions Supervision with in the MUNS) and will develop quarterly standards (such as, number of inspections and frequency) for the following areas:

6.7.2.9.1. Munitions accountability. **(T-2)**

6.7.2.9.2. Munitions storage practices, security, and safety. **(T-2)**

6.7.2.9.3. Munitions inspections. **(T-2)**

6.7.2.9.4. Munitions materiel handling and test equipment. **(T-2)**

6.7.2.9.5. Munitions stockpile management. **(T-2)**

6.7.2.9.6. Tactical missile reporting system. **(T-2)**

6.7.2.9.7. Munitions infrastructure (such as, adequacy of lightning protection and grounding systems, bonding of facility doors, adequate power conversion equipment). **(T-2)**

6.7.2.9.8. Munitions training programs. **(T-2)**

6.7.2.9.9. Maintenance Cyber Discipline. **(T-2)**

6.7.3. Unit MSEP Evaluation and Inspection (E&I) Plan. QA will develop an E&I Plan specifying numbers of approved areas and types (PE, QVI, SI, MI) of inspections and evaluations to complete during the month. Types of inspections must be separated and will not be combined (such as, PE/QVI). **(T-2)**

6.7.3.1. The E&I Plan, and changes to it, will be coordinated through each squadron Maintenance Supervision. **(T-2)**

6.7.3.2. The E&I Plan will be reviewed and updated monthly based on trends in the maintenance complex and will be adjusted to meet the MXG/CC's focus areas. **(T-2)**

6.7.3.3. When developing the E&I Plan, the QA SUPT will:

6.7.3.3.1. Address areas of concern identified by maintenance managers and the WWM. **(T-2)**

6.7.3.3.2. Tailor the plan for each squadron, flight, and section. **(T-2)**

6.7.3.3.3. Coordinate and distribute the E&I Plan. **(T-2)**

6.7.4. Evaluation Criteria.

6.7.4.1. Acceptable Quality Levels (AQL). AQLs denotes the maximum allowable number of minor findings that a process or product may be charged for the task to be rated "Pass" and are used to minimize subjectivity in assessing tasks identified by the MSEP.

6.7.4.1.1. MAJCOMs may develop standardized AQLs by weapon system and establish procedures to review at least annually.

6.7.4.1.2. MXG/CCs establish AQLs for local tasks/inspections.

6.7.4.1.2.1. AQLs need to be derived/revised from QA performance-based data.

6.7.4.1.3. AQLs/baselines for nuclear maintenance, cruise missile maintenance and nuclear weapons handling tasks are defined in AFMAN 21-200.

6.7.4.1.4. All findings will be rated Cat I or Cat II with a severity of Major or Minor. **(T-2)**

6.7.4.2. Discrepancy Categories.

6.7.4.2.1. Category I (CAT I). A required inspection/TO/AFI procedural item missed or improperly completed. This category is a specific AFI requirement, work card item or TO step, warning, caution, or note for a specific condition or action. Use findings of major or minor to indicate the discrepancy's relative severity.

6.7.4.2.2. Category II (CAT II). An obvious defect, which could have been readily detected by a technician or supervisor, but is not a specific AFI requirement, work card item or TO step, warning, caution, or note for that specific evaluated task. Use findings of major or minor to indicate the discrepancy's relative severity.

6.7.4.3. Findings.

6.7.4.3.1. A major finding is defined as a condition that may endanger personnel, jeopardize equipment or system reliability, impact safety of flight or warrant discontinuing the process or equipment operation.

6.7.4.3.2. Any major discrepancy will result in an automatic inspection failure. **(T-2)**

6.7.4.3.3. The QA Inspector will intercede and declare a major finding when one additional action will result in one of the following: endanger personnel, jeopardize equipment or system reliability, impact safety of flight or warrant discontinuing the process or equipment operation. **(T-2)**

6.7.4.3.3.1. The QA Inspector will write up the major finding even though the jeopardizing action was never taken due to their intercession. **(T-2)**

6.7.4.4. A minor finding is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, impact safety of flight, jeopardize equipment reliability or warrant discontinuing a process or equipment operation.

6.7.4.4.1. CAT II minors will be documented for trends but must not be counted against the AQL. **(T-2)**

6.7.4.4.2. Soft FO contained in tool kits or found in cargo areas of aircraft which pose no FOD threat are classified as a minor finding since it will require more than one additional action to meet the definition of a major finding.

6.7.5. Observations. This category represents observed events or conditions with safety implications or technical violations not related to an evaluation or inspection, are considered unsafe, in violation of established procedures, or in the case of equipment, unfit for operations. Observations include: DSVs, TDVs and UCRs. The LEAP QA database is used to document any of the following conditions:

6.7.5.1. DSV. An observed unsafe act by an individual.

6.7.5.1.1. The QA Inspector must stop the unsafe act immediately. **(T-2)**

6.7.5.1.2. The QA Inspector will not document a separate DSV on an individual undergoing a PE since the unsafe act automatically results in a "Fail" rating on the PE. **(T-2)**

6.7.5.1.2.1. The QA Inspector will use DSV verbiage in the PE summary when a safety violation is committed during a PE. **(T-2)**

6.7.5.2. TDV. An observation of any person performing maintenance without the proper technical data available, available but not in use or not following the correct sequence of steps (if directed).

6.7.5.2.1. The technician must have knowledge of all general directives associated with the job prior to performing the task. **(T-2)** However, those general directives need not be present at the job site.

6.7.5.2.2. Do not document a separate TDV on an individual undergoing a PE but use TDV verbiage in the PE summary since failure to use technical data automatically results in a "Fail" rating.

6.7.5.3. UCR. An unsafe or unsatisfactory condition, other than a DSV, chargeable to the work center supervisor.

6.7.5.3.1. UCRs will be documented even when it is not possible to determine who created the condition. **(T-2)**

6.7.6. Evaluations. An evaluation represents the direct evaluation of a logistics action, inspection, or training conducted/performed by an individual or team. Evaluations are used to evaluate job proficiency, degree of training, and compliance with technical data or instructions.

6.7.6.1. PE. A PE is an over-the-shoulder (direct) evaluation of a maintenance action, inspection, or internal MXG support process (such as, PS&D, Analysis, MOC). Individuals performing, supervising, or evaluating tasks are subject to a PE. PEs may be performed on individuals working alone or as part of a team.

6.7.6.1.1. Rate PEs “Pass or Fail” based on established AQLs/standards. **(T-2)**

6.7.6.1.2. Document the PE in the LEAP QA database. **(T-2)**

6.7.6.1.3. PEs will be accomplished on all technicians who perform maintenance. **(T-2)** MAJCOMs will "establish" the frequency. **(T-2)**

6.7.6.1.3. **(AETC)** PEs will be accomplished on an 18-month cycle (**Note:** 18 months for full-time Guardsmen/Reservist and 36 months for Drill Status Guardsmen/Reservist). Maintenance Training Section/Field Training Detachment instructors who perform maintenance and sign off tasks as part of their duties are subject to the PE requirement/frequency established by the host unit's MAJCOM. NDI PEs are applicable to all organizations and will be conducted IAW **paragraph 6.7.6.1.6**.

6.7.6.1.4. Personnel in any AFSC certified to perform nuclear maintenance or logistics operations (example, limited general maintenance, transfer, transport) will also comply with applicable PE requirements in AFMAN 21-200.

6.7.6.1.5. Types of PEs.

6.7.6.1.5.1. Individual Evaluations. This is a QA over-the-shoulder (direct) evaluation of a technician or supervisor performing a job.

6.7.6.1.5.2. Team Evaluations. This is a QA over-the-shoulder (direct) evaluation of technicians and supervisors performing a team task.

6.7.6.1.5.2.1. A team task is one requiring more than one person to complete the task (for example, refueling, ECM pod up/downloading, bomb build-up, towing, weapons maintenance, pylon installation).

6.7.6.1.5.2.2. Team evaluations must accurately assess the proficiency of each individual under evaluation.

6.7.6.1.5.2.3. Refer to AFMAN 21-200 for nuclear weapons maintenance and handling evaluations.

6.7.6.1.6. QA Inspectors will conduct on each NDI technician, for each NDI method annually (every 2 years for the ARC) to ensure effective trending on NDI methods. **(T-2)**

6.7.6.2. Performing a PE. When performing a PE, the QA Inspector will brief the individual or team on the evaluation and how it will be rated. **(T-2)**

6.7.6.2.1. The QA inspector will determine what task will be evaluated. **(T-3)**

6.7.6.2.2. The PE will include an evaluation of the individual's training records, SCR (if task requires), tools, equipment, TMDE (use/impact of certification label limitation on maintenance being performed), and TOs used to perform the task. **(T-2)**

6.7.6.2.3. The evaluation starts when the individual or team begins the task, or portion of the task to be evaluated, and is completed when the task or previously determined portion of the task is finished. **(T-2)**

6.7.6.2.4. Provide feedback to the individual or team and supervision upon completion. **(T-2)**

6.7.6.3. Rating PEs. QA Inspectors rate each evaluation based on AQLs/standards. The rating applies only to the specific task evaluated and not to other tasks that a technician or

supervisor is qualified to perform. Upon completion of a failed evaluation, the QA Inspector must provide on-the-spot feedback. **(T-2)** Determine ratings as follows:

6.7.6.3.1. Pass: Number of discrepancies does not exceed AQL/standards.

6.7.6.3.2. Fail: An evaluation that results in any of the following:

6.7.6.3.2.1. Number of discrepancies exceeds the established AQL/standards.

6.7.6.3.2.2. A technician fails to detect a major discrepancy while complying with an inspection or TO requirement.

6.7.6.3.2.3. A technician fails to comply with a technical data step.

6.7.6.3.2.3.1. QA Inspectors will notify individuals immediately during the PE that a TDV was committed. **(T-2)**

6.7.6.3.2.3.2. Do not document a separate TDV on an individual undergoing a PE, since failure to use technical data automatically results in a "Fail" rating.

6.7.6.3.2.4. A technician demonstrates a lack of technical proficiency, system knowledge or demonstrated knowledge commensurate with skill grade.

6.7.6.3.2.5. Training and certification not documented.

6.7.6.3.2.6. A technician commits a safety violation.

6.7.6.3.2.6.1. Use the word "Safety" when a safety violation is committed during a PE.

6.7.6.3.2.6.2. Do not document a separate DSV on an individual undergoing a PE since the unsafe act automatically results in a "Fail" rating on the PE.

6.7.6.3.2.7. A technician fails to document maintenance actions in appropriate equipment records.

6.7.6.3.2.8. For nuclear weapons maintenance, an unsatisfactory rating must be given when any deficiencies or applicable unsatisfactory conditions exist IAW AFMAN 21-200. **(T-2)**

6.7.7. Inspections: An inspection represents inspections of equipment, programs, and processes to ensure compliance with established standards. Inspections are rated as "Pass" or "Fail". Inspections include:

6.7.7.1. QVIs. A QVI is an inspection of equipment condition, or a maintenance process, an assessment following a maintenance inspection, servicing or repair action, or verification that a technician or supervisor properly completed an inspection or repair action.

6.7.7.1.1. QVIs will not be conducted after equipment operation when such operation could invalidate indications of proper job accomplishment.

6.7.7.1.2. Limit QVIs to the same inspection card deck or technical data required for the job. This inspection does not require disassembling parts, removing stress panels or like actions.

6.7.7.1.3. A QVI required for -6 TO inspections may be accomplished by checking a portion of the required card or area.

6.7.7.1.4. The QVI report should reflect deficiencies by the individual who accomplished the task and identify specific discrepancies.

6.7.7.1.5. Document these discrepancies in active equipment records and forms, for example AFTO Form 781A, AFTO Form 244, *Industrial/Support Equipment Record*.

6.7.7.1.6. Rate QVIs "Pass" or "Fail" by comparing the number of discrepancies with the established AQLs/standards.

6.7.7.1.6.1. Pass: Number of discrepancies does not exceed established AQL/standard.

6.7.7.1.6.2. Fail: An inspection that results in any of the following:

6.7.7.1.6.2.1. A technician fails to detect a major discrepancy while complying with an inspection or TO requirement.

6.7.7.1.6.2.2. Number of CAT I minor discrepancies exceeds the established AQL/standard.

6.7.7.1.6.2.3. A technician is not signed off in training records as task qualified.

6.7.7.1.6.3. Document the QVI in the LEAP QA database.

6.7.7.1.6.3.1. Each QVI is chargeable to the technician or supervisor who signed off/cleared the "corrected by" block or "inspected by" block of the applicable maintenance form or equipment record.

6.7.7.1.6.3.2. When evaluating the technician who signed off the "inspected by" block, evaluate only the items normally verified by signing off the "Red-X".

6.7.7.1.6.3.3. Only one evaluation is scored for each inspection.

6.7.7.2. Management Inspection (MI). Perform these inspections to follow-up on trends, conduct investigations or conduct research to get to the root cause of problems. MXG/CCs, SQ/CCs or work center supervisors may request MIs. MIs may encompass PE/QVI trends and other inspection data, NMC causes, aborts and trends, IFE trends, high component or system failure rates, suspected training deficiencies, and tasks outlined in aircraft -6 TOs. MI results are reported to the requester. MIs can be non-rated and may be counted in QA trends. The LEAP QA database will be used to document MIs. **(T-2)**

6.7.7.3. Special Inspections (SIs) are inspections not covered by QVIs, PEs or MIs. SIs may include, but are not limited to, aircraft and equipment forms inspections, document file inspections, CTKs, TO files, vehicle inspections, housekeeping, safety practices, FOD Program, SIs may be condition, procedural, or compliance oriented.

6.7.7.3. **(AETC)** Do not correct discrepancies discovered during document file inspections unless they are of a historical nature.

6.7.7.3.1. The LEAP QA database will be used to document special inspections. **(T-2)**

6.7.7.3.2. SIs will be rated as "Pass" or "Fail" based on established AQLs/standards.

6.7.8. Discrepancy Reporting. Report all discrepancies to the applicable work centers. **(T-2)**

6.7.8.1. QA will provide an authoritative, validated source reference for all reported discrepancies (such as, work cards, job guides, WUC manuals, checklists, occupational safety requirements, TOs, and other applicable references). **(T-2)**

6.7.9. Units will grade their MSEP evaluations monthly using objective ratings based on the following five-tier rating system:

6.7.9.1. Outstanding: 95-100% **(T-2)**

6.7.9.2. Excellent: 90-94.99% **(T-2)**

6.7.9.3. Satisfactory: 80-89.99% **(T-2)**

6.7.9.4. Marginal: 70-79.99% **(T-2)**

6.7.9.5. Unsatisfactory: 0-69.99% **(T-2)**

6.7.9.6. Inspections and evaluations performed (such as, PE, SI, QVI) are rated "Pass/Fail". Exception: Unless otherwise directed by AFMAN 21-200 and AFI 21-204 for Nuclear Weapons PEs and Certification Program.

6.7.9.7. Ratings are calculated by dividing the total number of inspections passed by total completed. For example, QA inspects 10 aircraft preflights with the following results: 9 "passes" and 1 "failure". Divide the total "passes" by the total inspections (9/10=0.90) 90 percent for an "Excellent" rating.

6.7.9.7.1. Deduct 0.5 percentage points from overall percentage grade for each TDV, DSV, and UCR monthly. For example, a squadron earns an overall rating of 90 percent, "Excellent", however, QA observed 4 TDVs and 3 DSVs. Multiply the sum (7) by 0.5 and subtract the product (3.5) from the original 90 percent. The adjusted total is 86.5 percent; therefore, the squadron is rated "Satisfactory".

6.7.10. A cumulative MXG score will be determined by dividing the Group's total number of inspections and evaluations passed by the total inspections and evaluations completed. **(T-2)**

6.7.10.1. Deduct 0.5 percentage points for each TDV, DSV, and UCR from the overall percentage grade, using same formula in **Paragraph 6.7.9.7.1**.

6.7.11. Monthly Summary. QA will publish and distribute the monthly summary to the MXG/CC or equivalent and inspected organizations. **(T-2)**

6.7.11.1. For security purposes, classified portions of the MSEP will be published separately from the main summary. **(T-2)**

6.7.11.2. QA will compile the summary from inspection data and attach the load crew evaluation statistics provided by WS. **(T-2)**

6.7.11.3. The MSEP summary should include visual information, graphs, narratives, quality trends identified through inspections and evaluations, discussion of common problem areas and descriptions of successful programs or initiatives.

6.7.11.4. The following areas must be addressed in the summary:

6.7.11.4.1. Compliance with and currency of TOs and directives to include unit. **(T-2)**

6.7.11.4.2. Aircraft and equipment forms documentation. **(T-2)**

6.7.11.4.3. Compliance and management of Safety, Environmental, Housekeeping, cyber discipline/Hygiene and FOD Programs. **(T-2)**

6.7.11.4.4. Training Program. **(T-2)**

6.7.11.4.5. Key Task List (KTL). **(T-2)**

6.7.11.4.5. **(AETC)** Must include type, number and pass rates of all key task lists evaluated for the month.

6.7.11.4.6. Routine Inspection List (RIL). **(T-2)**

6.7.11.4.6. **(AETC)** Must include number of planned inspections by type (QVIs, SIs, PEs), number of actual inspections performed by type, and overall percentage of all types completed, based on that month's E&I plan. When calculating overall percentage of all types completed do not include any overages of a particular inspection type (e.g., monthly evaluation & inspection plan required 80 total SIs, but 105 SIs were actually performed, count as 80 completed for the overall percentage calculation).

6.7.11.4.7. TDVs, DSVs, and UCRs. **(T-2)**

6.7.11.4.8. Munitions Program. **(T-2)**

6.7.11.4.9. TMDE PMEL Activity Summary (if TMDE lab assigned). **(T-2)**

6.7.11.4.10. High-missed carded items. **(T-2)**

6.7.11.4.10.1. A high-missed carded item is defined as any work card item missed at least three times during a one-month period.

6.7.11.4.10.2. Units should use the high-missed carded items to enhance maintenance training programs, detect trends and improve the quality of maintenance.

6.7.11.4.10.3. MMA will review items to identify any relationships with repeat, recur and CND trends. **(T-2)**

6.7.11.4.11. Narrative Report: The monthly narrative report must contain an analysis of the MSEP results, a summary of significant CAT I and II discrepancies, technical inspections, and recommendations for improvement.

6.7.11.4.11. **(AETC)** The narrative report will include: a summary of the previous three month's top trends, percentage of evaluation and inspection plan completion, and any potential mission impact due to noncompliance.

6.7.11.4.11.1. Prior to preparing the narrative report, QA will conduct a study of trends. **(T-2)**

6.7.11.4.12. Trend Analysis. QA will review previous reports to determine if inspected areas have improved or declined. **(T-2)**

6.7.11.4.12.1. Consistent high scores in any category may indicate the programs emphasis is not focused on the unit's actual problem areas. Low scoring areas may require a reassessment of the corrective actions taken by management. Continuous communication between MMA, unit leadership, maintenance supervision, and QA

personnel is essential.

6.7.11.4.12.2. Highlight trends and root causes in the summary.

6.7.11.4.12.2.1. **(Added-AETC)** As a minimum, summarize the past three month's top trends.

6.7.11.4.12.2.2. **(Added-AETC)** Root cause is defined as the factor(s) that caused a nonconformance and should be permanently eliminated (e.g., training deficiency, personal factors, environmental factors, fatigue, time constraints, felt pressured, attention to detail, etc.). Root causes will be identified through a locally developed process using systematic approaches, tools and techniques. QA may assist with this process; however, root cause analysis is primarily a function performed by squadron, flight, or section personnel to include leadership, supervisors, trainers and production.

6.7.12. - 6.7.12.2. DELETED.

6.8. LEAP QA Database. Units will use the LEAP QA database to capture MSEP data. **(T-1)** The LEAP User's Manual provides information on registration, site management, and evaluation/inspection input and can be found at: **https://leap.disa.mil/mi/LEAPQA/Account/Login.aspx?ReturnUrl=%2fmi%2fLEAPQA%2fDefault.aspx**.

6.8.1. LEAP QA Database Roles and Responsibilities. Roles in LEAP are assigned based on each user's authorized level of control needed. The roles themselves operate in a hierarchical manner with each successively higher role possessing all of the rights of the subordinate roles. Only one role will be assigned to a LEAP user at any given time.

6.8.1.1. Application Administrator. This role is limited to Defense Information System Administration (DISA) programming staff and Program Management Office (PMO) personnel only. They perform Department of the AF-wide database management and modification. LEAP Application Administrator will:

6.8.1.1.1. Host a quarterly (virtual) Functional Review Board (FRB) and an annual (Physical or Virtual) Functional Review Board. **(T-2)**

6.8.1.1.1.1. Attendees will include: DISA Programming staff, PMO, AF/A4LM LEAP representative, Functional Administrators, and when possible, Site Managers. **(T-2)**

6.8.1.2. Provide initial training to Functional Administrators and Site Managers as necessary. **(T-2)**

6.8.1.3. Update the LEAP User's Manual as necessary. **(T-2)**

6.8.1.4. Provide a monthly status of all System Change Requests (SCRs). **(T-2)**

6.8.2. Functional Administrator. LEAP Functional Administrators provide overall database management and typically operate at the MAJCOM level. Usually assigned to a MAJCOM's policy section, they ensure proper use and alignment of the database with current policy guidelines. They also operate as the primary focal point for all LEAP-related issues within their MAJCOM and coordinate directly with the LEAP PMO. LEAP Functional Administrators will:

6.8.2. **(AETC)** 19 AF/A4PP serves as the AETC LEAP Functional Administrator.

6.8.2.1. Manage access to LEAP either directly or through local site offices that have the capability for delegation for Site Managers only, for example, FMxC2 Manager on site. **(T-2)**

6.8.2.2. Develop and assign LEAP Finding Codes IAW MAJCOM directives. **(T-2)**

6.8.2.3. Create, modify, and manage sites within the LEAP Database for their MAJCOM. **(T-2)**

6.8.2.4. Transcribe and manage Command Task Lists (CTL) in LEAP IAW MAJCOM directives (example, RILs).

6.8.2.5. Assist local Site Managers with day-to-day operations in LEAP to include troubleshooting and reporting SCRs to the PMO. **(T-2)**

6.8.3. Site Manager. LEAP Site Managers provide local oversight for their respective Group (or equivalent). Possessing "base level" control, they are able to approve and modify LEAP Users and assign roles up to and including other Site Managers. While there is no limitation to how many Site Managers can be assigned per site, the level of control available should warrant assignment based on appropriate rank/position (typically, QA Superintendent and Chief Inspector). LEAP Site Managers will:

6.8.3.1. Manage access to LEAP by coordinating new user documentation with their assigned FMxC2 Manager and approving accounts in LEAP after user registration. **(T-2)**

6.8.3.2. Modify user accounts according to need. **(T-2)**

6.8.3.3. Ensure LEAP users are deactivated or downgraded in LEAP when out-processing the QA office. **(T-2)**

6.8.3.4. Create Flights and Sections in LEAP to which evaluations will be assigned. **(T-2)**

6.8.3.5. Assign RILs (Command Task Lists/Site Task Lists) within the LEAP application to Organizational Sites in order to facilitate entry of the MXG's Evaluation and Inspection Plan. **(T-2)**

6.8.3.6. Build and manage the E&I Plan (if used) in LEAP and ensure it incorporates all MAJCOM specific requirements. **(T-2)**

6.8.4. Read-Only Guest. LEAP Read-Only Guests are intended to be supervisory personnel and unit leadership who require regular access to LEAP Reports and Evaluation documentation.

6.9. QA Product Improvement Programs (PIP). QA runs PIP for the maintenance complex. Combined with daily maintenance data reporting, the PIP monitors, and reviews maintenance data to identify opportunities to improve aircraft and equipment. PIP includes the following programs:

6.9.1. DR Reporting.

6.9.2. TO RC requests.

6.9.3. SMR code change request(s).

6.9.4. Configuration Management (CM) and Modification Management Program; AF Form 1067, Modification Proposal; and TCTOs.

6.9.4.1. QA is responsible for CM and Modification Management. This includes reviewing, submitting, and tracking unit modification proposals being worked by MAJCOMs/Lead Commands and ensuring proper implementation of approved modification instructions or TCTOs.

6.9.4.2. QA will manage/document modifications IAW **Chapter 14**, AFI 63-101/20-101, TO 00-20-2, and TO 00-5-15.

6.9.4.3. QA will establish a process for updating the weapon systems MIS that require manual updates for TCTO configuration. **(T-2)**

6.9.5. Product Improvement Manager (PIM). The PIM promotes deficiency reporting and provides a sound PIP based on inputs from maintenance activities. The PIM interacts with assigned AFETS personnel, FSR and MAJCOM/Lead Command as applicable to remain cognizant of ongoing and new improvement initiatives. The PIM emphasizes and promotes product improvement initiatives and ensures maintenance personnel are familiar with them by circulating flyers/newsletters, visiting commander's calls, presenting the program at maintenance orientation briefings, and making routine visits to maintenance areas.

6.9.5.1. Deficiency Reporting. DR is the process of reporting prescribed by TO 00-35D-54. Maintenance processing of warranty items is located in TO 00-20-3. The PIM's will:

6.9.5.1.1. Monitor the DR process to ensure items are properly loaded in the MIS database. **(T-2)**

6.9.5.1.2. Ensure compliance with acceptance inspection reporting requirements on DRs for aircraft returning from depot or contractor maintenance. **(T-2)**

6.9.5.1.3. Ensure DRs are submitted using Joint Deficiency Reporting System (JDRS) at **https://jdrs.mil. (T-2)**

6.9.5.1.4. Review the DR prior to releasing to the ALC or AFMC Maintenance Wings IAW TO 00-35D-54. **(T-2)**

6.9.5.1.5. Verify each report against pertinent publications and assign the appropriate precedence and category. **(T-2)**

6.9.5.1.6. Screen reported deficiencies for possible unit-unique contributing factors and initiate management action on unsatisfactory conditions resulting from local procedures or a lack of technical capability. **(T-2)**

6.9.5.1.7. Perform/coordinate a technical review of DRs returned to the unit without an adequate response to determine whether resubmitting with additional information is warranted. **(T-2)**

6.9.5.1.8. Perform exhibit-processing oversight by coordinating with the ALC and the LRS to ensure proper exhibit control and handling. **(T-2)**

6.9.5.2. RC Process. The PIM will review and route RCs IAW TO 00-5-1.

6.9.5.3. SMR code change request. Submit an SMR code change request IAW TO. 00-25-195, *AF Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipment*. The PIM will:

6.9.5.3.1. Track the status of SMR change requests. **(T-2)**

6.9.5.3.2. Conduct a technical review of SMR change requests returned from depots and item managers with an unsatisfactory answer to determine whether to resubmit with additional information. **(T-2)**

6.9.5.3.3. Coordinate repair evaluation meetings when approved SMR change requests affect several agencies. **(T-2)** Ensure units with active AFREP coordinate SMR code changes through the PIM prior to submission to the MAJCOM AFREP Manager. **(T- 2)**

6.9.5.3.4. Serve as focal point for base-level repair and manufacturing capability. **(T-2)**

6.9.5.4. **(Added-AETC)** Consult 19 AF/A4 Functional Managers for information on established PIWGs. Maintain a PIWG file, if applicable, to record agenda items, meeting minutes, PIWG agenda input reports, and MAJCOM correspondence. The PIM will: **(T-2)**

6.9.5.4.1. **(Added-AETC)** Develop a PIWG input report for each system (such as AGE, PMEL, avionics, engines, and commodities) and the primary weapon system that has an established PIWG.

6.9.5.4.2. **(Added-AETC)** Conduct unit-level PIWG meetings with supervisors, technicians, and CORs when these meetings are determined to be beneficial to ensuring quality inputs to PIWGs or when ideas are solicited to enhance product improvement. **Note:** The PIM will chair these meetings, prepare an agenda, keep meeting minutes, and forward a copy of the minutes to the appropriate unit agencies and 19 AF/A4 within 45 days of the meeting.

6.9.5.4.3. **(Added-AETC)** Forward agenda items to 19 AF/A4 on request.

6.9.5.4.4. **(Added-AETC)** List items requiring out-of-cycle input to 19 AF/A4. Submitted agenda items must include item nomenclature, WUC, part number, NSN, defect or improvement statement, reason for submission (including number of failures, man-hours consumed, and estimated costs to repair or the cost if left uncorrected), and recommended actions.

6.10. Technical Order Distribution Office (TODO). The TODO ensures TOs and CPINS are managed IAW AFI 63-101/20-101, TO 00-5-1, TO 00-5-15 and TO 00-5-16. TO 00-5-1 provides criteria for establishing levels of TO distribution activities. Additionally, TODOs will control electronic technical data configuration IAW **Chapter 8**. Establish the PMEL TODO under the control of the TMDE Flight. **(T-2)** The TODO will:

6.10.1. Coordinate with QA SME for each incoming TCTO to determine applicability. **(T-2)**

6.10.1.1. All TCTOs received from outside agencies need to be routed through QA for the review process.

6.10.1.2. TCTO applicability is determined by aircraft serial number for aircraft, engine serial number for engines, and by part number or other specific criteria for commodities.

6.10.1.3. TCTOs need to be manually or electronically date stamped to reflect the date the electronic or hard copy is received.

6.10.1.3.1. Date stamping all TCTOs with the date received indicates QA has reviewed the TCTO and that applicability has been determined.

6.10.1.3.2. TCTO electronic date stamping can be accomplished by either (1) utilizing a locally developed spreadsheet containing the minimum following information: TCTO number, MDS, receiving TODO name, applicability determination and the date received, all of which must be associated with the corresponding TCTO or (2) inserting the receipt date on the TCTO utilizing the Adobe Tools feature. For either option, the date received will be entered by the QA TODO responsible for tracking TCTOs. **(T-2)**

6.10.1.3.2.1. If used, the TCTO tracking spreadsheet or Adobe-inserted date stamped TCTOs will be electronically secured and controlled by the receiving QA office. **(T-2)**

6.10.1.3.3. Only date stamped TCTOs are authorized for use. **(T-2)**

6.10.1.4. Post TCTO file copies IAW TO 00-5-1.

6.10.1.4.1. TCTO file copies may be posted and distributed in electronic format provide all requirements of TO 00-5-1 and AFI 33-322 are sustained. Electronic TCTO distribution is automated for ETIMS/IETM.

6.10.1.5. For hard copy TCTOs, provide a file copy of the TCTO to PS&D. **(T-2)**

6.10.1.6. Ensure personnel assigned as TODO/Technical Order Distribution Account (TODA) managers meet requirements set forth in TO 00-5-1 and AFI 63-101/20-101. **(T-2)**

6.10.2. Manage the QA Central TO File. **(T-2)**

6.10.2.1. As a minimum, the QA Central TO File must contain copies of general and procedural TOs and copies of all TCTOs pertaining to the assigned aircraft and equipment owned, operated, or maintained. (Paper copies for paper TOs or local access for digital TOs) **(T-2)**

6.10.2.2. The file is kept to meet QA requirements, not to duplicate TOs held by maintenance work centers.

6.10.3. Manage TO accounts using ETIMS IAW TO 00-5-1. **(T-2)**

6.10.4. Limit use of Local Work Cards, Local Job Guides, Local Page Supplements or Local Checklists to accomplish maintenance on AF equipment. **(T-2)** Locally prepared technical instructions will not be used to circumvent approved technical data (see TO 00-5-1). **(T-2)**

6.10.4. **(AETC)** Ensure all locally developed work cards, job guides, page supplements, and checklists are reviewed and validated by QA/QC and approved by the MXG/CC (or equivalent) or MRD and COR. **(T-2)** Distribute approved work cards, job guides, page supplements, and checklists to all applicable maintenance activities. When TOs have not been published for equipment assigned to the maintenance complex, QA/QC or the maintenance function where maintenance is actually done may set up a file of commercial off-the-shelf manuals or publications relating to this equipment per TO 00-5-1. This file must be collocated with the TO file.

6.10.4.1. The TODO will review and manage all locally developed products IAW TO 00-5-1 and MAJCOM supplements for safety and adequacy of procedures. **(T-2)**

6.10.4.2. Local Work Cards, Local Job Guides, Local Page Supplements and Local Checklists need to be reviewed for currency when source reference data changes.

6.10.4.3. TODO will develop local publications IAW DAFMAN 90-161 to ensure compliance with these policies. **(T-2)**

6.10.5. Prepare a list of all changes and revisions to indexes, TOs, inspection work cards and checklists. **(T-2)**

6.10.5.1. This list will include TO number and date received. **(T-2)**

6.10.5.2. The TODO will date stamp the cover page of all paper TOs, changes, supplements, Local Work Cards, Local Job Guides, Local Checklists and CPINS to reflect the date the hard copy is received. **(T-2)**

6.10.5.2.1. This list will be sent out electronically weekly to all affected agencies. **(T-2)**

6.10.5.2.2. Supervisors should review the list of changes and ensure all personnel are aware a change or revision has been received.

6.10.5.3. "Immediate" action TCTOs must be implemented upon receipt, and "Urgent Action" TCTOs, safety supplements and interim supplements must be brought to the attention of local maintenance supervision within 24 hours of receipt. **(T-2) Note:** Communication of a grounding, or potential grounding event (TCTO, OTI, PM event) to weapon systems operating in a deployed environment and/or under the authority of an operational command must follow the grounding procedures outlined in DAFMAN 11-401, *Aviation Management*, and AFI 63-101/20-101. Units will not directly communicate home station requirements to its deployed forces but provide communication through their respective MAJCOM. **(T-2)**

6.10.6. Ensure all authorized technical data variances are kept with aircraft and equipment historical records IAW **Chapter 14**. **(T-2)**

6.10.7. If designated as Lead TODO (primary as designated in block 5 of the AFTO Form 43 per TO 00-5-1), will conduct a management inspection on other maintenance TODOs/TODAs in the maintenance complex at least annually along with performing spot checks of TO files. **(T-2)**

6.10.7.1. As part of this inspection, the TODO will confirm TODO/TODA personnel and Library Custodian have completed the mandatory minimum requirements of TO System training. **(T-2)**

6.10.7.2. The Lead TODO(s) will coordinate with other TODOs and TODAs, and local Client Support Administrators, Functional Systems Administrators, and applicable functional OPRs to ensure eTools are configured with current and only authorized software to support TO and maintenance documentation. **(T-2) Note:** Coordination with the local Communications Squadron to verify network configuration requirements for eTools are available and sustained to meet the requirements listed in TO 31S5-4-ETOOL-1-WA-1. Additional user support available through the Air Force Technical Order Functional Support Team, **af.etimstofst@us.af.mil** or DSN 872-9300.

6.10.8. Control the electronic data configuration on applicable eTools IAW **Chapter 8**. **(T-2)**

6.10.8.1. TODO/ Functional Systems Administrators will develop local procedures to quarantine eTools and eTool update history in the event of a mishap. **(T-2)**

6.10.9. Maintain records of ETIMS IAW TO 00-5-1.

6.10.9.1. TODOs will set up software sub-accounts with each appropriate shop/section and ensure each shop/section has the most current software on hand. **(T-2)**

6.10.9.2. TODOs will include ETIMS or equivalent system in the routine and annual checks required by TO 00-5-1. **(T-2)**

6.11. One-Time Inspections (OTI) program. The OTI program is managed by the MXG IAW TO 00-20-1. OTIs are normally look-only actions to verify the existence of suspected equipment conditions or malfunctions.

6.12. Functional Check Flights (FCFs) to include Operational Check Flights (OCFs).

6.12.1. Check Flights are performed to ensure an aircraft is airworthy and/or capable of accomplishing its mission. Additional guidance may be found in DAFMAN 11-401, AFMAN 11-202 V3, *Flight Operations*, DAFMAN 13-201, *AF Airspace Management*; TO 1-1-300, *Maintenance Operational Checks and Check Flights*; TO 00-20-1; and applicable -6 TOs and -1 Flight Manuals.

6.12.1. **(AETC)** FCF requirements are flown IAW the MDS specific dash 6 technical order. Wing supplements should not identify additional FCF, OCF or in-flight operational checks as a standard check flight requirement following maintenance repair and ground checks accomplished IAW the technical order. Check flights will be used to verify maintenance repairs if directed by TO or if ground test equipment required to verify operation is not available. In-flight operational checks will not be used to verify system operations that can be verified through ground operational checks. The MXG/DOM always has the authority to require an FCF, OCF or in-flight operational check when a maintenance anomaly exists on a particular aircraft that requires further verification in flight. Those situations should be kept to a minimum.

6.12.1.1. OCF will be kept to a minimum and are not used to replace TO 1-1-300, *Maintenance Operational Checks and Check Flights* or MDS specific -6 TO Functional Check Flight (FCF) requirements. OCFs must be flown by experienced aircrews (not required to be an FCF qualified aircrew), must be briefed by QA for aircraft condition, and accomplished following the same maintenance criteria as FCFs. **(T-2)**

6.12.1.1. **(AETC)** T-1, T-6 and T-38 aircraft do not have aircraft mission specific equipment; therefore, OCFs do not apply IAW TO 1-1-300, paragraph 4.1.4.

6.12.2. The QA FCF Program Manager will:

6.12.2.1. Establish local FCF procedures IAW TO 1-1-300 and checklists for any specific local aircraft requirements to include configuration, administration, control, and documentation of the FCF Program. **(T-2)**

6.12.2.1.1. Coordinate these procedures with OG Standardization/Evaluation and publish them in a wing publication/supplement IAW DAFMAN 90-161. **(T-2)**

6.12.2.2. Support the appropriate squadron to facilitate FCF.

6.12.2.3. Maintain an information file containing unit directives concerning FCF procedures and an FCF checklist for each MDS assigned for briefing aircrews. **(T-2)**

6.12.2.3.1. DELETED.

6.12.2.4. Ensure a FCF checklist is used for each FCF. **(T-2)**

6.12.2.5. Ensure all FCFs are debriefed with the appropriate debrief function. **(T-2)**

6.12.2.5. **(AETC)** QA may suspend debrief of FCFs on helicopters requiring multiple sorties until the successful completion of the FCF. A debrief is required upon termination of all required FCF attempts for that aircraft for that flying day, or upon crew change.

6.12.2.5.1. During debriefing, the FCF checklist and aircraft forms will be reviewed to determine if all requirements have been accomplished. **(T-2)**

6.12.2.5.2. After completing the review, the FCF checklist will be sent to PS&D for inclusion in the aircraft jacket file. **(T-2)**

6.12.2.6. Maintain a copy of the AF Form 2400, *Functional Check Flight Log*, or equivalent automated product for deficiency and trend analysis. **(T-2)**

6.12.3. FCF-qualified QA Inspectors will:

6.12.3.1. Ensure the FCF aircrew is briefed on the purpose and extent of the flight, previous maintenance problems and discrepancies recorded on the aircraft or engines related to the FCF. **(T-2)**

6.12.3.2. Review aircraft W&B documents. **(T-2)**

6.12.3.3. Ensure AF Form 2400 or an equivalent automated product is maintained to provide information for evaluation and analysis. **(T-2)**

6.12.3.3. **(AETC)** Collect and prepare FCF results according to AETCI 21-105.

6.12.3.3.1. Include the date and time of the FCF, aircraft serial number, reason for FCF, name of debriefer and name of aircraft commander. **(T-2)**

6.12.3.3.2. The AF Form 2400 or equivalent automated product will also indicate if the aircraft was released for flight, reasons for any non-release, action taken, and date completed, and the date maintenance documents were forwarded to PS&D or records section. **(T-2)**

6.12.3.4. Ensure all maintenance actions are completed and all AFTO Form 781-series forms are documented IAW MDS specific -6 TO and TO 00-20-1 or electronic equivalent. **(T-2)**

6.12.3.5. All maintenance actions on transient aircraft requiring FCF must be reviewed by QA prior to FCF. **(T-2)**

6.12.3.5.1. If the aircraft MDS/type is not assigned at the transient base, then the owning unit must provide a qualified FCF pilot/crew and maintenance as required. **(T-2)**

6.12.4. Flight Requirements. The mandatory requirements for FCF are outlined in TO 1-1-300 and the applicable -6 TO. FCF profiles are determined by the maintenance requirement causing the FCF. The FCF profile will be tailored for the discrepancy causing the FCF by applying the following guidance:

6.12.4. **(AETC)** Fly FCFs for a single-engine change on a two-engine aircraft if the aircraft will next fly an extended over-water flight (for example, oversea deployment). **Note:** This applies to engines with no operating time since major maintenance. It does not apply to engines obtained from a donor aircraft with an established operating time.

6.12.4.1. Require a clean configuration whenever FCFs are flown for flight controls, fuel controls or engine changes. **(T-2)**

6.12.4.2. Do not remove fixed wing pylons, fixed wing tip tanks and fixed external stores unless they interfere with fuel scheduling, aerodynamic reaction, air loading, signal propagation. **(T-2)**

6.12.4.3. DELETED.

6.12.5. FCF Release. An FCF release occurs upon the successful completion of all requirements as determined by the FCF aircrew. The final decision to release rests solely with the aircraft commander. An aircraft may be released for flight if a malfunction occurs during an FCF, which is not related to the condition generating the FCF and the original condition checks good.

6.12.5.1. An FCF conditional release may occur when the aircraft does not successfully complete FCF requirements due to a specific system malfunction. The FCF aircrew, in coordination with maintenance, determines a FCF conditional release if the malfunction may be corrected without generating another FCF. If upon review of the corrective action, the FCF aircrew accepts the maintenance action as a satisfactory repair of the malfunction, they may release the aircraft from FCF.

6.12.5.1. **(AETC)** An example of a FCF conditional release is one where the FCF is for engine low power and all engine systems check out with the exception of an engine oil pressure fluctuation. Maintenance troubleshoots this fluctuation and determines the cause as a defective oil pressure transmitter or gage. In this example the aircraft may be released.

6.12.5.1.1. **(Added-AETC)** When rotary-wing aircraft encounter certain FCF requirements, such as blade balancing, that require multiple sorties to accomplish a single FCF, these sorties can be considered as one attempt, provided the need for multiple sorties to accomplish the FCF was identified in either the unit's FCF instruction, the aircraft's -6 TO, or specified during the FCF briefing. The following exceptions apply:

6.12.5.1.2. **(Added-AETC)** A multiple-sortie FCF attempt that changes its aircrew (all crewmembers) is terminated and coded as a non-release. A new aircrew will be debriefed and a new attempt initiated.

6.12.5.1.3. **(Added-AETC)** A multiple-sortie FCF attempt that does not release by the end of the flying day is terminated and coded as a non-release. A new attempt will be initiated the next day.

6.12.6. MAJCOMs will determine the process and level of command that will issue instructions for FCF procedures away from home station in their supplements to this DAFI.

6.12.6. **(AETC)** Units will develop guidance for FCF procedures away from home station using guidance provided in DAFI 21-101 and this supplement as required. **(T-2)**

6.13. Inflight Operational Checks. Inflight operational checks (as applicable) will be accomplished IAW TO 1-1-300, TO 00-20-1 and applicable -6 and -1 TOs.

6.13.1. Document inflight operational checks IAW TO 00-20-1.

6.14. High Speed Taxi Checks. The MXG/CC and OG/CC may authorize high speed taxi checks when a maintenance ground operational check requires aircraft movement at higher-than-normal taxi speeds (with qualified FCF aircrews) to operationally check completed maintenance.

6.14.1. High speed taxi checks (as applicable) will be accomplished IAW TO 1-1-300 instead of FCFs. **(T-2)**

6.14.1.1. Process aircraft forms through QA using FCF procedures. **(T-2)**

6.14.1.2. QA will develop an aircrew briefing checklist specifically for high-speed taxi checks, to include the required FCF briefing items and pertinent warnings, cautions. **(T-2)**

6.14.2. Configure aircraft with the minimum -1 operational fuel requirements. **(T-2)**

6.14.3. Ensure aircraft is prepared for flight and the Exceptional/Conditional Release is signed off prior to conducting high speed taxi checks. **(T-2)**

6.15. Weight and Balance (W&B) Program. QA will maintain the W&B Program IAW TO 1-1B-50, *Basic Technical Order for USAF Aircraft Weight and Balance*.

6.15.1. W&B manuals for Class I and II aircraft are maintained in a central file. **(T-2)**

6.15.1.1. The Lead Command will standardize the method of supplemental handbook storage and physical location for like-MDS aircraft. **(T-2)**

6.15.1.2. **(Added-AETC)** Store the Weight & Balance supplemental handbook for T-1 and T-6 aircraft as follows:

6.15.1.2.1. **(Added-AETC)** On the aircraft for T-1 aircraft.

6.15.1.2.2. **(Added-AETC)** At the operations desk for T-6 aircraft.

6.15.2. QA will manage W&B on commercial derivative aircraft IAW **Chapter 6**. **(T-2) Note:** The contractor is responsible for managing W&B programs on contract logistics supported aircraft.

6.15.3. The W&B Program Manager will ensure:

6.15.3.1. Sufficient personnel are qualified on assigned aircraft IAW TO 1-1B-50. **(T-2)**

6.15.3.2. All assigned aircraft are weighed IAW prescribe MDS specific publications and directives. **(T-2)** The W&B Program Manager will:

6.15.3.2.1. Keep W&B documents required by TO 1-1B-50 for each assigned aircraft. **(T-2)**

6.15.3.2.2. Use the Automated Weight and Balance System and maintain a back-up copy of all W&B documents. **(T-2)**

6.15.3.3. Procedures are established for routing completed TCTO and modification information for W&B changes. **(T-2)**

6.15.3.4. Essential W&B data and changes to the basic weight and moment are available for appropriate mission planning (such as, Standard Configuration Loads, updates to supplemental handbook). **(T-2)**

6.15.3.4. **(AETC)** Units will establish local methods for documenting T-1A configurations, Form F filing locations and provide operations group schedulers with current aircraft configuration status.

6.15.3.5. Periodic serviceability inspections are accomplished on unit-stored and maintained W&B equipment (as applicable). **(T-2)**

6.15.3.6. Coordination with Maintenance Supervision in developing a W&B Preparation Checklist if the aircraft -5 TO is not comprehensive enough for the task. **(T- 2)**

6.15.3.7. The SCR reflects W&B certification. **(T-2)**

6.15.4. W&B Qualified QA Inspector Responsibilities. The W&B Qualified QA Inspector will:

6.15.4.1. Verify scale readings and accomplish/oversee the actual computations. **(T-2)**

6.15.4.2. Supervise the preparation, leveling and weighing of the aircraft IAW MDS specific –2 and –5 series TOs and TO 1-1B-50.

6.15.4.3. Inspect W&B documents before flight when locally accomplished modifications affect the basic aircraft weight and moment. **(T-2)**

6.15.4.4. Review computations for accuracy. (T-2)

Chapter 7

IMPOUNDMENT PROCEDURES

7.1. Aircraft and Equipment Impoundment. Aircraft or equipment is impounded when intensified management is warranted due to system or component malfunction or failure of a serious or chronic nature. Refer to DAFI 91-204 for aircraft and equipment involved in accidents, mishaps, or incidents. Impounding aircraft and equipment enable investigative efforts to systematically proceed with minimal risk relative to intentional/unintentional actions and subsequent loss of evidence.

7.2. Specific Guidance. MXGs will develop and implement a standardized Impound Official training course. The course will include review of applicable AFIs, TOs, impoundment clearing procedures, and leverage FSR and AFETS expertise to ensure Impound Official is prepared to assume all duties and responsibilities of an impoundment official.

7.2.1. Local program procedures, requirements and responsibilities will be captured in a local supplement to this instruction. **(T-3)**

7.2.1.1. QA is the OPR for the Impoundment Program and will develop local impoundment checklists. **(T-3)**

7.2.1.2. QA in coordination with MT, will serve as the OPR and focal point for the management of the Impound Official training course. The course completion is mandatory prior to being assigned as an Impound Official. **(T-3)**

7.2.2. - 7.2.2.1. DELETED.

7.2.3. The Impoundment Release Authority determines the need for a one-time flight and will coordinate appropriate authorization IAW TO 00-20-1. **(T-3) Note:** If the aircraft/equipment were impounded for a mishap, coordinate with the safety office prior to releasing the aircraft/equipment from impound. **(T-3)**

7.2.4. MAJCOMs will determine the amount of time unit QAs will maintain copies of finalized Impoundment reports in their supplement to this DAFI. **Note:** See Air Force Records Information Management System (AFRIMS) Reference.

7.2.4. **(AETC)** Maintain copies of impoundment reports for 6 months.

7.3. Impoundment Authorities.

7.3.1. Impoundment Authorities will:

7.3.1.1. Make impoundment determination when extraordinary measures are required to address any degradation of aircraft airworthiness or serious aircraft/equipment anomaly, not listed in section 7.5. **(T-2)**

7.3.1.2. Select the Impoundment Official. **(T-2)**

7.3.1.2.1. - 7.3.1.2.3. DELETED.

7.4. Impoundment Official Responsibilities. The Impoundment Official is designated as the single POC for impounded aircraft or equipment and will hold the minimum rank of MSgt and will be tracked on the SCR. **(T-2)** The Impoundment Official will:

7.4.1. Be responsible for controlling and monitoring the investigation of impounded aircraft or equipment. **(T-2)**

7.4.2. Use established checklists to guide the sequence of actions. **(T-2)**

7.4.3. Control and track access of personnel to impounded aircraft or equipment. **(T-2)**

7.5. Mandatory Impoundments. Aircraft and/or equipment will be impounded:

7.5.1. DELETED.

7.5.2. Following an aircraft mishap as defined in DAFI 91-204 and DAFMAN 91-223, *Aviation Safety Investigations and Reports*. **(T-2)**

7.5.3. When support equipment is known or suspected to have been a factor in a mishap or may have contributed to injuries. **(T-2)**

7.5.4. Following an un-commanded flight control movement. **(T-2)**

7.5.5. Following an inadvertent ordnance release or explosive mishap. **(T-2)**

7.5.6. When authorized procedures are not adequate or the unit is unable to identify/repair loaded nuclear weapons system malfunctions IAW DAFI 91-101. **(T-2)**

7.5.7. Following aircraft engine anomalies to include but not limited to:

7.5.7.1. Unselected propeller reversal. **(T-2)**

7.5.7.2. Flameout/stagnation (for single engine aircraft). **(T-2)**

7.5.7.3. Unselected power reversal. **(T-2)**

7.5.7.4. Engine case penetrations, ruptures, or burn-through from an internal engine component. **(T-2)**

7.5.7.5. When an aircraft experiences a loss of thrust sufficient to prevent maintaining level flight at a safe altitude. **(T-2)** This includes all cases of multiple engine power loss or roll back.

7.5.7.6. Engine damage due to a foreign object and source of FO is determined to be internal to the engine. **(T-2)** For Propeller driven aircraft, both the propeller and engine will be impounded as a single unit when the engine has confirmed internal damage due to a foreign object. **(T-2)**

7.5.7.7. Engine damage which occurs during transport. **(T-2)**

7.5.8. Following an in-flight fire. **(T-2)**

7.5.9. When an aircraft experiences an in-flight loss of all pitot-static system instruments or all gyro stabilized attitude or direction indicators. **(T-2)**

7.5.10. When there is evidence of intentional damage, tampering, or sabotage. **(T-2)** **Exception:** Intentional damage due to combat is not mandatory.

7.5.11. When physiological incidents attributable to aircraft systems or cargo occurs. **(T-2)**

7.6. Impoundment Procedures.

7.6. (AETC) Impoundment Procedures. See **Attachment 8** for an aircraft and equipment impoundment checklist.

7.6.1. When the Impoundment Authority directs impoundment, a Red X symbol will be placed in the applicable AFTO Form 781A for aircraft, applicable engine work packages for uninstalled engines or AFTO Form 244 for equipment (or electronic form equivalents) with a statement indicating the reason for impoundment and the name of the assigned Impoundment Official. **(T-2)**

7.6.2. The MOC will be notified when an impoundment decision has been made. **(T-2)**

7.6.3. Aircraft or equipment records will be controlled at the discretion of the Impoundment Official. **(T-2)** When required, the Impoundment Official will:

7.6.3.1. Obtain and secure the current aircraft forms and the aircraft jacket file for aircraft, applicable engine work packages for uninstalled engines, or the AFTO Form 244 for equipment (or electronic form equivalents). **(T-2)**

7.6.3.2. Notify the MIS DBM administrator to isolate the aircraft or equipment serial number in order to prevent any changes and maintain the integrity of the historical data until the aircraft or equipment is released. **(T-2)**

7.6.3.3. Request and collect any training records, required to complete the impoundment investigation. **(T-2)**

7.6.3.4. On aircraft impounded for potential safety related incidents, ensure the Cockpit Voice Recorder/Flight Data Recorder circuit breakers are pulled immediately after engine shutdown or before applying external power to safeguard Cockpit Voice Recorder/Flight Data Recorder data, if equipped. **(T-2)**

7.6.3.5. Ensure impounded aircraft/equipment is identified by cordon with cones, ropes or placards indicating impound condition and aircraft location. **(T-2)**

7.6.3.5. **(AETC)** If necessary, establish and secure the surrounding area for required withdrawal distance for unsafe aircraft/equipment.

7.6.4. Impoundment Official will limit maintenance actions on impounded aircraft or equipment until the cause is determined. **(T-2)**

7.6.4.1. The Impoundment Official will determine what maintenance can be performed in conjunction with the maintenance required to release the aircraft or equipment from impoundment. **(T-2)**

7.6.4.1.1. Impoundment Official will coordinate with Wing Safety or equivalent for aircraft, equipment, and parts disposition to support any ongoing safety or mishap investigation. **(T-2)**

7.6.4.2. Parts removed from impounded aircraft or equipment will be carefully controlled until impound has been cleared and/or a safety investigation determination has been made. **(T-2)** This is to ensure that parts, once confirmed as the cause for impoundment, are available to be processed as DR exhibits.

7.6.5. The Impoundment Official will select a team of qualified technicians dedicated to determining the cause of the problem that led to the impoundment. **(T-2)**

7.6.5.1. Impoundment team members will be relieved of all other duties until released by the Impoundment Official. **(T-2)**

7.6.6. Once the cause of the malfunction or failure has been positively determined, the Impoundment Official will brief the Impoundment Release Authority on findings, corrective actions, and requests release of the aircraft or equipment from impoundment. **(T-2)**

7.6.7. If the cause of the discrepancy could potentially affect other aircraft or equipment in the fleet, QA will provide cross-tell information for up-channeling to the MAJCOM and the designated Lead Command IAW AFPD 10-9. **(T-2)**

7.6.8. Clear impoundments from forms/MIS IAW TO 00-20-1. **(T-2)**

7.6.9. If the cause of a reported malfunction cannot be determined or a positive corrective action cannot be confirmed, the Impoundment Release Authority will determine if further actions are required (such as, requesting depot assistance, further troubleshooting, FCF/OCF). **(T-2)**

7.6.10. MAJCOMs will publish guidance outlining impoundment and release procedures for transient aircraft.

7.6.10. **(AETC)** For impounded transient aircraft, the supporting organization is responsible for releasing the aircraft from impoundment in coordination with the owning unit.

7.6.10.1. At locations where no MXG/CC or designated representative is available, the aircraft assigned MXG/CC may temporarily delegate Impoundment and Release Authority.

7.7. Rules of Impoundment Specifically for Explosive-Related Events/Mishaps. When an inadvertent release or an explosive mishap is reported, the following procedures will apply:

7.7.1. In-flight:

7.7.1.1. When the involved aircraft returns to the de-arm or parking area, the aircraft will be impounded. **(T-2)** Limit maintenance actions to those required to make the aircraft safe.

7.7.1.2. The MXG/CC, MOC, Munitions Control, WWM, QA and Wing Safety or equivalent will be notified of the impoundment action. **(T-2)**

7.7.1.3. The aircraft with unsafe munitions will be parked and isolated in an area approved by the weapons safety office or equivalent and airfield management. **(T-2)**

7.7.1.4. Investigate and report the incident IAW DAFI 91-204.

7.7.1.4. **(AETC)** Also refer to DAFMAN 91-223 and AETC Supplement for additional requirements.

7.7.2. Ground:

7.7.2.1. The senior ground crew member will be in charge of the aircraft or equipment until relieved and will ensure involved persons remain at the scene. **(T-2)**

7.7.2.2. Protect other aircraft or equipment located near the incident if an explosive hazard exists. **(T-2)**

7.7.2.3. Do not change the position of any switches except as needed for safety. **(T-2)**

7.7.2.4. Limit maintenance actions to those actions required to make the aircraft or equipment safe. **(T-2)**

7.7.3. Preserve mishap evidence to the maximum extent possible. **(T-2)** An example would be segregating an aircraft gun versus destroying it if it poses no immediate danger. This allows for evaluation of all the evidence and the ability to recreate the mishap conditions.

7.7.4. If an incident, malfunction, or mishap is suspected to have occurred or caused by in-use, installed, or otherwise configured munition (live or inert), or a 20 or 30MM gun system jam creating a safety condition, notify the Global Ammunition Control Point Air Force Life Cycle Management Center, Munition Division (AFLCMC/EBH) Munitions Rapid Response Team: DSN: 312-777-2666; COMM: (801) 775-2666, and the MAJCOM munitions staff. **(T-2)**

7.7.4.1. Refer to DAFI 91-202 for additional information about the Munitions Rapid Response Team. **Note:** The Munitions Rapid Response Team can also provide units technical assistance in resolving recurring 20 or 30MM gun system jams and malfunction isolation.

7.7.5. For impoundments involving nuclear loaded weapon systems see **Paragraph 7.5.6**. **(T-2)**

Chapter 8

TOOL AND EQUIPMENT MANAGEMENT

8.1. Tool and Equipment Management. The objectives of the Tool and Equipment Management Program are to prevent and eliminate FOD to aircraft, engines, missiles, training, and support equipment, and to reduce costs through strict effective control and accountability of assets. To ensure standardization among maintenance units, commanders and key leaders are responsible for executing an effective tool program. MAJCOMs will identify small unique unit tool and equipment management requirements in a supplement, addendum or deviation as described in the purpose statement of this DAFI. DFT/CFT will adhere to local tool control policies and procedures provided in the MXG/MXO in-brief (see **Paragraph 5.2.1.9**) when working on aerospace equipment possessed by the unit. The AF enterprise Tool Accountability System is TCMax®. **(T-2) Exception:** N/A to aircraft/weapon system programs that provide tool and equipment accountability support as an internal function of the program (e.g., F-35 ALIS).

8.2. Guidelines for Program Management. Wings will document procedures for the control and management of all tools/equipment used for aircraft/aerospace equipment maintenance or which enter the flightline or aerospace equipment maintenance industrial areas, to include all wing organization's (Hospital, CE, vehicle Mx, Security Forces), to provide mission support in a wing level publication IAW DAFMAN 90-161. As a minimum, guidance will address the following:

8.2. (AETC) Guidelines for Program Management. In contractor organizations, the wing will appoint a non-contractor POC to develop the wing instruction.

8.2.1. Standardized procedures for security, control, and accountability of tools and equipment. **(T-3)**

8.2.1.1. DELETED.

8.2.2. Inventory requirements. **(T-3)** As a minimum, units will conduct and document an annual inventory of all tools and equipment. **(T-3)**

8.2.3. Procedures for warranted tool management. **(T-3)**

8.2.3.1. Procedures to tag/segregate unserviceable warranty tools. **(T-3)**

8.2.4. Procedures for control and management of replacement, expendable and consumable hand tools, HAZMATs, and other items contained in CTKs. **(T-3)**

8.2.4. **(AETC)** Ensure GSA Advantage Blanket Purchase Agreement is used to the fullest extent possible as the first source when purchasing new or non-warrantied hand tools. **(T-3)** This does not apply to tools that are replaced per the vendor's warranty. Replacement tools will not be issued or placed into a CTK without a turn-in of the unserviceable tool or lost item/tool report.

8.2.5. Procedures for transfer of tools/CTKs at the job site (on-site transfers). **(T-3)**

8.2.5.1. Ensure tool accountability and control is maintained when transfer occurs between the individuals. As a minimum the individuals involved in the transfer will accomplish a joint inventory and document accordingly. **(T-3)**

8.2.6. Procedures for lost or missing tools. **(T-3)**

8.2.7. Assignment of Equipment Identification Designators (EID) for CTKs, non-CA/CRL equipment, and assignment of CTK numbers for tools. **(T-3)**

8.2.8. Procedures for issue, marking, and control of PPE, tools, or equipment (such as, hearing protectors, reflective belts, headsets) assigned/issued to individuals. **(T-3)**

8.2.8.1. At a minimum, individual issued equipment will be marked with first name initial, last name, and employee number. **(T-3)** For members without employee numbers, organizational items will be marked with first name initial, last name, and organization. **(T-3)**

8.2.9. Procedures to ensure positive accountability and control of rags. **(T-3)**

8.2.9.1. A rag is defined as a remnant of cloth purchased in bulk or a standardized, commercial quality, vendor-supplied shop cloth used in general industrial, shop, and flightline operations.

8.2.9.1.1. Cheesecloth is considered a rag; however, paper products/paper towels are not considered rags.

8.2.9.2. Rags should be uniform in size and color.

8.2.9.3. Marking or identifying each shop rag with a CTK number is not necessary.

8.2.10. Procedures to limit numbers of personnel authorized to procure tools. **(T-3)**

8.2.11. Procedures for control of locally manufactured or developed tools and equipment. **(T-3)**

8.2.12. Procedures for FSRs/DFTs/CFTs when working on equipment within the unit. **(T-3)**

8.2.13. Standardized procedures and responsibilities for decentralizing CTKs, tools, and equipment outside tool room/support section to meet mission requirements. **(T-3)**

8.2.13.1. Inventory and accountability requirements described in this DAFI apply equally to all decentralized CTKs tools, and equipment. **(T-3)**

8.2.14. Procedures for control of response equipment permanently stored/located in trailers or vehicles. **(T-3)**

8.2.15. Procedures for requiring a second party or on-duty supervisor inspection of CTKs when conditions warrant a single person shift. **(T-3)**

8.2.15. **(AETC)** The requirement for a second party or supervisor to inspect a tool kit upon turn-in does not apply to personnel manning a support section for the purpose of issuing and inspecting tool kits.

8.2.15.1. The same individual that signs out a CTK cannot sign it back in. **(T-3)**

8.2.16. Procedures for controlled access to tool rooms. **(T-3)**

8.3. General Program Guidelines.

8.3.1. The Flight CC/SUPT will designate CTK custodians. **(T-3)**

8.3.1. **(AETC)** In small work centers, it may be impractical to designate a full-time CTK custodian. Work centers fitting this criteria usually have a small number of personnel assigned and may share the same CTK to perform their maintenance tasks. There may also be work

centers where the only tool management functions being performed are issuing, inventorying, and securing CTKs and equipment. In work centers such as these, the work center supervisor may designate a member of the maintenance team to be a CTK monitor.

8.3.1.1. CTK custodians are responsible for tool, HAZMAT, and consumable asset accountability and control. **Exception**: A separate person may be designated as the HAZMAT monitor.

8.3.2. Flight CC/SUPT and/or Section NCOICs/Chiefs (or equivalents) will determine the type, size, contents, and number of CTKs required for their work centers. **(T-3)**

8.3.2.1. The WWM will make this determination for load crew CTKs, when assigned. **(T-3)**

8.3.3. Design CTKs to provide for quick inventory and accountability of tools. CTKs and tools will be clearly marked with the Equipment Identification Designator (EID) (follow guidance below). **(T-3)**

8.3.4. CTK contents will be standardized to the maximum extent possible within functional elements of a squadron that have similar missions (such as, aircraft flights/sections and Combat Armament Support Team). **(T-3)**

8.3.5. Each tool, item of equipment, or consumable contained in a CTK will have an assigned location identified either by inlay cuts in the shape of the item, shadowed layout, label, or silhouette. **(T-3)**

8.3.5. **(AETC)** Tools issued for use in a pouch, lineman's kit or container that prohibits silhouetting and/or shadowing, will be identified on the master inventory list (MIL) to facilitate inventory and control. **(T-2)** Include the CTK number of the pouch or kit and the quantity, nomenclature, and CTK number (if different) for each tool included in the kit.

8.3.5.1. No more than one item will be stored in a cutout, shadow, or silhouette. Tools too small to be etched individually may be place in CTKs as a set (such as, drill bits, Allen wrenches, apexes, or paired items like gloves, booties). **(T-3)**

8.3.6. A Master Inventory List (MIL) will be required for each CTK or series of identical CTKs. **(T-3)**

8.3.6.1. The WWM will approve/sign a single MIL to be used as the standard for all Load Crew CTKs on like mission-design-series aircraft; a copy will be maintained in each support section. **(T-3)**

8.3.6.2. When items such as dispatchable support equipment or dispatchable special tools are issued separately (not contained in a CTK) and contain multiple parts that are required for its use (such as, cartridges containing consumables, cables, hoses, adapters), a MIL of all the items will be provided with the support equipment or special tools to facilitate positive accountability of all items during checkout, transfer, and check in. **(T-3)**

8.3.6.3. The MIL resides in the TCMax®, but a hard copy of the signed MIL must reside with each dispatchable CTK to provide the ability to verify the inventory regardless of location. **(T-3)**

8.3.6.4. If items such as identification tags or dust caps are attached to tools/equipment, they will be secured in a manner that will minimize any possibility of FOD. **(T-3)**

8.3.6.4.1. Items not permanently attached, will be marked/etched with the appropriate CTK number. **(T-3)**

8.3.6.4.2. All items will be listed on the MIL. **(T-3)**

8.3.6.5. Consumables may be placed in CTKs. If so, they will be identified on the MIL as consumables. **(T-3)** Examples of consumables include safety wire, adhesive, wire bundle lacing, solder.

8.3.6.5.1. Do not include common hardware items such as bolts, nuts, and/or screws unless they are required for the tool to perform its intended function. Cartridges or equivalents containing consumable items whether disposable or not will be accounted for to mitigate FOD hazards. **(T-3)**

8.3.6.6. Tool sets placed within a CTK will be identified on the CTK MIL by total number of items in the set (such as, Allen wrench set - 9 each Allen wrenches + container for a total of 10). **(T-3)**

8.3.6.6.1. Items identified as too small to be marked, etched, or stamped, as approved by QA, will be annotated with a description of the individual items contained within the set on the CTK/MIL (such as, the variation in the size of the items contained within the set, Apex, file, drill bit, size). **(T-3)**

8.3.6.7. Missing, removed and/or broken tools/items will be documented in the TCMax® if they cannot be replaced immediately. **(T-3)**

8.3.6.7.1. In addition, for dispatchable CTKs, dispatchable support equipment, and dispatchable special tools containing multiple parts, missing, removed and/or broken tools/items will be documented on a MAJCOM/locally generated form, or on the hard copy MIL. **(T-3)**

8.3.6.7.1. **(AETC)** Units may use AETC Form 1042, *CTK Tool Checklist* to identify tools or other items missing, removed and/or broken from a CTK.

8.3.6.7.1.1. If a MAJCOM/locally generated form is used, the form will be kept with each dispatchable CTK, dispatchable support equipment and dispatchable special tools. **(T-3)**

8.3.6.7.1.2. Pencil/pen may be used for hard copy MIL documentation and erased/lined through when cleared.

8.3.6.7.2. The EID will be removed from any permanently removed item/tool. **(T-3)**

8.3.6.7.3. A permanently removed (without planned replacement) item/tool constitutes a change to the inventory and requires a new MIL.

8.3.6.7.4. The CTK custodian has the authority to interchange "like" (form, fit, function) items.

8.3.7. Equipment and accessories that do not present a FOD potential and will not leave the work center, support section, or tool room, need not be included in a CTK; however, this equipment must have designated storage locations established. **(T-3)**

8.3.7.1. Designated locations may be work areas or stations.

8.3.8. The CTK Custodian will establish designated locations for test equipment and common accessories (such as, waveguides, attenuators, fittings, cables, adapters) that are not part of a CTK. **(T-3)**

8.3.8.1. As a minimum, designated locations will be labeled to identify the contents. **(T-3)**

8.3.8.2. Industrial shop machinery accessories/attachments (example, blades, arbors, chucks, gears) need not be controlled as tools; however, these items will be maintained in designated storage locations for accountability. **(T-3)**

8.3.8.2.1. As a minimum, storage cabinets/drawers will be labeled to identify the contents. **(T-3)**

8.3.9. Tools/expendable items used for titanium engine blade blending or oxygen system maintenance will be kept in special purpose kits separate from other tools. **(T-3)**

8.3.9.1. In addition to normal CTK identification, the titanium engine blade blending kits will be marked “For Titanium Engine Blade Blending Only”. **(T-3)**

8.3.9.2. In addition to normal CTK identification, oxygen system maintenance kits will be marked “For Oxygen System Use Only”. **(T-3)**

8.3.10. Discard removable (slide on) pocket clips and spare parts from tools when possible (flashlights, continuity testers, small screwdrivers) prior to placement in tool kits. **(T-3)**

8.3.10.1. Do not disassemble or damage tools for sole purpose of removing clips (example, tape measures, rubber switch guards).

8.3.11. Tools not controlled through CTK procedures are NOT authorized on the flightline, or in any maintenance area (for example, personal Mini Maglite® flashlights, Leatherman®, Buck Knives®). **(T-3)**

8.3.11.1. Units will mark and control equipment that a workcenter assigns/issues to an individual IAW MAJCOM supplements. **(T-3)**

8.3.11.1. **(AETC)** The MXG/CC will develop procedures to mark and control equipment that is assigned or issued to individuals. **(T-2)** Also see paragraphs **8.2.8** and **8.2.8.1**.

8.3.11.2. Personally purchased tools are not authorized. **(T-3)**

8.3.12. Flashlights, lanterns, portable lighting devices and light sources will conform to the requirements of TO 00-25-172 when used during servicing operations; TO 1-1-3 when used during fuel cell maintenance; and DESR6055.09_AFMAN 91-201 when used in explosive environments. **Note:** Aircraft and equipment TOs may dictate additional restrictions.

8.3.13. **(Added-AETC)** Do not use electric motor-driven tools (including drills, sanders, and screwdrivers) on or in the immediate vicinity of aircraft. **(T-2)** Non-motor-driven electric tools, such as soldering irons, are authorized for use on aircraft. The following exemptions apply:

8.3.13.1. **(Added-AETC)** Underwriters Laboratories, Inc. (UL®)-approved vacuum cleaners may be used in and around aircraft if they are maintained and controlled as CTK equipment items and are not used in areas prone to flammable or gaseous mixtures.

8.3.13.2. **(Added-AETC)** Battery-powered screwdrivers and drills may be used to remove and replace fasteners that attach panels to aircraft structures except as follows:

8.3.13.2.1. **(Added-AETC)** Do not use to install fasteners that require a torque value unless the tool is equipped with an approved torque-sensing device calibrated by PMEL. **(T-2)**

8.3.13.2.2. **(Added-AETC)** Do not use in class 1, division 1, hazardous areas; to install or remove fasteners from fuel tanks, fuel cell cavities, or nacelles; within a 1-foot radius of fuel vents that extend upward from the floor to a level of 5 feet above the fuel vent; within 18 inches of the floor; or when there is a known or suspected fuel leak or spill. Tool battery exchanges and recharges will not be conducted in class 1, division 1 or 2, hazardous areas.

8.3.13.3. **(Added-AETC)** Air-powered tools may be used on aircraft; however, do not use air-powered drills with apexes for aircraft panel installations unless they are equipped with a torque-sensing device calibrated by PMEL.

8.4. TMDE Management Guidelines. Support Sections will designate a TMDE Monitor who will act as the focal point with the designated servicing PMEL (whether on-base or off-base) for managing the TMDE calibrations requirements for the owning work center. **(T-3)** The TMDE Monitor will:

8.4.1. Establish procedures for turn-in and pick-up of TMDE requiring calibration. **(T-3)**

8.4.2. Coordinate emergency calibration requirements. **(T-3)**

8.4.3. Review quarterly TMDE schedules and annual master identification (ID) lists within 5 duty days of receipt from servicing PMEL. **(T-3)**

8.4.3.1. Forward any corrections to the servicing PMEL within 3 duty days to have the PMEL Automated Management System/MIS updated. **(T-3)**

8.4.4. Take necessary actions to minimize the late delivery of TMDE for scheduled calibration. **(T-3)** Servicing PMEL will notify OWC of overdue TMDE under established procedures. **(T-3)**

8.4.5. Use PMEL Automated Management System or equivalent MIS (as coordinated with supporting PMEL) to control TMDE processed for maintenance. **(T-3)**

8.4.6. Ensure TMDE submitted for calibration has all required documentation complete, the AFTO Form 350 (as applicable) provides adequate malfunction description and accessories/ items required for calibration accompany the TMDE to include batteries (as applicable). **(T-3)**

8.4.7. Ensure classified TMDE is protected IAW AFI 16-1404.

8.4.8. Ensure TMDE shipped off base for calibration or repair and return is shipped by traceable means and IAW DAFI 24-602V2.

8.4.8.1. The TMDE Monitor will maintain a file consisting of all supporting documentation for each type of shipment. **(T-3)**

8.4.8.2. Safeguard any IUID marks during calibration/TMDE activities to the extent possible. In the event the UII is damaged during calibration activities, the TMDE Monitor will notify the responsible Equipment Custodian and/or EAE to replace the mark with the same UII. **(T-3)**

8.4.9. For deployment purposes, ensure equipment, tools, and HAZMAT items are properly identified, prepared, and documented IAW AFI 10-403.

8.5. Tool Accountability and Serviceability. Flight CC/SUPT and Section NCOICs/Chiefs, through CTK Custodians, are responsible for tool and equipment accountability and control (knowing where tools are and who has responsibility for them). When a person signs for a tool or piece of equipment, they are considered the user and accountable for the item until it is returned to the tool room and accountability transfers back to the CTK Custodian (through a representative or tool room employee).

8.5.1. All units must use TCMax® for accountability and control of tools and equipment. **(T-3)** Contractors and MEOs are not required to use TCMax® unless specified in the Performance Work Statement/Statement of Work. **Note:** Refer to **Paragraph 8.1** for exceptions.

8.5.1. **(AETC)** [DEV] ALIS is used to manage tools for the F-35 aircraft. Sections such as QA, where only a handful of items (including eTools) require accountability, may use the AETC Form 1042 for accountability and control of tools. Maintain a copy of the form in the storage facility/location.

8.5.1.1. Units are required to electronically back up TCMax® at least once a month. **(T-3)**

8.5.1.1.1. This backup must be kept physically and electrically separate from the computer that houses the tool control database. **(T-3)**

8.5.1.2. Units will use TCMax® to:

8.5.1.2.1. Track the issuance and receipt of all assigned tools, equipment, tool kits, HAZMAT items, TOs (does not apply to TOs, equipment and HAZMAT kept in a shop and not dispatched). **(T-3)**

8.5.1.2.1.1. HAZMAT items issued for one time use (oil cans, hydraulic cans, mixing compounds) are supply items and do not have to be tracked in TCMax®. However, HAZMAT and supply procedures will be followed. **(T-3)**

8.5.1.2.2. Track authorizations/restrictions for special tools/equipment (by individual). **(T-3)**

8.5.1.2.3. Track CTK and Support Section inspections. **(T-3)**

8.5.1.2.4. Track spare, lost, damaged, and/or removed tools. **(T-3)**

8.5.1.2.4. **(AETC)** A stock of spare tools is authorized as a source of replacement for broken, worn, or missing tools. CTK custodians determine the type and quantities of spare tools to be maintained. Access to spare tools will be limited to the shift supervisor (or equivalent) and CTK custodian. Custodians will inventory spare tools quarterly. To aid accountability, control, and inventory, organize spare tools by type using bins or dividers numbered sequentially.

8.5.1.2.5. Develop and manage tool/equipment inventories. **(T-3)**

8.5.1.2.6. Develop and manage deployment kits (import/export). **(T-3)**

8.5.1.3. If TCMax® is not available (such as at a deployed location), units will use the AF Form 1297, Temporary Issue Receipt, a MAJCOM, or locally approved form for accountability and control of CTKs, equipment, and tools. **(T-3)**

8.5.2. The CTK Shift Supervisor will account for all dispatchable/decentralized CTKs, tools, and equipment at the beginning and end of each shift. **(T-3)**

8.5.2.1. Shift inventories must be documented by both outgoing and incoming personnel. **(T-3)**

8.5.2.2. CTKs present during tool room shift inventories do not need to be opened for inventory.

8.5.3. At least annually or when the CTK Custodian changes, conduct a comprehensive inventory of all dispatchable/decentralized tools, non-Custodian Authorization/Custody Receipt Listing (CA/CRL) equipment, and CTKs. **(T-3)**

8.5.3.1. The purpose of this inventory is to perform an extensive inspection of all tools and non-CA/CRL equipment, to include condition, identification markings, and accuracy of the MIL/CRL Supplemental Listing.

8.5.3.2. CTK Custodians will ensure all tools are inspected for serviceability IAW TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools*.

8.5.3.3. CTK Custodians will document these inventories and maintain the most current inventory. **(T-3)**

8.5.4. Users will perform a visual inventory of all dispatchable/decentralized CTKs when issued for use, at the completion of each job or tasks, and when returned to the tool storage facility. **(T-3)** Users will refuse unserviceable items and return to CTK custodian. **(T-3)**

8.5.4.1. Users will accomplish a CTK inventory prior to operation of any aircraft or equipment when maintenance actions are performed (such as, engine run, landing gear retraction, flight control operational checks). **(T-3)**

8.5.4.2. Users will perform an immediate and complete inventory of all CTKs when returning to the work area after sheltering for real-world/exercise events. **(T-3)**

8.5.4.3. Users will ensure dispatchable tools, equipment, eTools and CTKs are locked and/or secured when left unattended. **(T-3)**

8.5.4.4. CTK's signed out to deployed ABDR Individual/Assessor are not considered "issued-for use" unless signed open on an AFSC Form 309, *AFSC Tool Control Inventory Record*, or issued from a local deployed support section for the purpose of inventory requirements.

8.5.5. eTools: Units will use the following procedure to maintain positive control of assigned eTools:

8.5.5.1. Manage eTools IAW TO 00-5-1, and this instruction. **(T-3)**

8.5.5.2. Track dispatchable eTools in TCMax®. **(T-3)**

8.5.5.3. Ensure only serviceable eTools with current technical data are available for checkout, and any missing plugs/covers/doors are documented IAW **Paragraph 8.3.6.7**. **(T-3)**

8.5.5.4. Make maximum use of eTool warranties. **(T-3)**

8.5.5.5. Ensure eTools are used for official and authorized purposes IAW TO 31S5-4-etool, 17 & 33 Series instructions, MAJCOM guidance, and this DAFI.

8.5.5.5. **(AETC)** Sortie/mission generation capability is dependent on keeping sufficient numbers of eTools serviceable, current, and secure, both physically and from cyber threats. E-tools are used for viewing electronic technical orders and maintenance documentation. E-tools are also authorized for accessing .mil and .gov web sites along with technical order web sites, for official business only. E-tools may also be used to access government e-mail accounts but will not be used for personal e-mail or other personal computer type uses. **(T-2)** E-tools that require Microsoft applications or other software applications to support viewing electronic technical orders and maintenance documentation may be loaded on e-tools.

8.5.5.5.1. Not install unauthorized files or software (such as, games, mp3s). **(T-3)**

8.5.5.5.2. Not use unauthorized external media devices to retrieve data from removable hard drives. **(T-3)**

8.5.5.6. Coordinate with the local Cybersecurity Liaison and/or Information System Security Managers to identify publish local guidance on restrictions for the use of eTools/PEDs in classified processing areas. **(T-3)**

8.5.5.7. Establish procedures for shipping TOs, eTools, and required support equipment needed to ensure eTools availability to support mobility and deployed operational requirements. **(T-3)**

8.5.5.8. If applicable, units will update Defense Integration and Management of Nuclear Data Services (DIAMONDS) hardware and status IAW TO 11N-3150-8-1, *USAF DIAMONDS Policy and Procedures*. **(T-3)**

8.5.5.8.1. For accountability, DIAMONDS laptops and hardware must be managed and tracked in TCMax®, but do not require placement on unit equipment account IAW TO 11N-3150-8-1.

8.5.5.9. **(Added-AETC)** Develop procedures for reporting and isolation of eTools suspected to be compromised by a cyber threat/incident.

8.6. Tool and Equipment Marking and Identification.

8.6.1. To ensure tool rooms have unique identifiers, wings (or equivalent) must ensure other units within the same wing or Personnel Assignment Symbol (PAS) code do not duplicate the WWID. **(T-2)** MAJCOMs/ANG will develop, sustain, and review annually a complete listing of all the WWID utilized within their MAJCOM/ANG. MAJCOMs will update AF/A4LM with WWID changes as they occur. Reference the AF/A4LM SharePoint® site: **https://usaf.dps.mil/sites/haf-a4/A4L/AF_A4LM/Policy/SitePages/Home.aspx**

8.6.1. **(AETC)** Units will coordinate all WWID changes with 19 AF/A4PP.

8.6.1.1. All units must permanently mark their tools and equipment with the standard EID. **(T-3)** GSU may use the parent wing EID. Replacement spare tools stored in the tool room do not need to be etched until placement in a specific CTK.

8.6.1.1. **(AETC)** Contractor organizations are not required to remark tools and equipment with the EID if not required to use an AF/MAJCOM approved Tool Accountability System.

8.6.1.2. The EID will consist of nine characters (numbers/letters) of which the first four characters will be a unique WWID code. **(T-3)**

8.6.1.2.1. The WWID identifies the base (first and second character), unit (third character), and shop (fourth character). The remaining five characters are available for tool/CTK equipment numbering.

8.6.1.2.1.1. The first two characters of the WWID in the EID are based on the wing/unit PAS base code. Multiple wings (or equivalent) at the same base (example, ANG, AFR, and RegAF) must have different WWID codes. **(T-3)**

8.6.1.2.1.2. The third and fourth characters designate the unit and shop by using unique/distinguishable characters. To ensure tool rooms have unique identifiers, wings (or equivalent) must ensure other units within the same wing or PAS code do not duplicate the first 4 characters of the EID. **(T-3)**

8.6.1.2.1.3. Request additional "base" code information from AF/A4LM at: **AF/A4LM Maintenance Policy, AF.A4LM.Maintenance.Policy@us.af.mil**.

8.6.1.3. The unit will establish the remaining five characters (any combination of numbers/letters) for CTKs, tools, and dispatchable equipment identification. **(T-3)**

8.6.1.4. Units must place the 9-digit EID on all CTKs, tools not assigned to a box, and dispatchable equipment that is of sufficient size. **(T-3)**

8.6.1.4.1. The 9-digit EID must be placed on the outside of dispatchable CTKs. **(T-3)**

8.6.1.4.2. Tools located inside the toolbox may be marked with less than 9-digits but must contain the 4-digit WWID and will have identifying character(s) that ties the tool back to the CTK. **(T-2)** For example, tools inside an assigned dispatchable CTK "U6JG00001" may be marked "U6JG1." Units may affix non-metallic barcode labels on tools to prevent re-etching as long as the use of the tool and its work environment does not normally result in excessive damage to the label making it unreadable.

8.6.1.4.3. Tools will be marked with the most current EID. **(T-3)**

8.6.1.4.4. All previous CTK identifiers will either be removed or marked out (this does not include PMEL markings). **(T-3)**

8.6.1.4.5. Small tool sets and/or items that cannot be marked as described in **Paragraph 8.3.6.6** above (such as drill bits, Allen wrenches in sets, apexes) will be maintained in a container marked with the EID and an identifying character(s) that ties the tool back to the CTK along with the number of tools contained. **(T-3)**

8.6.1.4.5.1. The container is counted as one of the items.

8.6.1.5. MXG/CCs may require use of the EID in addition to AFTO Form 66, *TMDE Bar Codes (Polyester Film)*, for TMDE routinely (example, once per week) dispatched from a work center or use of the AFTO Form 66 alone.

8.6.1.6. For items that physically or mechanically check tolerances that require calibration, do not etch, or stamp an EID in any manner that will affect calibration or the ability to calibrate. **(T-3)**

8.6.1.6.1. If marking is in question consult TO 00-20-14 and/or PMEL to validate applicable marking criteria.

8.6.2. Permanently mark (by etching or other means) grease guns, dispensing cans, spray bottles, pump oilers, and similar containers with the type of grease, fluid, or other liquids and Military Specification (MILSPEC) of the contents. **(T-3)** If the MILSPEC is subdivided into Grades, Classes, or Types, include that info on the permanent marking. **(T-3)**

8.6.2. **(AETC)** Mark grease gun fittings and hoses with the type of grease they contain if they will be used on a different gun.

8.6.2.1. If no MILSPEC exists, the item will be marked with the manufacturer's name, part number/NSN from the applicable Safety Data Sheet. **(T-3)**

8.6.2.2. Keep hoses and fittings separate for each type of grease. **(T-3)**

8.6.2.3. If containers are used to hold or apply substances classified as hazardous materials, ensure labeling requirements are IAW AFI 90-821, *Title 29 Code of Federal Regulations 1910.1200(f)*, *Occupational Safety and Health Standards, Toxic and Hazardous Substances*. **(T-0)**

8.6.3. Prior to etching tools and equipment, consult applicable technical order to ensure no special circumstances apply for the item being etched (such as, fiberglass handled hammers are etched IAW TO 32-1-101 and safety glasses. **(T-3)**

8.6.4. CTKs, tools, and dispatchable equipment that may possess a unique serial/tracking number must be marked with an EID number. **(T-3)**

8.6.4.1. If the item cannot be marked, etched, or stamped, annotate the additional designator on the CTK contents list. **(T-3)**

8.6.5. Items that are assembled and are not intended to be disassembled during use, require only one mark/etch/stamp and one entry in the MIL (such as, scribes, flashlights, grease guns, feeler gauges). **(T-3)**

8.6.6. Remove the EID from unserviceable tools and tools removed from the CTK (with the exception of warranty tools where removal of EID may void the tool warranty) and update TCMax® and the MAJCOM/locally generated form or hard copy MIL accordingly. **(T-3)**

8.6.7. Ensure all tools which are accountable on a CA/CRL must be marked with a UII. **(T-3)** Units need to safeguard any IUID marks. In the event the UII is damaged, notify the responsible Equipment Custodian and/or EAE to replace the mark with the same UII.

8.7. Locally Manufactured, Developed, or Modified Tools and Equipment. All locally manufactured, developed, or modified tools and equipment used on aerospace equipment must be

approved by the MXG/CC, their equivalent, or a designated representative and meet the requirements described in **Chapter 9**.

8.7. (AETC) Locally Manufactured, Developed, or Modified Tools and Equipment. Requests for approval must include written justification, a description, and photos and/or drawings depicting dimensions. QA/QC will retain on file the original request for approved items and applicable CTK custodians will maintain a file copy.

8.7.1. This procedure does not apply to tools and equipment authorized for local manufacture in MDS specific technical data or equivalent engineering approved document. QA will coordinate on all requests for approval and use of locally manufactured, developed, or modified tools or equipment. **(T-3)**

8.7.2. Work centers will review items and requirements every two years for applicability and current configuration. **(T-3)** See **Chapter 6** and **Chapter 9** for additional guidance.

8.7.2. **(AETC)** The biennial review of munitions/armament LME items requires QA and wing safety coordination/evaluation.

8.7.3. Weapons loading, maintenance and armament systems locally designed equipment must be coordinated through the WWM. **(T-3)** Weapons loading, maintenance and armament systems locally designed equipment must meet the following requirements:

8.7.3.1. In the event munitions/armament LME, is not included in technical data or listed on the MMHE Focal Point website **https://cs2.eis.af.mil/sites/10134/sitepages/home.aspx**, contact the MMHE Focal Point AFLCMC/EBDW, 615 Apalachicola Road, Suite 101, Eglin AFB, FL 32542-6845 to establish/validate LME disposition.

8.7.3.1.1. Units must use MMHE Focal Point-designed munitions/armament LME for new procurements if a design exists and fills the requirement. **(T-2)**

8.7.3.1.1.1. Munitions/armament LME is specialized equipment designed to interface with or support munitions or armament suspension equipment (such as, tools, handling dollies, storage racks, maintenance stands, transport adapters). All munitions/armament LME contained on the MMHE Focal Point web site meets applicable DAFMAN 91-203 and USAF standards and is approved for local manufacture and use at unit level AF-wide. Drawing packages for these items are available to the unit via the MMHE Focal Point website.

8.7.3.1.1.2. Munitions/armament LME specifically designed to interface with or support munitions that are not contained in technical data or on the MMHE Focal Point website (such as, hardened/protective aircraft shelter missile racks, Y-stands, munitions chocks, specialized tools) must be coordinated at unit level and forwarded to the MAJCOM Functional Manager for coordination, evaluation, or both. **(T-2)**

8.7.3.1.1.2.1. If the MAJCOM Functional Manager determines the item has AF utility, the drawings will be forwarded to ACC/A4WC for review and addition to the MMHE Focal Point Master Project List that results in formal development and placement onto the MMHE Focal Point website.

8.7.3.1.1.2.2. **(Added-AETC)** The Munitions and Weapons Branch (19

AF/A4MW) is the approving authority for munitions/armament LME, specifically designed to interface with or support munitions. This includes tools or equipment that measure, test, or verify system, subsystem, component, or item integrity. Changes or modifications to items previously approved by MAJCOM must be coordinated at unit level and forwarded to 19 AF/A4MW for approval. **(T-2)** If applicable, 19 AF/A4MW will submit new LME requests to the HQ AETC Explosives Safety Division (HQ AETC/SEW) and the Non-nuclear Munitions Safety Board for evaluation. **(T-2)**

8.7.3.1.1.2.3. **(Added-AETC)** Use the following procedures for new LME requests requiring 19 AF/A4MW approval: The flight or section chief will submit a memorandum to 19 AF/A4MW through maintenance supervision, QA, and wing safety. **(T-2)** Include a description of the test equipment as well as for what it is used, Include a list of materials. Include the approximate cost (including labor and material). Include a wiring diagram and views of the completely assembled unit with wiring visible (if applicable).

8.7.3.1.1.3. Munitions/armament LME not designed to interface with or support munitions that are not contained in technical data or on the MMHE Focal Point web site must be approved by QA. **(T-2)**

8.7.3.1.1.3.1. Units are encouraged to forward any such approved LME for possible inclusion on MMHE Focal Point web site by sending an approved drawing package to the MAJCOM Functional Manager for coordination/evaluation.

8.7.3.1.2. All LME must meet applicable DAFMAN 91-203 and USAF standards.

8.7.3.1.3. All equipment designated for use with nuclear weapons test and handling must meet requirements in DAFI 91-101.

8.7.3.1.4. All weapons loading, maintenance and armament systems LME must be maintained and inspected for serviceability on a regular basis IAW applicable TO 00-20-series, TO 35D-1-2, *Maintenance Instructions WIPB-Miscellaneous Munitions Handling and Support (Munitions Related)*, and TO 35D-2-2 *Munitions Materiel Handling Equipment Miscellaneous And Locally Manufactured – Armament Related*.

8.7.3.1.4.1. AFTO Form 244, or equivalent, must be maintained for all LME items (racks, stands, adapters) except hand tools. **(T-3)**

8.7.3.1.4.2. Equipment without technical data must, as a minimum, be inspected every 180 days for corrosion, physical defect, and lubrication as required. **(T-3)**

8.8. Tool Room Operations and Tool Security.

8.8.1. Operations. Tool rooms will be set up to ensure accountability. **(T-3)**

8.8.1.1. Procedures will be established to ensure custodial control. **(T-3)**

8.8.1.2. Tools will not be issued individually from dispatchable CTKs. **(T-3)**

8.8.1.2.1. When a recurring need exists for common tools to be issued individually, (such as, hammers, screwdrivers, pliers, drills, wrenches) individual issue bins/drawers may be established as a CTK within the tool room. **(T-3)**

8.8.1.3. Process reports for tools that are lost, damaged, or destroyed, due to neglect IAW AFI 23-101. **(T-3)**

8.8.2. Security.

8.8.2.1. The tool room must be capable of being locked and afford protective measures such as monitoring, 24-hour coverage, or controlled key access. **(T-3)**

8.8.2.1.1. When all CTKs are not capable of being secured in the tool room, the Section NCOIC/Chief will design a process to prevent the unauthorized use or access to tools and equipment. **(T-3)**

8.8.2.1.2. Due to space and facility limitations, it may not be possible to store oversized tool kits in the tool room.

8.8.2.2. Locks will be used on tool kits stored outside the CTK to provide a physical barrier to opening the container lid, drawer or door and prevent the unauthorized removal of tools. **(T-3)**

8.8.2.2.1. Locks are not required on tools and equipment that are stored within secured tool rooms or work centers.

8.8.2.2.2. Tools and equipment will never be secured to the exterior of an aircraft. **(T-3)**

8.8.2.2.3. Tool kits located within high traffic, controlled movement areas or that could limit aircraft movement or be exposed to jet blast are required to be locked when unattended/not in use and moved to un-obstructive/exposed location. **(T-3)**

8.8.2.2.3.1. Alert Aircraft in Protection Level Areas 1, 2, and Alert Status Aircraft in Protection Level Area 3. CTKs in these areas that are directly supporting alert status aircraft do not have to be locked when unattended and not in use as long as they are inventoried at the beginning of each shift, after each maintenance task, and at the end of each shift.

8.9. Lost Item/Tool Procedures.

8.9.1. Authorization to clear Red X's when an item/tool cannot be located should be no lower than Maintenance Supervision IAW **Chapter 2**. **Exception:** For contingency operations with absence of Maintenance Supervision, aircraft commander assumes responsibility.

8.9.2. Supervisors need to ensure all assigned personnel are familiar with lost item/tool procedures. If an item/tool or a portion of a broken item/tool is discovered missing, the following procedures apply:

8.9.2.1. The person identifying the missing item/tool will search the immediate work area for the item/tool. **(T-3)**

8.9.2.1.1. If not found, after completing an initial search the individual will notify the expediter/Pro Super or equivalent. **(T-3)**

8.9.2.2. Place a Red X in the aircraft or equipment forms of all affected aircraft or equipment with a description of the item/tool and a specific, last known, location of the item/tool. **(T-3)**

8.9.2.3. Expediter/Pro Super or equivalent will immediately notify the Flight CC/SUPT, Support Section, MOC, and QA. **(T-3)**

8.9.2.3.1. Initiate a thorough search for the item/tool. **(T-3)**

8.9.2.3.2. Initiate the lost tool report if tool is not located during initial search. **(T-3)**

8.9.2.4. If it is suspected that the item/tool has fallen into an inaccessible or unobservable aircraft area, perform an NDI or use borescope equipment to locate the lost item/tool. **(T-3)**

8.9.2.4.1. If the item/tool is in an inaccessible area that poses no FOD threat and the action is to leave the item/tool in place, the x-ray (or equivalent) with the identification of the exact item/tool location and copies of all information concerning the lost item/tool are maintained in the aircraft historical file until the item/tool is recovered. **(T-3)**

8.9.2.5. If at any time during the investigation the item/tool is found, notify the Flight CC/SUPT, Support Section, MOC, QA, expediter, Pro Super or equivalent, and the owning work center. **(T-3)**

8.9.2.5.1. If the item/tool is found, but is inaccessible, Maintenance Supervision may explore other possible actions to include having the unit or a DFT disassemble the aircraft to remove the item/tool.

8.9.2.5.1.1. If the aircraft MDS is one that has a PDM or is scheduled for depot modification, any inaccessible lost item/tool will be listed with location on the AFTO Form 345, Aerospace Vehicle Transfer Inspection Checklist and Certification, for removal by the depot. **(T-3)**

8.9.2.6. Maintenance Supervision will determine when the search for the lost item/tool may be discontinued. **(T-3)** If the item/tool is not found:

8.9.2.6.1. Notify the MOC and the MXG/CC when the search for the lost item/tool has been discontinued. **(T-3)**

8.9.2.6.2. Ensure lost item/tool report is completed IAW locally established procedures. **(T-3)**

8.9.2.6.2. **(AETC)** AETC Form 138, *Lost Tool or Item Investigation Record*, may be used to report the lost item. The report is routed through Maintenance Operations to QA for filing.

8.9.2.6.3. If applicable, ensure the TCMax® is documented IAW **Paragraph 8.3.6.7**. **(T-3)**

Chapter 9

MATERIEL MANAGEMENT SUPPORT

9.1. General. Material management plays a critical role in optimizing mission generation capabilities. Although assigned to LRS, all DMS personnel must be integrated into daily mission generation operations both at home station and deployed. The critical nature of direct interaction between maintenance and materiel management activities at the point of maintenance provides units direct access to materiel management SMEs to accurately identify, communicate, acquire, or disposition materiel management support necessary to maximize combat capability. This **Chapter**, coupled with AFI 23-101, provides the minimum materiel management support requirements necessary to provide the best possible opportunity for success in meeting mission generation requirements. The AF has consolidated materiel management support under the AF Sustainment Center. The AF Sustainment Center provides fleet-wide supply support to all AF weapon systems and leverages consolidated repair facilities and ALCs capability to optimize weapon system availability.

9.2. Decentralized Materiel Support. Decentralized Materiel Support personnel coordinate maintenance and materiel management actions and manage supply transactions for the MXG. The duty location for DMS personnel is the applicable maintenance unit as agreed upon by the MXG and base 2S0 functional manager. Personnel rotations, as determined by the base 2S0 functional manager will be accomplished with consideration of operational, career development, and training requirements. **(T-3)**

9.2.1. In units with Decentralized Materiel Support personnel, the LRS Superintendent exercises control and career-field development opportunities for Decentralized Materiel Support (2S0XX) personnel. **(T-3)**

9.2.2. In units/work centers directly supported by Decentralized Materiel Support personnel, the Logistics Readiness Squadron Materiel Management Flight is responsible for ensuring materiel management support roles and responsibilities listed are completed IAW 23-series publications.

9.2.3. LRS Superintendent will ensure complete DMS coverage of MXG duty periods, to include weekend duty. **(T-3)**

9.2.4. At a minimum, DMS personnel will provide the following support functions to the maintenance unit: monitor and track assets in the repair cycle, resolve supply support problems, and report aircraft parts status and changes in base level repair capability to maintenance supervision. **(T-3)**

9.2.4.1. Decentralized Materiel Support personnel also support maintenance in processing issue requests, researching sources of supply, entering manual requisitions (part number only), updating exception code lists, and resolving other peculiar maintenance supply problems. **(T-3)**

9.2.4.2. DMS personnel will manage processes, in addition to those previously described, such as parts ordering, backorder review and validation, Readiness Spares Packages, and TNB. **(T-3)**

9.3. Supply Discipline. Supply discipline is the responsibility of all military and civilian personnel regardless of grade or position. Personnel at all levels need to ensure the practice of good supply discipline.

9.4. Readiness Spares Package Review. Maintainers play a critical role in the annual Readiness Spares Package review process. This role includes active maintenance participation in the base level validation process conducted by the LRS and their MAJCOM during the annual Readiness Spares Package pre-review process in preparation for the Weapon System Program Manager final review. Close maintenance-materiel management collaboration is essential to ensure RSPs are properly sized to support contingency maintenance requirements. See DAFMAN 23-122 for further details.

9.5. Bench Stock. Flight CCs/SUPT and/or Section NCOICs/Chiefs will determine the contents of their bench stock IAW qualification criteria in DAFMAN 23-122. **(T-3)** Examples of bench stock items include nuts, bolts, cotter keys, washers, resistors, capacitors, light bulbs, sealants, and batteries. Bench stock levels are managed and based predominantly on consumption. Monthly and semi-annual bench stock listings are provided by the LRS/DMS. A thorough review of these listings is extremely important to ensure that bench stock supports the mission efficiently and economically.

9.5.1. Bench stock assets are organizationally purchased and therefore organizationally owned. Appointment of DMS personnel as bench stock monitors must be agreed upon by the applicable Squadron Superintendents.

9.5.2. Mark bins containing 50 percent or less of the authorized quantity to facilitate monthly inventories. **(T-3)** Do not include items coded TCTO, unacceptable for AF use and critical in bench stock. Controlled Item Code S and C may be in bench stock with MAJCOM approval. Other controlled Item Codes are authorized with written approval from Unit Commander. See DAFMAN 23-122 for additional information.

9.5.2. **(AETC)** For contractor logistics support (CLS) bench stock, flag a bin when the bin quantity reaches 50 percent or less and notify the CLS function when an out-of-stock condition exists in the bench stock.

9.5.3. Work center supervisors will:

9.5.3.1. Semi-annually complete a bench stock joint review with the Customer Support Liaison Element, Materiel Control. **(T-3)**

9.5.3.1.1. During these reviews, special emphasis needs to be given to items with no demands in the past year and items with excessive quantities not supported by demands. The continuance of stocking such items is the exception and not the normative process. See DAFMAN 23-122 for further details.

9.5.3.2. Work with DMS or LRS/materiel management activity to ensure demilitarization criteria is identified, and used or excess items are disposed of IAW procedures in DAFMAN 23-122.

9.5.3.3. **(Added-AETC)** Utilize current S04 to identify shelf-life items and conduct monthly inspections. Dispose of all expired shelf-life assets monthly IAW AFI 23-101 and AFMAN 23-122. **(T-2)**

9.5.4. **(Added-AETC)** Mobile bench stocks are authorized to support maintenance efforts. Obtain items from an established bench stock. Only items essential to launch and recover aircraft are authorized. **(T-2)** Quantities of items on trucks should not exceed a 10-day supply. Each bin must have a locally devised label that includes the stock number, bench stock line number (document number) and quantity authorized in the truck bin. **(T-2)** Ensure mobile bench stocks do not present a FOD hazard.

9.5.5. **(Added-AETC)** Items purchased using the Government Purchase Card (GPC) may be located near or adjacent to bench stock, but not mixed. GPC purchases are governed by DAFI 64-117, *Government Purchase Card Program*, and AFI 23-101. The following provisions apply:

9.5.5.1. **(Added-AETC)** Develop a readily identifiable method to distinguish between items purchased using GPC and items procured through supply; for example, distinctive colored labels (with GPC in bold letters), bin locations, or place in a segregated area. Labels will also contain the nomenclature, authorized quantity, and bin location number. **(T-2)**

9.5.5.2. **(Added-AETC)** Mark or flag bins containing GPC items for repurchase using the same procedures as supply-procured items to maintain consistency and prevent out-of-stock conditions.

9.5.5.3. **(Added-AETC)** Perform reviews of locally purchased items in conjunction with normal bench stock reviews to identify any needed adjustments.

9.6. Consumable Readiness Spares Package. The Consumable Readiness Spares Package process provides requirement and asset visibility, has automated transfer and deployment procedures, has the capability to provide the correct priority and project-coded replenishment requisitions, and eliminates redundant requirements. Additionally, Consumable Readiness Spares Package procedures provide MAJCOMs with a standard process to support consumable item requirements during contingency operations. Refer to DAFMAN 23-122 for Consumable Readiness Spares Package procedures and options.

9.7. Shop Stock. Shop stock includes gas cylinders, random length bar stock, sheet metal, plastic, fabric, electrical wire, and similar items not normally included in bench stocks. Maintain shop stock for day-to-day operations. Monitor shop stock to prevent materiel from becoming excessive or outdated. Shop stock should not normally exceed 90-days usage, or the unit of issue or unit pack, whichever is greater. Store shop stock near/adjacent to bench stock items, if practical, but do not mix them together. Clearly identify materiel as “Shop Stock” and label them with noun, national stock number or part number, unit of issue, and shelf-life, if applicable.

9.7. (AETC) Shop Stock. Items such as safety wire and solder routinely used at a workstation may be maintained at the workstation. **Note:** This does not include hardware such as nuts, bolts, and screws (aircraft or equipment parts). Work center supervisors will establish a master inventory that identifies what items are kept at each workstation to ensure accountability. **(T-2)** Do not comingle assets. **(T-2)**

9.7.1. **(Added-AETC)** Store work center hazardous materials in a centralized location IAW AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*. **(T-2)**

9.7.2. **(Added-AETC)** Hazardous materials must be returned to the centralized location at the end of each shift to ensure accountability. **(T-2)**

9.8. Operating Stock. Operating stock includes connector dust covers, hydraulic line caps/plugs, and similar items that are normally recovered after use and re-used. Store operating stock near/adjacent to bench stock items, if practical, but do not mix them together. Monitor operating stock to prevent it from becoming excessive or outdated. Retain partially used bench stock items in bench stock and not in operating stock. Identify, tag, and turn in items with no forecasted use IAW AFI 23-101. Clearly identify items as "Operating Stock" and label them with noun, national stock number or part number, unit of issue, and shelf-life as applicable.

9.8. (AETC) Operating Stock. Maintain a master inventory of items. T-2 Do not comingle assets. **(T-2)**

9.9. Work Order Residue. Work order residue includes expendable bit/piece items left over from maintenance work orders or bench stock deletions. Store work order residue near/adjacent to bench stock items, if practical, but do not mix them together. Ensure excesses are consolidated for turn-in to LRS at least annually. Clearly identify items as "Work Order Residue" and label them with noun, national stock number or part number, unit of issue, and shelf-life as applicable. Control all work order residues used on or around aircraft, uninstalled engines, and AGE.

9.9. (AETC) Work Order Residue. Maintain a master inventory of items. T-2 Do not comingle assets. **(T-2)**

9.10. Adjusted Stock Levels. Adjusted stock levels are used when the demand level or consumption is inadequate to support the requirement. A single occurrence of a mission limiting status is not sufficient reason to establish an adjusted stock level but should result in an LRS/materiel management activity review of demand data for accuracy. The using work center, with assistance from LRS/materiel management activity, will prepare the request IAW DAFMAN 23-122 and provide adequate justification (such as, seasonal materiel requirements, long lead-time items, infrequent use components that cause an NMC condition and result in a new procurement or excessive lead-time to restock). Route the request through the applicable Squadron Maintenance Supervision for approval prior to submitting to LRS/materiel management activity. Using work centers will maintain a master file of approved adjusted stock level items and follow-up on all requests until completed. **(T-3)**

9.11. Shelf-life Items. Using work centers will control the quantity and inspect (Type I and Type II) shelf-life items kept in unit bench stock, operating/shop stock, and work order residue IAW DAFMAN 23-122. Personnel managing bench, shop, or operating stocks will:

9.11.1. Identify serviceable shelf-life items/locations with a colored and/or highlighted label that clearly states the items expiration date. **(T-3)**

9.11.2. Check expiration dates on issued items and do not accept outdated items. **(T-3)** Refer to DAFMAN 23-122 for outdated and/or unserviceable shelf-life items.

9.11.3. Not open shelf-life containers until needed and use the oldest items first. **(T-3)**

9.11.4. Ensure shelf-life material stored in other than original containers are marked with original shelf-life expiration codes. **(T-3)**

9.11.5. Recycle, reclaim, or turn-in for disposal, shelf-life items which are loose in the bin and expiration dates cannot be determined. **(T-3)**

9.12. Equipment Items. Flight CCs/SUPTs and/or Section NCOICs/Chiefs will review equipment items needed for mission accomplishment IAW AFI 23-101.

9.12.1. Equipment Custodians will contact the EAE for assistance in researching and preparing documents for gaining authorizations and ordering equipment items IAW AFI 23-101. Refer to DAFMAN 23-122, for the required procedures to order and deploy equipment items.

9.12.2. **(Added-AETC)** Monitor the status of critical support equipment for serviceability, 100% accountability, and status of TCTOs. When support equipment is determined unserviceable, ensure local repair is initiated or replacement is ordered within 3 duty days. Provide monthly critical support equipment status update to Maintenance Supervision.

9.13. Special Purpose Recoverable Authorized Maintenance (SPRAM). SPRAM assets are fault isolation spares, shop standard spares, training spares, -21 TO spares (AME), test station spares, and stand-alone spares. These assets are Expendability, Recoverability, Reparability Code (ERRC) XD/XF items, which are controlled and managed as in-use supplies.

9.13.1. Flight CCs/SUPTs and/or Section NCOICs/Chiefs will review all SPRAM authorizations annually and certify as valid IAW AFI 23-101, DAFMAN 23-122, and DAFI 21- 103. **(T-3)**

9.14. Supply Assets Requiring Functional Check, Calibration, or Operational Flight Programming. Maintenance sections must identify items requiring functional checks, calibration, or operational flight programming prior to use. **(T-3)**

9.14.1. Maintenance sections will prepare a list of items, (including the repair section's organization and shop code) for items requiring functional checks, calibration, or operational flight programming. **(T-3)**

9.14.1. **(AETC)** The list will also include items that require paint prior to installation.

9.14.1.1. The list will be routed through Maintenance Supervision to the LRS. **(T-3)**

9.14.1.2. This list will be updated/validated IAW DAFMAN 23-122. **(T-3)**

9.14.2. The LRS/management materiel activity issues the items to repair sections when assets are initially received on station, when functional checks, calibration, or programming is due or when serviceability is doubtful.

9.14.3. If a Part issue requiring a functional check, ensure it is not restricted in the weapon system -6 TO. Refer to TO 00-20-3 for functional check and frequency requirements.

9.15. Time Compliance Technical Order (TCTO) Kit Procedures. TCTO kit management is a shared responsibility between maintenance and supply IAW TO 00-5-15 and AFI 23-101.

9.15.1. Initiate requests for kits, parts, and special tool requirements through LRS as outlined in **Chapter 14**.

9.15.2. Transfer TCTO kits with aircraft or equipment. DAFMAN 23-122, TO 00-5-15, and TO 00-5-1 contain detailed guidance for the transfer of TCTO kits.

9.15.3. Retain TCTO kits for aircraft returning to the unit for TCTO compliance.

9.16. Supply Points. Supply points may be established within individual work centers when time or resources required to move items dictates the need to do so.

9.16.1. Storage space for the supply points is provided by the supported work center.

9.16.2. Management of the supply point processes will be agreed to and documented by participating group commanders. **(T-3)** Participating group commanders will require appointment of supply point monitors to manage and account for supply point assets as part of their agreement. **(T-3)** LRS Materiel Management Activities will maintain overall accountability and control of supply point assets. **(T-3)**

9.16.3. Supply points must be reconciled semi-annually by the Supply Point Monitor. **(T-3)**

9.16.3.1. One of the semiannual reconciliations will be done at the same time as the annual supply point inventory IAW AFI 23-101.

9.17. Local Manufacture. Local manufacturing is an essential part of maintenance unit support. The applicable end-item TOs identify items subject to local manufacture and specific procedures for processing are in DAFMAN 23-122.

9.17.1. DELETED.

9.17.2. MXG directive at a minimum will include:

9.17.2.1. Procedures that specify coordination requirements to include QA, EAE, Wing/Base Safety, and endorsement by the approval authority. **(T-3)**

9.17.2.2. DELETED.

9.17.2.3. Identifying drawing, sample, technical data and DD Form 1348-6, *DoD Single Line Item Requisition System Document*, source requirements as required. **(T-3)**

9.17.2.3.1. Ensure guidance identifies that drawings are obtained from the appropriate repository (such as, Engineering Data Service Center or JEDMICS).

9.17.2.4. Establishing coordination process for all the appropriate fabricating sections to determine the bits and pieces required to manufacture the item. **(T-3)**

9.17.2.4.1. Coordinating bit and piece parts requirements and availability with the LRS/DMS.

9.17.2.5. Identifying all work centers that have action on the AFTO Form 350 for items requiring multiple section processing. **(T-3)**

9.18. DIFM Management.

9.18.1. DIFM inputs are critical to recording and getting credit for proper repair cycle times.

9.18.2. DIFM status codes are broken down into three categories: delayed maintenance time, repair time, and AWP time. Repair time is the only time recorded and used to determine the number of assets that should be stocked. Not using the proper codes when they change reduces the number of assets on base.

9.18.3. The roles and responsibilities for DIFM management are identified in AFI 23-101. The LRS/DMS provides the D23 or equivalent to assist each repair section in DIFM Management. The D23 is provided in both maintenance location and stock number sequence. Repair sections use the D23 to manage the flow of serviceable and unserviceable DIFM assets in the repair cycle and to ensure the DIFM status and location is updated.

9.18.3.1. If a parts request is backordered and the removal of the unserviceable DIFM item does not further limit or restrict the operational capability of the end item, it will be

removed and sent to the applicable support section for either repair, NRTS approval, or condemnation with a subsequent turn-in to LRS/materiel management activity (as a credit DIFM) IAW TO 00-20-3.

9.18.3.1.1. Repair assets to the fullest extent authorized.

9.18.3.2. Repairable components will be processed, repaired, and returned to the FSC within the required time frame IAW AFI 23-101.

9.18.3.2. **(AETC)** Return assets authorized base level repair to the LRS within 10 days from date of issue. **Note:** Approved delayed maintenance DIFM status codes in AFH 23-123, Vol 2, Pt 1, *Integrated Logistics System-Supply (ILS-S), Material Management Operations,* Table 4.1 are not included in the 10 days. Failure to return reparable items to LRS in a timely manner will delay replenishment of serviceable items to the installation.

9.18.3.3. The D23 will not be used to manage serviceable assets.

9.18.4. Repair Cycle Throughput. Throughput is the average time it takes to move individual items through the repair cycle. Timelines for turn-in are outlined in AFI 23-101.

9.18.5. Units will establish local procedures for the control of repair cycle assets throughout the maintenance repair cycle IAW AFI 23-101 and DAFMAN 23-122.

9.18.5.1. Procedures will include methods of accounting for all components and accessories, procedures for control of assets in AWP or AWM status, and procedures and responsibilities for cross CANN, removal of bits and pieces, and scheduling and control of repair cycle assets. **(T-3)**

9.18.5.2. **(Added-AETC)** DMS or designated personnel should update DIFM location and status immediately upon movement of assets but shall update no later than the end of the work shift.

9.18.6. AWP and cross-CANN assets will be controlled and managed IAW DAFMAN 23-122.

9.18.6.1. Maintenance activities will closely control reparable assets in AWP status. **(T-3)**

9.18.7. Maintenance Turn-In to Supply. Maintenance is responsible for DIFM items until the item is returned to LRS/DMS.

9.18.7.1. Work centers must properly tag and secure repair cycle assets and place items in a leak–proof containment liner (no leaks/stains/tears/punctures), as required. **(T-3)**

9.18.7.1.1. To prevent spillage, any item containing any type of residual fluid, regardless of hazard classification, will be drained, purged, preserved, capped, plugged, and placed in a leak-proof containment liner before placement into a serviceable reusable container for storage or shipment. **(T-3)**

9.18.7.1.2. The work center must comply with packaging, environmental control, inert certification, purge, and preservation requirements as specified in applicable TOs, DAFI 24-602V2, DAFMAN 24-604, and place sufficient copy(s) of the technical document(s) for handling, storage, shipping, and distribution of copies inside the container. **(T-3)**

9.18.7.2. Include AFTO Form 350, **Parts I** and **II**, and a condition tag or label with all items turned into supply IAW TO 00-20-3. **(T-3) Note:** Some DIFM assets may require additional tags.

9.18.7.2.1. Enter the correct action taken code on AFTO Form 350, **Part II.**

9.18.7.2.1.1. **(Added-AETC)** Stock numbers with NRTS-1 indicator of Y cannot be repaired at base level and should not use Action Taken Code A. Validate repair and coordinate with LRS to update repair cycle record.

9.18.7.2.1.2. **(Added-AETC)** Stock numbers with NRTS-1 indicator of N can be repaired at base level and should not use Action Taken Code 1 unless repair was attempted by the repair shop. AFTO Form 350 block 15 must contain the TO repair instructions, the TO number, and a reference to the test failed along with a brief description of the discrepancy IAW TO 00-20-2. If asset is not base level repairable, update repair cycle record.

9.18.7.2.1.3. **(Added-AETC)** For NRTS codes 2, 3, 6, and 7 the AFTO Form 350 block 15 must identify the resource that is lacking IAW TO 00-20-3.

9.18.7.3. Accomplish proper reclamation and demilitarization actions on condemned repair cycle assets IAW DAFMAN 23-122 and AFH 23-123, Vol. 2, Part I, Sec. 6C.

9.18.7.4. DIFM items (serviceable or unserviceable) will be processed and turned in to LRS IAW AFI 23-101.

9.19. Tail Number Bins (TNB).

9.19.1. Establishment and management of TNBs is a shared responsibility between maintenance and supply. TNBs are storage locations established and controlled to store issued parts awaiting installation and parts removed to FOM. TNBs are set up by tail number, serial number, or identification number.

9.19.1. **(AETC)** The designation for AGE due-out release items is the Hold Bin.

9.19.2. TNB items used to satisfy MICAP conditions are not CANNs. If a TNB asset is issued to satisfy a part request, maintenance personnel will:

9.19.2.1. Reorder the item and notify the expediter of the new document number. **(T-3)**

9.19.2.2. Update the aircraft forms and the MIS. **(T-3)**

9.19.2.3. If a due-out is created prior to transfer of these items, notify the LRS/materiel management activity to change the "mark-for" field on the due-out detail. **(T-3)**

9.19.3. Seal and store partially completed TCTO kits and parts in the TNB and mark the container or package with the tail number, serial number, or equipment identification number and TCTO number. **(T-3)**

9.19.4. Maintain security and control of TNB assets. **(T-3)**

9.19.5. Track property placed in the TNB by tail number, serial number, or equipment identification number. Each entry will indicate:

9.19.5.1. Date received. **(T-3)**

9.19.5.2. Noun/nomenclature. **(T-3)**

9.19.5.3. Document number. **(T-3)**

9.19.5.4. Status (FOM, Issue/Due-Out Release (ISU/DOR), TCTO). **(T-3)**

9.19.5.5. Removal information (date, time, signature, and employee number of the person who picked up the property). **(T-3)**

9.19.5.6. Remarks. **(T-3)** Enter "NONE" if no remarks are necessary.

9.19.5.7. Current JCN. **(T-3)**

9.19.5.7.1. **(Added-AETC)** JCN will be validated at least every 30 days.

9.19.5.7.2. **(Added-AETC)** If the JCN is closed and the property is no longer needed, process return to LRS.

9.19.6. **(Added-AETC)** DMS or designated personnel will perform TNB/FOM inventory at least once per day. **(T-2)** Develop TNB/FOM inventory listing and inform the Pro Super of Flight Line Expediter of TNB assets which may prevent or satisfy a mission limiting condition.

9.20. CANN Actions. See **Chapter 11** for CANN procedures and responsibilities.

9.21. Bench Check and Repair Policy. Maintenance sections bench check items as part of the off equipment troubleshooting process. When workload requires, the Section NCOIC/Chief determines the priority for bench check actions. Specific procedures for bench check and repair policy are provided in TO 00-20-3. The following general guidelines apply:

9.21.1. Order required parts "fill or kill."

9.21.1.1. If the part is not in stock and a MICAP condition exists, backorder the new request.

9.21.1.2. Determine local repair capability before requisitioning off-base support or going lateral support.

9.21.2. Remove the suspected item, fill out the AFTO Form 350, and annotate it as repair and return. Attach AFTO Form 350 to the item; place the item in the repair cycle; and annotate the name of the repair section on the form.

9.21.3. Bench-check, repair, take NRTS action, or condemn the item.

9.21.3.1. If the item is repaired or otherwise determined to be serviceable, the repair section informs the Support Section the item is available for pick-up so on-equipment maintenance action may resume.

9.21.3.2. If the item cannot be repaired, the repair section informs the Support Section to initiate a backordered request and takes appropriate NRTS and condemnation action on the unserviceable asset.

9.22. Maintenance Turn-Around Record Update Processing. Work centers processing TRNs will coordinate with LRS/DMS and follow requirements outlined in AFI 23-101, DAFMAN 23-122, and AFH 23-123.

9.23. Buildup Items. Maintain items requiring build-up prior to use (such as, wheels and tires) in supply points in a built-up configuration.

9.23.1. Send items to appropriate work centers for build-up and return them to the supply point for re-issue.

9.23.1.1. Use AF Form 1297 or control log to control assets sent for build-up when the supply point is operated by other than maintenance personnel.

9.23.1.2. Validate AF Form 1297 daily if over 10 days old.

9.23.2. Local procedures will be established to control assets when maintenance operates the supply point and assets are sent to another organization for build-up. **(T-3)**

9.24. DR Exhibits. DR exhibit procedures for issue, turn-in, and storage are contained in TO 00-35D-54 and AFI 23-101. DRs will be input into the JDRS at **https://jdrs.mil.**

9.25. Destruction of TOP SECRET Material. Destruction of TOP SECRET material requires a receipt according to DODM 5200.01, Vol 3, DOD Information Security Program: Protection of Classified Information and AFI 16-1404. A copy of the destruction certificate will be included with the turn-in documentation. **(T-0)**

9.25.1. Provide sensitive instruments interior container protection. **(T-3)**

9.25.2. Ensure a copy of the LRU/SRU historical record accompanies turn-in of all items. **(T-3)**

9.26. Certifying Items Associated With Explosives. Ensure items such as MERS, TERS, pylons, launchers, rafts, bomb racks, ejection seats, fire suppression bottles, gun systems and components are certified explosive-free prior to turn-in to LRS and/or Defense Logistics Agency (DLA) Disposition Services. **(T-3)** Refer to TO 11A-1-60 and DAFMAN 21-201 for specific certification requirements.

9.27. (Added-AETC) Parts Ordering. To minimize record discrepancies, all parts ordering will be initiated through the appropriate MIS when an interface with ILS-S exists. **(T-2)** Request supply assistance from LRS/materiel management activity if status is unacceptable. For T-1, T-6 and T-38C CLS-furnished spares (e.g., Contractor Operated and Maintained Base Supply (COMBS)), requisition parts according to the respective contract. For ordering aircraft parts, DMS or designated personnel will:

9.27.1. **(Added-AETC)** Receive required data from maintenance to facilitate the issue request IAW AFMAN 23-122, Sec. 5.2.

9.27.2. **(Added-AETC)** Provide MICAP processing support. **(T-2)**

9.27.2.1. **(Added-AETC)** Process the MICAP start through the MIS/ILS-S interface and coordinate with the LRS/materiel management activity to upgrade, downgrade and cancel MICAP requirements.

9.27.2.1.1. **(Added-AETC)** DMS or designated personnel will perform an exhaustive search for available local resources as part of MICAP verification IAW AFI 23-101 and AFMAN 23-122.

9.27.2.1.2. **(Added-AETC)** Local resources include, but are not limited to:

9.27.2.1.2.1. **(Added-AETC)** Substitute or interchangeable NSN. **(T-2)**

9.27.2.1.2.2. **(Added-AETC)** Time change/TCTO assets. **(T-2)**

9.27.2.1.2.3. **(Added-AETC)** Bench Stock assets. **(T-2)**

9.27.2.1.2.4. **(Added-AETC)** War Reserve Material. **(T-2)**

9.27.2.1.2.5. **(Added-AETC)** SPRAM. **(T-2)**

9.27.2.1.2.6. **(Added-AETC)** Supply point. **(T-2)**

9.27.2.1.2.7. **(Added-AETC)** Component parts/repair list items. **(T-2)**

9.27.2.1.2.8. **(Added-AETC)** Next Higher Assembly. **(T-2)**

9.27.2.1.2.9. **(Added-AETC)** Waste Buster.

9.27.2.1.2.10. **(Added-AETC)** TNB. **(T-2)**

9.27.2.1.2.11. **(Added-AETC)** Potential priority repair of unserviceable assets in the maintenance repair cycle (DIFM). **(T-2)**

9.27.2.2. **(Added-AETC)** In units with a flying mission**,** MICAP requirements/aircraft status will be reconciled with the MOC daily. **(T-2)**

9.27.3. **(Added-AETC)** Order transient aircraft parts IAW AFMAN 23-122.

9.27.4. **(Added-AETC)** Ensure proper use of urgency justification codes (UJC) and Force Activity Designators (FAD) codes. **(T-2)** Use the FAD of the supported unit and process the request utilizing procedures for a FAD override when supporting a unit with a higher FAD. **(T-2)** See AFH 23-123, Vol 2, Pt 1, for further details on UJC, FAD, and FAD override option procedures.

9.27.5. **(Added-AETC)** Purchase parts and hardware IAW AFI 64-117, AFI 23-101, and AFMAN 23-122. The weapon system program office approves the local purchase of all aircraft parts.

9.27.6. **(Added-AETC)** Requestor will ensure validity and completeness of requisition forms and verify "UJC" and "SRD" codes. **(T-2)**

9.27.7. **(Added-AETC)** Verify status with the Daily Document Register (D04), Priority Monitor Report (D18), and the Monthly Due-Out Validation Listing (M30) or use printouts of requests made via the supply interface. **(T-2)**

9.27.8. **(Added-AETC)** Follow-up with LRS/materiel management activity to resolve AWP problems. **(T-2)**

9.27.9. **(Added-AETC)** Compile a list of direct-NRTS items in coordination with MXS back shops and AFREP representatives and provide to the LRS/materiel management activity for inclusion in the master direct-NRTS listing. **(T-2)** DMS or designated personnel will review and update at least semiannually. **(T-2)**

9.27.10. **(Added-AETC)** Establish a storage area for reusable containers. **(T-2)** Consolidation with other work centers is authorized.

9.27.11. **(Added-AETC)** Schedule and monitor all repair cycle assets through the repair flights based on priority assigned. **(T-2)**

9.27.12. **(Added-AETC)** Move repairable assets from work center to work center in an expedient manner. **(T-2)** DMS or designated personnel will ensure proper documentation and

containers accompany repairable assets to meet required evacuation time frames IAW AFI 23-101.

9.27.13. **(Added-AETC)** Reconcile IMDS and ILS-S records by correcting mismatched records listed in the NFS540 DVR contained in IMDS, (not applicable to CLS). This report is required to maintain a matching interface between maintenance and supply systems. **(T-2)**

9.28. (Added-AETC) Repair Network Enhancement Program (RNEP). The purpose of the RNEP is to improve the overall repair cycle processes supporting the wing's flying training mission. RNEP provides leadership a means to evaluate current weapon system resource and support status, highlight problem areas, focus on local repair initiatives and initiate process improvements. The MXG/CC or equivalent is the OPR for RNEP. MSG/CC is the OCR for RNEP. **(T-2)**

9.28.1. **(Added-AETC)** Quarterly RNEP Data Review. Each quarter key RNEP data will be consolidated for review by the MXG/CC and MSG/CC in a forum or format determined locally. The review may be accomplished through a quarterly meeting chaired by the MXG/CC and attended by MSG/CC. **(T-2)** Suggested participants are LRS (CLS where applicable), representatives from maintenance units, resource advisors, maintenance analysis, AFREP (if applicable), QA, COR, and others as determined by the MXG/CC and/or MSG/CC. The lead material manager for the maintenance organization should lead discussion of key data on specific topics. **(T-2)**

9.28.2. **(Added-AETC)** Topics for review vary based on local requirements, but will include the following as applicable: **(T-2)**

9.28.2.1. **(Added-AETC)** Asset Profile/Top Projected MICAP Situations. An asset profile is an in-depth review of an asset identified as critical to mission accomplishment or causes frequent MICAP situations. Data in an asset profile may include number authorized and on-hand, number repaired and not repaired, number of MICAPs, average repair cycle days, average AWP days, monthly demand, item cost, and financial value of assets in the repair cycle. The overall health of the assets should include reasons (cause codes) for MICAP situations and solutions to resolve them, to include MICAP delete codes. **(T-2)**

9.28.2.2. **(Added-AETC)** Test Station Equipment Profile. Test station in-commission time is critical to efficient repair cycle output. TMDE and other shop deficiencies may have a negative effect on the base repair cycle process. The wing should focus on actions which maximize test station capability. **(T-2)**

9.28.2.3. **(Added-AETC)** Wing Self-Sufficiency Initiatives. Initiatives include discussion of new wing, group and squadron AFREP (where applicable) initiatives and other local self-sufficiency repairs. Discussions must include how initiative is cross-fed to appropriate depot, Lead Command and all other like-MDS bases. **(T-2)**

9.28.2.4. **(Added-AETC)** Top CANN Items. Review information which includes the number of times items were cannibalized in the last 30 days, average CANN occurrences over the last 6 months, projected get well date, and the time required to CANN the item. **(T-2)**

9.28.2.5. **(Added-AETC)** Unit Aircraft Engine Status Review. A status review summary should include number in work, projected production date, and/or supply drivers (organic or CLS). **(T-2)**

9.28.2.6. **(Added-AETC)** Repair Cycle Bottlenecks. Review any area, which impedes the repair cycle process such as frozen supply records, supply, rejects, test station backlogs, personnel deficiencies, manpower shortages etc. Review status of all issued DIFM assets, including status codes not counted as issued DIFM days (e.g., Contract Maintenance/Technical Repair Center, PDM, TCTO Required for End Item, etc.). **(T-2)**

9.28.2.7. **(Added-AETC)** AWP Summary. Analyze due-out causes and back order priorities to determine if supply action is required to correct any deficiencies/problems. **(T-2)**

9.28.2.8. **(Added-AETC)** Repair Cycle Throughput. Throughput is the average time it takes to move individual items through the repair cycle. Review/compare the 12-month average versus the current month Repair Cycle Time to identify trends and areas for improvement. **(T-2)**

9.28.2.9. **(Added-AETC)** Aircraft Part Store Issue Effectiveness. Percentage of aircraft parts issued from the aircraft parts store vs the main warehouse. Disregard this element when LRS (CLS where applicable) does not segregate aircraft components into a separate warehouse. **(T-2)**

9.28.2.10. **(Added-AETC)** Discuss any product improvement initiatives and maintenance related to Continuous Process Improvement, etc. **(T-2)**

Chapter 10

MUNITIONS POLICY AND WEAPONS LOAD CREW PROGRAM

10.1. See AFMAN 21-206 for Munitions Policy and Weapons Load Crew Program.

10.1.1. - Table 10.3.. DELETED.

Chapter 11

ADDITIONAL MAINTENANCE REQUIREMENTS AND PROGRAMS

11.1. Facility Housekeeping and Contamination Control. Units will publish housekeeping and contamination procedures which protect the health of workers and maintain areas as free as practical from surface contamination. **(T-3)** Units will:

11.1.1. Ensure Bioenvironmental Engineering approved workplace-housekeeping procedures are employed to prevent the spread of contamination within a work center. **(T-3)**

11.1.2. Emphasize controlling the source of the contamination and ensure workplace personnel follow proper work procedures, PPE use, and hygiene practices. **(T-3)**

11.1.3. Ensure housekeeping procedures will account for the dangers and hazard exposures found in the work center and will be consistent with mitigation methods outlined in DAFMAN 91-203. **(T-3)**

11.2. Personal Wireless Communications Systems Management.

11.2.1. Maintenance Communications. Reliable, redundant, cyber resilient, and effective communications systems are essential for efficient maintenance operations. These systems will provide accurate, timely, secure, programmable frequency and jam resistant communications needed to securely accomplish the maintenance mission in a fully deployed and isolated mode.

11.2.2. Commanders or designated representative will coordinate base Communication Squadron or equivalent to ensure compliance with Personal Wireless Communications Systems management requirements IAW AFI 17-210, DAFI 17-220, *Spectrum Management*, AFI 17-130, and DAFMAN 17-1203. The following general guidelines apply:

11.2.2.1. Allowance for specific radios is shown in AS 660, *Equipment Allowances for Non-Weapon Systems Communications Requirements*, Repair Cycle Data Listing. Process requests for specific radio equipment to support maintenance activities IAW AFI 23-101, AFI 17-210, DAFI 17-220, AFI 17-130, and AFH 23-123 V3, *Air Force Equipment Management*.

11.2.3. A VHF/UHF radio is authorized for use in maintenance operations to facilitate communications between aircraft and maintenance personnel. Additionally, aircrews may relay advance aircraft status information to maintenance personnel using VHF/UHF channels.

11.2.3.1. Maintenance Operations will coordinate procedures for use of these radio communications with operations and other essential wing organizations. **(T-3)**

11.2.3.2. For effective flightline operations, more than one non-tactical radio nets are authorized when large numbers or different types of weapon systems are assigned or when Allowance Standards specify.

11.3. MAJCOM/ANG Special Certification Rosters (SCR). The SCR is a management tool providing supervisors a clear and concise listing of personnel who have been appointed to perform, evaluate, and/or inspect work of a critical nature. Normally, only maintenance requirements that have a definite potential for personal injury or damage to equipment will be included in the SCR. Other tasks requiring special training or qualifications may be managed on the SCR. The SCR is used to build personnel rosters for deployments, shift schedules, and assess workforce capability.

AF/A4LM establishes mandatory SCR Item Titles in Column A of **Table 11.1**. Based on the evolving complexity of weapon systems and the associated task diversity the process of assigning prerequisite to SCR tasks are assigned to using MAJCOMs/ANG as follows: MAJCOMs/ANG A4s will coordinate with their applicable Lead Commands to develop and document SCR item "Prerequisite" criteria in Column B of **Table 11.1** based on task complexity of their assigned weapons systems. MAJCOMs/ANG may add additional items and remove non-applicable Items on their SCR using the standardized **Table 11.1** format provided. MAJCOM/ANG Supplements must include their complete SCR table when coordinating supplement approval with AF/A4LM as described in the opening Paragraph of this DAFI. Special Certification approval authority will be accomplished IAW notes at the bottom of the SCR. The MXG/CC and CD are not required to be on the SCR by virtue of their position as the SCR approval authority.

11.3.1. DELETED.

11.3.1.1. Squadron Maintenance Supervision approves individuals in their primary AFSC based on their experience and technical expertise regardless of their assigned skill or position. **(T-3)**

11.3.1.2. MXG/SEL will review and sign SCR actions for those individuals administratively assigned to MXO (QA, AFREP). **(T-3)**

11.3.1.2.1. MXG/SEL will coordinate with the Field Training Detachment (TD) CC/SUPT to validate currency of Field TD personnel on the SCR. **(T-3)**

11.3.1.3. WWM will review and sign WS SCRs. **(T-3)**

11.3.2. TFI units will establish a process for approving SCR additions in a MOA/MOU to provide visibility across participating organizations. **(T-3)**

11.3.3. The MXG/CC may waive selected 5-skill level personnel, in the rank of SrA or higher, for tasks normally requiring a 7-skill level requirement to facilitate the production effort. Waived 5-skill level personnel should be closely monitored and kept to the minimum required to accomplish mission generation.

11.3.3.1. Maintenance Supervision or equivalent will retain file copies of approved waivers. **(T-3)**

11.3.3.1.1. Approved waiver file copies may be discarded if SCR specifically identifies task as waived in the Maintenance Information System.

11.3.3.2. Certified weapons load crew chiefs (load crew member position number 1) by virtue of their task certification and position, serve as inspectors for weapons loading tasks only and do not require a waiver. **Note:** 2W0XX certified munitions inspectors are exempt from these requirements.

11.3.4. MAJCOM Waiver Policy. If local conditions require assignment of other than MAJCOM approved mandatory SCR grade (to include civilian equivalents) and skill level prerequisite requirements and cannot be fulfilled using the MXG/CC authority stated in **Paragraph 11.3.3** then the MXG/CC (or equivalent) must request a waiver from the MAJCOM. **(T-3)**

11.3.5. MAJCOMs may add additional mandatory critical tasks or inspections they deem necessary.

11.3.5.1. Identify each task on the SCR by a specific course code.

11.3.6. SCR Documentation. Flight CCs/SUPTs and Section NCOICs/Chiefs will review each individual's qualifications prior to recommending approval to perform SCR tasks to the appropriate approval level. **(T-3)**

11.3.6.1. AF Form 2426, *Training Request and Completion* or MAJCOM-approved (ANG locally approved) form is used by the work center supervisor to add or remove an individual to the SCR. Additionally, removal from the SCR may be accomplished by lining through the task on the SCR and notifying the training section to update the MIS.

11.3.6.1. **(AETC)** Units may use AETC Form 64, *Request for Special Certification*.

11.3.6.2. The appropriate level of authority approves the individual for addition to the SCR as listed in **Table 11.1**.

11.3.6.3. On approval, the UTM IAW AFI 36-2650, loads the approved name into the Maintenance Information System.

11.3.6.4. Flight CCs/SUPTs and Section NCOICs/Chiefs will retain their copy of AF Form 2426 or MAJCOM-approved form until they verify proper loading. **(T-3)**

11.3.6.5. Appointment letters are not required if loaded in the MIS.

11.3.6.6. Work center supervisor, AMU/Flight supervision, Maintenance Supervision, SQ/ CC, or MXG/CC may decertify individuals at any time and remove them from the SCR.

11.3.7. Units will ensure a current copy of the SCR is taken on all deployments. **(T-3)**

Table 11.1. Mandatory Special Certification Roster and Prerequisites.

	A	**B**
ITEM	**Mandatory SCR Item Titles**	**MAJCOM/ANG Prerequisites**
1	All Systems "Red-X" (no egress, welding, munitions, fuel cell (in-tank work)) (Note 1)	Refer to MAJCOM Supplement
2	Exceptional Release (ER) (Note 1)	Refer to MAJCOM Supplement
3	"Red-X" Downgrade (Note 1)	Refer to MAJCOM Supplement
4	All Systems In Process Inspection (no egress, welding, munitions, fuel cell in-tank work) (Note 1)	Refer to MAJCOM Supplement
5	Installed Engine Run Certifying Officials (Note 1)	Refer to MAJCOM Supplement
6	Aircraft Inlet/Intake/Exhaust Certifying Officials (Note 1)	Refer to MAJCOM Supplement
7	Flexible Borescope Certifying Officials (Note 1)	Refer to MAJCOM Supplement
8	Engine Blade Blending Certifying Officials (Note 1)	Refer to MAJCOM Supplement

	A	B
ITEM	**Mandatory SCR Item Titles**	**MAJCOM/ANG Prerequisites**
*9	“Red-X” by Mission Design Series (Notes 2 and 6)	Refer to MAJCOM Supplement
*10	IPI by Mission Design Series (Notes 2 and 6)	Refer to MAJCOM Supplement
11	“Red-X” and/or In Process Inspection - Limited (Note 2)	Refer to MAJCOM Supplement
*12	DELETED.	DELETED.
13	NWRM packaging (Notes 4 and 5)	Refer to MAJCOM Supplement
14	Installed Engine Run by Mission Design Series (Note 2)	Refer to MAJCOM Supplement
15	Engine Blade Blending	Refer to MAJCOM Supplement
16	QA hot pit certifying officials and QA hot pit certifier augmentees (squadron certifying officials) (Note 1)	Refer to MAJCOM Supplement
17	Hot Refueling PAD Supervisor/"A" Member (Note 2)	Refer to MAJCOM Supplement
18	Hot Refueling Team Member (“B” or “D” member) (Note 2)	Refer to MAJCOM Supplement
19	Aircraft to Aircraft Refueling Supervisor (Note 2)	Refer to MAJCOM Supplement
20	Uninstalled Engine Operations (Test Stand and ETS) Run by TMS (Note 2)	Refer to MAJCOM Supplement
21	Uninstalled Engine Run Certifying Officials by TMS (Note 1)	Refer to MAJCOM Supplement
22	Aircraft Inlet/Intake/Exhaust Inspection/Certification (Note 2)	Refer to MAJCOM Supplement
23	Engine Flexible Borescope Inspections (Note 2)	Refer to MAJCOM Supplement
24	Chief Servicing Supervisor (Heavy Aircraft/Commercial Derivative Aircraft) (Note 2)	Refer to MAJCOM Supplement
*25	Concurrent Servicing Supervisor/Aircraft Turnaround Supervisor (Fighter Aircraft) (Note 2)	Refer to MAJCOM Supplement
26	W&B Certified/Clear Red X (refer to TO 1-1B-50) (Note 2)	Refer to MAJCOM Supplement
27	Impoundment Official (refer to **Chapter 7**) (Note 2)	Refer to MAJCOM Supplement

	A	B
ITEM	**Mandatory SCR Item Titles**	**MAJCOM/ANG Prerequisites**
*28	Impoundment Authority (refer to **Chapter 7** of this DAFI) (Note 1)	Refer to MAJCOM Supplement
29	CANN Authority (Note 1)	Refer to MAJCOM Supplement
30	Auxiliary Power Unit (APU) Operation (In Cockpit) (Note 2)	Refer to MAJCOM Supplement
*31	Calibration Limitation Approval (refer to TO 00-20-14) (Notes 2)	Refer to MAJCOM Supplement
32	CDDAR Team Chief (Note 1)	Refer to MAJCOM Supplement
33	Weapons Task Qualification Manager (WTQM) (Note 1)	Refer to MAJCOM Supplement
34	Weapons Task Qualification Crew (WTQC) (Note 2)	Refer to MAJCOM Supplement
35	NSS and T-9/T-10/T-11/T-12/T-20 sound suppressor Fire Control Panel (Note 2)	Refer to MAJCOM Supplement
36	Aircraft Rapid/Hot Defueling Supervisor (Note 2)	Refer to MAJCOM Supplement
37	Clear Red X when a lost item/tool cannot be located (refer to **Chapter 8**) (Note 1)	Refer to MAJCOM Supplement
38	Aircraft APU Run Certifying Officials (In Cockpit) (Note 1)	Refer to MAJCOM Supplement

Notes:
1. Approved by MXG/CC or equivalent may be delegated IAW **Paragraph 2.4.2.27.**
*2. Approved by Maintenance Supervision or equivalents. May delegate approval authority to the OIC/SUPT or Flight CC/SUPT.
*3. DELETED.
4. Munitions inspectors who are trained and certified may annotate serviceability tags for munitions items (TO 11A-1-10).
5. Appointed by the unit commander (or equivalent) of units possessing NWRM.
6. MAJCOMs determine the AFSC applicability.

Table 11.1. (AETC) Mandatory Special Certification Roster and Prerequisites. (T-2)

	A	B
ITEM	**Mandatory SCR Item Titles**	**AETC Prerequisites**
1	All Systems "Red-X" (no egress, welding, munitions, fuel cell (in-tank work)) (Note 1)	MSgt or higher (or civilian equivalent)
2	Exceptional Release (ER) (Note 1)	
3	Red-X Downgrade (Note 1)	
4	All Systems In Process Inspection (no egress, welding, munitions, fuel cell in-tank work) (Note 1)	
5	Installed Engine Run Certifying Officials (Note 1)	MSgt or higher (or civilian equivalent), or a fully qualified/certified contractor or AFETS/CETS representative and possess one of the following AFSCs: 2A671, 2A571/2/4, and 2A373/7/8 or for F-35 aircraft must possess AFSC 2AXXX. One year minimum engine-run experience on applicable MDS. MXG/CC may waive qualified TSgts.
6	Aircraft Inlet/Intake/Exhaust Certifying Officials (Note 1)	Qualified/certified 7 or 9- skill level (or civilian equivalent), or a fully qualified/certified contractor, AFETS or CETS representative and possess one of the following AFSCs: 2A6X1, 2A5X1/2/4, 2A3X3/8 or for F-35 aircraft must possess AFSC 2AXXX. One year minimum experience on applicable MDS/TMS.
7	Flexible Borescope Certifying Officials (Note 1)	
8	Engine Blade Blending Certifying Officials (Note 1)	Qualified/certified 7 or 9- skill level (or civilian equivalent), or a fully qualified/certified contractor, AFETS or CETS representative and possess one of the following AFSCs: 2A6X1, 2A5X1/2/4, 2A3X3/8 or for F-35 aircraft must possess AFSC 2AXXX. One year minimum experience on applicable MDS/TMS.
9	"Red-X" by Mission Design Series (Notes 2 and 6)	SSgt or higher, minimum 7-skill level or civilian equivalent (includes MXG/CC-appointed exceptional SrA per **paragraph 11.3.3**)
10	IPI by Mission Design Series (Notes 2 and 6)	

	A	B
ITEM	**Mandatory SCR Item Titles**	**AETC Prerequisites**
11	"Red-X" and/or In Process inspection – Limited (Note 2)	5-skill level personnel certified on limited tasks as determined by the unit; 5-level Certified Weapons Load Crew Chiefs on loading tasks only
12	(DELETED)	(DELETED)
13	NWRM packaging (Notes 4 and 5)	Minimum 7-skill level (or civilian equivalent). Must have sufficient subject matter expertise of packaged item to identify asset, must be tasked qualified on accompanying documentation and must have appropriate security clearance and background investigation for asset.
14	Installed Engine Run by Mission Design Series (Note 2)	SrA or higher, minimum 5-skill level (or civilian equivalent), with at least 6 consecutive months experience on MDS for which engine run training is required. (Experience must have occurred immediately prior to course enrollment). The MXG/CC may waive the weapons system experience. MXG/CCs may waive qualified 5-skill level A1C for critical manpower shortages. The time on weapon system may also be waived by MXG/CC.
15	Engine Blade Blending (Note 2)	Minimum 5-skill level 2A3X3/7/8, 2A5X1/2/4, and 2A6X1 or civilian equivalent or for F-35 aircraft must possess AFSC 2AXXX
16	QA hot pit certifying officials and QA hot pit certifier augmentees (squadron certifying officials) (Note 1)	Minimum 7-skill level (or civilian equivalent)
17	Hot Refueling PAD Supervisor/"A" Member (Note 2)	Minimum 5-skill level, 2AX5X (or civilian equivalent), with a minimum of 1-year flightline maintenance experience. For F-35 aircraft, minimum 5-skill level, with a minimum of 1-year flightline maintenance experience
18	Hot Refueling Team Member ("B" or "D" member) (Note 2)	Flightline maintenance AFSC, with a minimum of 1-year flightline maintenance experience
19	Aircraft to Aircraft Refueling Supervisor (Note 2)	Minimum 5-skill level with a minimum of 1-year weapon system experience

	A	B
ITEM	**Mandatory SCR Item Titles**	**AETC Prerequisites**
20	Uninstalled Engine Operations (Test Stand and ETS) Run by TMS (Note 2)	SSgt or higher 7-skill level 2A6X1 (or civilian equivalent) with a minimum of 6 months current experience on each applicable TMS, unless previously qualified. If previously qualified on a different TMS, the 6-month experience requirement may also be waived. MXG/CC may waive 5-skill level SrA with minimum of 6 months' time on applicable TMS.
21	Uninstalled Engine Run Certifying Officials by TMS (Note 1)	Fully qualified/certified TSgt or higher 2A671 AFSC, civilian equivalent, contractor, or AFETS/CETS personnel with a minimum of 1-year engine run experience on the applicable TMS. The MXG/CC may waive qualified SSgts and may authorize MT uninstalled engine run instructors as certifying officials.
22	Aircraft Inlet/Intake/Exhaust Inspection/Certification (Note 2)	SrA or higher, minimum 5-skill level (or civilian equivalent) or a fully qualified/certified contractor)
23	Engine Flexible Borescope Inspections (Note 2)	Minimum 5-skill level 2A3X3/8, 2A5X1/2/4, and 2A6X1 (or civilian equivalent) or for F-35 aircraft must possess AFSC 2AXXX
24	Chief Servicing Supervisor (Heavy Aircraft/Commercial Derivative Aircraft) (Note 2)	Minimum 5-skill level with 1-year weapons system experience. Time requirement may be waived by MXG/CC in short tour/en route locations.
25	Concurrent Servicing Supervisor/Aircraft Turnaround Supervisor (Fighter Aircraft) (Note 2)	Minimum 7-skill level with a minimum of 1 year weapons system experience
26	W&B Certified/Clear Red X (refer to TO 1–1B-50) (Note 2)	7-skill level (or civilian equivalent), with a minimum of 1-year time on weapon system. Time requirement may be waived by MXG/CC.
27	Impoundment Official (refer to **Chapter 7** of this instruction) (Note 2)	MSgt or higher or civilian equivalent
28	Impoundment Authority (refer to **Chapter 7** of this DAFI) (Note 1)	Refer to Chapter 7 of this DAFI
29	CANN Authority (Note 1)	MSgt or higher or civilian equivalent

	A	B
ITEM	**Mandatory SCR Item Titles**	**AETC Prerequisites**
30	Auxiliary Power Unit (APU) Operation (In Cockpit) (Note 2)	3-skill level or higher maintenance AFSC
31	Calibration Limitation Approval (refer to TO 00-20-14) (Note 2)	SSgt or higher, minimum 7-skill level (or civilian equivalent)
32	CDDAR Team Chief (Note 1)	MSgt or higher or civilian equivalent. MXG/CC may waive grade requirement
33	Weapons Task Qualification Manager (WTQM) (Note 1)	TSgt or higher, minimum 7-skill level AFSC 2A871X or 2AX7X (or civilian equivalent)
34	Weapons Task Qualification Crew (WTQC) (Note 2)	Lead will be SSgt or higher, minimum 7-skill level 2AX7X (or civilian equivalent); other crew member minimum 5-skill level 2AX5X (or civilian equivalent)
35	NSS and T-9/T-10/T-11 /T-12/T-20 sound suppressor Fire Control Panel (Note 2)	SrA or higher, (or civilian equivalent) with AFSC 2A6X1 must have a minimum 6-months experience
36	Aircraft Rapid/Hot Defueling Supervisor (Note 2)	Minimum 5-skill level, 1-year of flightline experience, with 6 months weapon system experience
37	Clear Red-X when a lost item/tool cannot be located (refer to **Chapter 8** of this instruction) (Note 1)	Operations Officer/MX SUPT or above
38	Aircraft APU Run Certifying Officials (In Cockpit) (Note 1)	7-skill level (or civilian equivalent), or a fully qualified/certified contractor or AFETS/CETS representative. MXG/CCs may also waive qualified 5-skill level SSgts.
39	T-6 Flight Control Rigging Team Member (Aileron, Elevator, Rudder) (Note 2)	2A3X5, 2A5X1/2, 5-skill level (or civilian equivalent or fully qualified/certified contractor)
40	T-6 Flight Control Rigging Certifying Official (Aileron, Elevator, Rudder) (Note 2)	2A3X5, 2A5X1/2, 5-skill level (or civilian equivalent or fully qualified/certified contractor)
41	T-38/J85 Throttle System Rigging (Note 1)	Minimum 5-skill level, 2A6X5, 2A5X1/2 (or civilian equivalent or fully qualified/certified contractor)
42	T-38 Throttle System Rigging Certifying Official (Note 1)	Minimum 5-skill level, 2A6X5, 2A5X1/2 (or civilian equivalent or fully qualified/certified contractor)
43	T-38/J85 Throttle Control System Rigging Check and Adjustment (Note 1)	Minimum 5-skill level, 2A6X5, 2A5X1/2 (or civilian equivalent or fully qualified/certified contractor)

	A	B
ITEM	**Mandatory SCR Item Titles**	**AETC Prerequisites**
44	T-38 Throttle Control System Rigging Check and Adjustment Certifying Official (Note 1)	Minimum 5-skill level, 2A6X5, 2A5X1/2 (or civilian equivalent or fully qualified/certified contractor)
45	Remote Controlled Aircraft Towing System Operator	Minimum 5-skill level or equivalent with a minimum of 6 months weapons system experience
Notes: 1----Approved by MXG/CC or equivalent may be delegated IAW DAFI 21-101, **Paragraph 2.4.2.32**. 2----Approved by Maintenance Supervision or equivalents. May delegate approval authority to the OIC/SUPT or Flight CC/SUPT. 3----(DELETED) 4----Munitions inspectors who are trained and certified may annotate serviceability tags for munitions items (TO 11A-1-10). 5----Appointed by the Unit Commander (or equivalent) of units possessing NWRM.		

11.4. Aircraft Grounding.

11.4.1. Aircraft grounding is defined in DAFMAN 11-401, *Aviation Management*.

11.4.1.1. Communication of a grounding, or a potential grounding event (TCTO, OTI, PM event) to weapon systems operating in a deployed environment and/or under the authority of an operational command must follow the grounding procedures outlined in DAFMAN 11-401 and 63-101/20-101.

11.4.1.1.1. Units must not directly communicate home station requirements to its deployed forces but provide communication through their respective MAJCOM. **(T-2)** **Note:** This section does not apply to conditions which are clearly limited to the affected unit/base (such as, lost tool, fluid contamination, aircraft and equipment damage of known origin, or other strictly local event). In these circumstances, the affected unit follows the impoundment procedures specified in **Chapter 7**.

11.4.2. Initial Investigation.

11.4.2.1. The OTI will require an inspection of a representative number of systems or units (aircraft, engines, missiles, or munitions) of the same mission and design to determine if the condition exists on other aerospace equipment within the wing's assigned aircraft/systems or equipment. **(T-2)**

11.4.2.1.1. If initial sampling indicates the discrepancy is widespread and has the potential for personal injury and/or further equipment damage, wings will coordinate with MAJCOM. **(T-2)**

11.4.2.2. If there is no repair or corrective action specified in technical data, QA will also submit a technical assistance request through the MAJCOM to the appropriate weapon system program manager IAW TO 00-25-107 or equivalent process. **(T-2)**

11.4.3. Grounding Authority. The approved procedures for grounding aircraft or stand-down for operational reasons are determined and executed IAW DAFMAN 11-401.

11.4.3.1. Notification and final reporting for grounding and release status will be accomplished IAW AFMAN 10-206, *Operational Reporting (OPREP)*.

11.4.3.2. Annotate aircraft grounding in the aircraft forms IAW TO 00-20-1.

11.5. Ramp Inspection Program. Public Law 99-661, section 2638, National Defense Authorization Act for Fiscal Year 198 requires a pre-flight safety inspection of all internationally scheduled charter missions for the transportation of members of the Armed Forces departing the United States. **(T-0)**

11.5.1. Air Mobility Command (AMC) is lead for the DoD in the management and administration of the Ramp Inspection Program.

11.5.1.1. AMC will publish specific guidance for this Program in a supplement/addendum/or equivalent publication IAW DAFMAN 90-161 to communicate requirements and processes necessary for MAJCOMS to effectively comply with public law requirements in all using commands.

11.5.1.2. AMC will coordinate with other MAJCOMs as required to accomplish ramp inspections to ensure the maximum efficiency and utilization of resources.

11.5.1.3. When requested by AMC, MAJCOMs if able should provide support to reduce the TDY and manpower impact associated with the execution of this program.

11.6. Red Ball Maintenance. The term "Red Ball" is a traditional descriptor, recognized throughout aircraft maintenance, and defines a situation requiring a sense of urgency and priority actions. Red Ball maintenance normally occurs two hours prior to launch and until aircrew have released the aircraft back to maintenance. The Red Ball maintenance concept is intended to prevent late takeoffs and aborts by having qualified maintenance personnel available (such as, in a truck or standby in the shop) during launch and recovery operations to troubleshoot, isolate, and repair system malfunctions. Red Ball maintenance does not authorize technicians to take shortcuts or deviate from TOs, disregard personnel safety requirements or fail to properly document the aircraft forms and the MIS for all completed repair actions.

11.6.1. Units will ensure all maintenance repair actions (does not apply to incorrect switch settings due to operator error) are documented in the aircraft forms and MIS during Red Ball, launch, or EOR operations and cleared from the aircraft forms prior to flight. **(T-3)**

11.6.2. Maintenance repair actions must be cleared in the MIS as soon as possible. **(T-3)** It is imperative that maintenance documentation is performed regardless of the timing of the action in the generation and launching of the aircraft.

11.6.3. All grounding inputs must be cleared from the forms prior to flight. **(T-3)**

11.6.4. If aircraft status changes, an ER must be re-accomplished by a certified individual upon completion of maintenance and before the aircraft is released for flight IAW TO 00-20-1.

11.6.5. Units will develop written procedures to capture, document, and clear Red Ball maintenance actions in the event the MIS is down. **(T-3)**

11.6.5.1. Procedures must require MIS entry of Red Ball maintenance actions as soon as the MIS becomes operable. **(T-3)**

11.7. Maintenance Recovery Team. MAJCOMs will publish standardized procedures to recover assigned aircraft at remote locations.

11.7.1. Procedures at a minimum will identify how resources, including personnel, supplies, and equipment will be made available to support transient aircraft recovery.

11.7.2. If required, establish multiple command MOUs/MOAs/collaboration necessary to achieve efficient aircraft recovery and MIS documentation.

11.7.3. **(Added-AETC)** If an AETC aircraft (T-1, T-6, T-38) in Combat Systems Officer (CSO), undergraduate pilot training (UPT), pilot instructor training (PIT), or introduction to fighter fundamentals (IFF) becomes NMC while off station, the closest AETC base having the maintenance capability (defined as possessing that MDS, to include applicable modernization modifications) is responsible for providing necessary support (qualified personnel, equipment, specific technical data, components, supplies, etc.) to repair the aircraft and accomplish necessary flight preparedness inspections. **(T-2)**

11.7.3.1. **(Added-AETC)** Vance AFB contract maintenance activity/operation will provide western region support for aircraft they have the maintenance capability to support as described in the contract. **(T-2)** Western region is defined as all areas west of the eastern borders of Colorado, Montana, New Mexico, and Wyoming.

11.7.3.2. **(Added-AETC)** Columbus AFB contract maintenance activity/operation will provide eastern region support for aircraft they have the maintenance capability to support as described in the contract. **(T-2)** Eastern region is defined as the east coast of the continental U.S. to the Mississippi river and western state line of Wisconsin (including Lafayette, LA) and from the U.S./Canada border south to Key West, FL.

11.7.3.3. **(Added-AETC)** NAS Pensacola maintenance will provide T-1 and T-6 MRT support for transient aircraft at NAS Pensacola and the local Pensacola airport. All other T-1 and T-6 aircraft requiring eastern region maintenance recovery team support, will be provided by the Columbus AFB contract maintenance activity/operation.

11.7.3.4. **(Added-AETC)** Use the defense table of official distances, the DoD official source of driving distance information (available at **https://dtod.transport.mil**), to determine the closest base.

11.7.4. **(Added-AETC)** Units will dispatch required maintenance crews, supplies, TOs, SE, etc., as soon as possible, but not later than the close of business on the second normal duty day following notification. When multiple AETC aircraft require off-station support from a single base, priorities will be negotiated between the owning and supporting bases to minimize negative mission impacts. If priorities can't be adjudicated between owning and supporting bases, contact 19 AF/A4D. The owning and supporting bases will reconcile unique requirements (transportation, CANN, budget, etc.).

11.7.4.1. **(Added-AETC)** Aviation in-plane Reimbursement (AIR) Card Usage. IAW DoDM 4140.25 V3, *DoD Management of Energy Commodities: Fuel Cards*, MRT members are authorized to present AIR Cards when refueling/defueling is required to support off-station maintenance. The AIR Card may also be used to obtain other services required to expedite repair to return aircraft to mission capable status, such as hangar space, towing, purchase of fluids, etc. The MRT shall place all receipts for purchased services

inside the front cover of the aircraft forms binder for home-station reconciliation of expenditures.

11.7.4.2. **(Added-AETC)** Personnel authorized to use the U.S. Government AIR Cards are pilots, flight commanders, aircraft commanders, or maintenance personnel (military or government employees), or contractors in IAW the provisions of their contract. Individuals who misuse the card may be subject to criminal prosecution under federal law, including, but not limited to, Title 18 USC Section 286, *Conspiracy to defraud the Government with respect to claims*, Section 287, *False, fictitious or fraudulent claims*, and Section 1029, *Fraud and related activity in connection with access devices.*

11.7.5. **(Added-AETC)** Transient maintenance and the host maintenance organization will provide transient support and required maintenance for transient NMC aircraft at their location, according to DAFI 21-101 if the capability exists.

11.7.6. **(Added-AETC)** If a unit deploys/sends aircraft to another location for the purpose of flying sorties, the owning unit is responsible for recovering NMC aircraft at the deployed location. However, the owning unit may request/negotiate assistance at the operating location.

11.7.7. **(Added-AETC)** The owning unit is responsible for recovering NMC aircraft that are outside the continental United States (CONUS). However, NMC aircraft that are en route within the CONUS will be recovered according to **paragraph 11.7.3**.

11.7.8. **(Added-AETC)** AETC aircraft that do not fall in the categories identified in **paragraph 11.7.3**, will follow transient maintenance procedures.

11.8. Foreign Object Damage (FOD) Prevention Program. All personnel (military, civilian, and contractors) working in, on, around, or traveling through areas near aircraft, flightline munitions, AGE, engines, or components thereof will comply with FOD prevention. **(T-2)** FOD prevention training requirements are outlined in AFI 36-2650. This section establishes minimum requirements for a FOD Prevention Program.

11.8.1. The WG/CD is responsible for ensuring an effective FOD prevention program is established.

11.8.2. Definition. FOD: Any damage to an aircraft, engine, aircraft system, component, tire, munitions, or SE caused by a foreign object(s) (FO) which may or may not degrade the required safety and/or operational characteristics of the aforementioned items.

11.8.3. FOD Prevention.

11.8.3.1. On aircraft, uninstalled engines, LRUs and AGE. Openings, ports, lines, hoses, electrical connections, and ducts will be properly plugged or capped to prevent FO from entering the systems. **(T-2) Note:** Do NOT place items (such as, trash bags, rags, cloths) inside open cavities or ducts. When no approved manufactured coverings and/or caps are available for use, securely cover open ducts and/or cavities externally to prevent foreign objects from being introduced. Prior to installation, inspect openings, cavities, and ducts for FO.

11.8.3.1.1. Items that are actively being disconnected, installed, and/or removed will be capped IAW technical data or at completion of the task. **(T-2)**

11.8.3.1.2. At no time will items, (such as, aircraft forms binders, video tape recorder tapes, checklists, tools.), be placed in or on engine intakes. **(T-2) Note:** Does not apply to technicians performing inlet maintenance, inspections and blade blending requiring lights, files, or other tools inside aircraft inlets.

11.8.3.1.3. Inventory all items IAW **Chapter 8**. **(T-2)**

11.8.3.2. MAJCOMs in coordination with Safety, applicable MDS Lead Commands and Weapon System Teams will review FOD, Incident, and Mishap reports to determine if MAJCOM directed IPI or KTL additions are needed to mitigate identified FOD trends.

11.8.3.2.1. Units will establish MDS specific procedures that ensure pre-launch removal and post-recovery installation of intake/inlet plugs and covers (such as, pitot tubes to include ejection seats as required) remain installed on aircraft as close to crew show as possible to prevent FOD, as determined by MXG/CC guidance. **(T-3)**

11.8.3.2.2. Units will establish MDS specific FOD prevention guidance that standardizes mitigation procedures when performing high FOD risk maintenance task (use of plugs/barrier paper, tape, inlet/intake/ECS maintenance or equivalent tasks). **(T-2)**

11.8.3.2.3. Technicians will ensure engine inlet run-up screens and anti-personnel guards are used IAW applicable weapon system TOs. **(T-2)**

11.8.3.3. Covers (such as, engine, pitot tube(s) to include ejection seat) need to remain installed on aircraft as close to crew show as possible to prevent FOD, as determined by MDS/local MXG/CC guidance.

11.8.3.3. **(AETC)** C-130 throttle quadrant covers will remain installed as close to crew show as possible. **(T-3)**

11.8.3.4. Technicians should use a light source of sufficient illumination to inspect the aircraft intakes and exhaust for FO/FOD.

11.8.3.5. Whenever physical entry into an aircraft intake or exhaust is required, technicians will wear a pocket-less, zipper-less, button-less, bunny-suit marked "Intakes Only" and cloth over-booties or stocking feet, (Boots may be worn if not restricted for use by TO/MAJCOM and are authorized by the MXG or equivalent), boots if worn must be inspected and FOD removed from boots prior to installing cloth over-booties. **(T-2)**

11.8.3.5.1. When performing intake inspections while wearing a Chemical Warfare Defense Equipment, pockets will be emptied, and all accessories removed. **(T-2)**

11.8.3.5.1.1. During exercises/inspections, the Chemical Warfare Defense Equipment will be removed, and the bunny-suit will be utilized. **(T-2)**

11.8.3.5.1.2. Chemical Warfare Defense Equipment will only be worn during “real world” situations. **(T-2)** To minimize the potential for FOD and intake damage where Chemical Warfare Defense Equipment zippers are exposed, cover them with any type of tape and account for the tape upon completion of the inspection. **(T-2)**

11.8.3.6. Each base will develop a local flightline clothing policy that addresses wearing of hats, badges, and passes aimed at FOD prevention while considering climate and safety. **(T-2)** As a minimum, it will include the following requirements:

11.8.3.6.1. Restricted area badges will be secured with a subdued non-metallic cord or plastic armband when worn on the flightline. **(T-2)**

11.8.3.6.1. **(AETC)** [DEV] Restricted area badge cords or armbands do not need to be subdued for contractor or civil service personnel.

11.8.3.6.2. Restricted area badges will be removed when performing intake/inlet/exhaust inspections if personnel physically enter these areas. **(T-2)**

11.8.3.6.3. Metal insignias/badges will not be worn on the flightline. **(T-2)**

11.8.3.6.4. Wigs, hairpieces, metal hair fasteners, earrings, or any other jewelry/loose items that may fall off without notice, are not authorized on the aircraft and industrial work areas. **(T-2)**

11.8.3.6.5. Escorts of visiting personnel will ensure FOD prevention measures are taken. **(T-3)**

11.8.3.6.6. **(Added-AETC)** Include guidance for securing eyewear when wear is necessary for performing duties in and around engine danger areas.

11.8.3.7. All maintenance production areas must have FO containers readily accessible. **(T-2)**

11.8.3.7.1. All vehicles driven primarily on the flightline for direct aircraft maintenance support activities must be equipped with secured and lidded FO containers. **(T-2) Note:** Permanently affixed FO containers must be approved by Vehicle Management prior to installation IAW AFI 24-302.

11.8.3.8. Control all work order residue used on or around aircraft, uninstalled engines, and AGE. **(T-2)**

11.8.3.9. Rags will be controlled and accounted for IAW **Chapter 8**. **(T-2)**

11.8.3.9.1. Rag control applies to all organizations and personnel performing aircraft, missile, munitions, and equipment maintenance.

11.8.3.10. FOD walks are mandatory to remove FO from ramps, runways, taxiways, maintenance areas and access roads.

11.8.3.10.1. In addition, mechanical/vacuum sweepers, magnetic bars or sweeping by hand are highly encouraged to supplement FOD walks.

11.8.3.11. When FOD is discovered on a transient aircraft, depot input/output or CRF engine, the host FOD monitor, or aircrew must notify the owning organization within 24 hours. **(T-2)**

11.8.3.11.1. An informational copy of the FOD report must be provided to the owning organization's flight safety office and FOD monitor to ensure compliance with DAFI 91-204. **(T-2)**

11.8.3.11.2. For depot input/output or CRF engine. If the FOD is found during the receiving inspection at one of the aforementioned locations, it will be tracked/charged (if necessary) to the owning MAJCOM unit. **(T-2)** If discovered any other time at one of the aforementioned locations, it will be tracked/charged to the ALC or CRF. **(T-2)**

11.8.3.12. Ensure local FOD Prevention Program addresses the elimination of FOs to include aircraft cockpits and flight decks before and after flight. **(T-2)**

11.8.3.12.1. When an item is lost on or in the vicinity of aircraft or equipment, lost item/tool procedures in **Chapter 8** will be followed.

11.8.3.12.2. DELETED.

11.8.3.12.3. These procedures will be documented in the wing tool/equipment management publication referenced in **Paragraph 8.2**. **(T-2)**

11.8.3.13. Use extreme care during engine ground runs. Jet blast and helicopter hover power check areas need to be free of debris that could cause FOD.

11.8.3.14. Special emphasis is required for items such as: remove before flight streamer attachment, safing pin condition, hinge pin security, dust and FO prevention cover condition/security, and aircraft forms binder condition. Periodically check these types of items for FO prevention compliance.

11.8.3.14.1. Units will account for -21 equipment and covers IAW DAFI 21-103.

11.8.3.14.2. Weapons Expediters must ensure all mission specific safing gear is controlled and accounted for to preclude loss and potential FOD. **(T-2)**

11.8.3.15. Refer to DAFI 13-213, *Airfield Driving and* DAFMAN 91-203, for vehicle FOD check requirements.

11.8.3.16. Grounding wires/points:

11.8.3.16.1. Two Allen head screws, or equivalent, will be utilized to secure cable to grounding clip. **(T-2)**

11.8.3.16.1.1. Screw heads will be coated with sealant or screws will be staked in order to prevent screws from backing out. **(T-2)**

11.8.3.16.1.2. Unused screws will be removed. **(T-2)**

11.8.3.16.2. All grounding points will be kept clean of debris at all times and will be a high interest item for FOD walks. **(T-2)**

11.8.3.17. Use of magnetic bars on the flightline is optional. If used, the magnetic bars will be towed by, or attached to vehicles primarily used on the flightline and will be inspected and made FOD free daily. **(T-2)**

11.8.3.18. A locally manufactured tool for removing debris from tire treads is authorized for use and will be identified to the vehicle by using the vehicle ID number. **(T-2)**

11.8.3.19. Remove metal identification bands from all tubing (except aircraft installed egress system components) and cables on the aircraft.

11.8.3.19.1. With the exception of factory-installed ID tags attached to cargo chains/devices to identify the type being used, remove metal identification bands from cargo tie-down chains/devices prior to use around aircraft.

11.8.3.19.2. Do not remove manufacturer installed metal identification bands from hydraulic hoses.

11.8.3.19.3. Mark hydraulic lines IAW TO 42E1-1-1, *Organizational, Intermediate and Depot Maintenance; Aviation Hoses and Tube Manual.*

11.8.3.20. Use X-ray, borescope, and other equipment to locate FO in inaccessible areas.

11.8.3.21. WG/CD may institute real-time FOD detection (automated FOD detectors) based upon risk analysis IAW AFI 90-802 and DAFI 91-202.

11.8.3.22. **(Added-AETC)** Perform a FOD (intake/inlet/exhaust) inspection before and after any maintenance engine run, and after engine or intake maintenance. **(T-2)** Document the intake/inlet/exhaust inspection with a Red X in the applicable form (AFTO Form 781A, *Maintenance Discrepancy and Work Document*) and the MIS. **(T-2)**

11.8.3.23. **(Added-AETC)** Perform a FOD inspection on Test Cell-operated engines that use a screened bell mouth at the beginning and end of each shift and after screened bell mouth removal. **(T-2)** Document this inspection on the test cell worksheet. **(T-2)**

11.8.3.24. **(Added-AETC)** Perform a complete tool inventory before any maintenance engine run and after engine or intake maintenance. **(T-2)** Document **t**he tool inventory with a Red X in the applicable form (AFTO Form 781A) and the MIS. **(T-2)** Document test cell tool inventories on the test cell worksheet. **(T-2)**

11.8.3.25. **(Added-AETC)** Clear the FOD and tool inventory inspections IAW T.O. 00-20-1, **paragraph 4.5.1.2**. **(T-2)**

11.8.3.26. **(Added-AETC)** The FOD and tool inventory inspections are not required during REDBALL maintenance unless the ER/CR is broken and engine or intake maintenance was performed. **(T-2)**

11.8.4. FOD Prevention Responsibilities.

11.8.4.1. The WG/CD will be assigned as the FOD Prevention Program Manager and will appoint a qualified maintenance AFSC, civilian equivalent or contractor if designated by SOW or PWS, to the position of FOD Monitor. **(T-2)**

11.8.4.1.1. The appointed individuals name will be posted in a prominent place within the unit on a locally developed visual aid which also provides contact information. **(T-2)**

11.8.4.2. The WG/CD will:

11.8.4.2.1. Ensure all personnel actively support the FOD Prevention Program. **(T-2)**

11.8.4.2.2. Provide local guidance to ensure each FOD mishap is investigated, and action taken to solve any underlying problems. **(T-2)**

11.8.4.2.3. Review all unit FOD mishap reports and analyze the reports and other data for trends identifying areas requiring management action. **(T-2)**

11.8.4.2.4. Coordinate FOD prevention needs with the airfield manager and other agencies when construction is in progress on or near the flightline, or other areas where FOD incidents could occur. **(T-2)**

11.8.4.2.5. Ensure FOD prevention is part of QA inspections. **(T-2)**

11.8.4.2.6. Coordinate with the airfield manager to identify and properly mark FOD checkpoints. **(T-2)**

11.8.4.3. Tenant Unit FOD Prevention Responsibilities. The host base FOD Prevention Program Manager will incorporate tenant units in the host unit program. **(T-2)**

11.8.4.3.1. Tenant units will establish their own FOD Prevention Program but will still participate in the host program and comply with host program requirements. **(T-2)**

11.8.5. FOD Monitor. The Wing FOD Monitor's office will be located within QA or at the discretion of the WG/CD. **(T-3)** The Wing FOD Monitor, at a minimum, will:

11.8.5.1. Inform all wing agencies of FOD hazards. **(T-2)**

11.8.5.2. Develop wing procedures to document and perform spot checks of "high risk" areas weekly. **(T-2)**

11.8.5.2. **(AETC)** When the FOD monitor is a contractor, he/she will provide input/recommendations for procedures, but cannot be the POC for the wing instruction.

11.8.5.3. Be involved in each FOD investigation and help ensure corrective actions are sound. **(T-2)**

11.8.5.4. Monitor and recommend changes to FOD prevention training. **(T-2)**

11.8.5.4.1. Those units having several types of aircraft assigned will have their FOD prevention training incorporated into one wing/center training program. **(T-2)**

11.8.5.4.2. Units will ensure an initial FOD awareness and responsibilities briefing is given to all newly assigned personnel. **(T-2)**

11.8.5.5. Periodically inspect and report damaged pavement, flightline construction, or other hazards in or near aircraft parking ramps or taxiways to the airfield manager and monitor status to ensure timely repairs. **(T-2)**

11.8.5.6. **(Added-AETC)** The FOD monitor will receive training from wing safety on mishap reporting procedures and requirements. **(T-2)** Civilian FOD monitors and COR overseeing a contracted FOD monitor should attend Jet Engine Mishap Investigation Course number (J3A132ZR2A671A0M1A) within 9 months of assignment. **(T-2)** At least one COR per unit should meet this requirement.

11.8.5.7. **(Added-AETC)** The FOD monitor will assist wing safety in mishap investigations. **(T-2)**

11.8.5.8. **(Added-AETC)** FOD monitors will ensure a FAST test kit is on hand to enable forensic analysis of engine FOD incidents.

11.8.6. FOD Investigation and Reporting.

11.8.6. **(AETC)** AETC Form 199, *Foreign Object Damage (FOD) Incident Investigation* may be used for FOD investigation and reporting.

11.8.6.1. When suspected or confirmed FOD is discovered, the MOC will be notified immediately. **(T-2)**

11.8.6.1.1. Upon notification, the MOC will immediately notify the Wing FOD Monitor, and Wing Safety, IAW DAFMAN 91-223.

11.8.6.2. Units must make every attempt to determine the root cause of FOD-related mishaps before returning engines and modules to the depot for investigation. **(T-2)**

11.8.6.2. **(AETC)** Units will ensure all local means are exhausted to determine root cause of FOD-related mishaps prior to shipping engines and modules to JEIM/CRF. **(T-2)** Retained task centers will gain access to FOD damaged engines to the fullest extent possible without compromising forensic evidence. **(T-2)** Example: gain access to the top half of J85 compressors at the request of the FOD monitor or investigator. If root cause of engine FOD is not determined, the 19 AF/A4 FOD manager must approve engine shipment to a repair facility. **(T-2)** When a JEIM or CRF discover FOD damage on receiving inspections, the owning unit will be notified for their reporting and tracking. **(T-2)** If FOD is discovered post engine test then the JEIM or CRF will initiate and complete a FOD report via the SharePoint link: **https://usaf.dps.mil/sites/aetc-19af/lg/fod/sitepages/home.aspx**. **(T-2)**

11.8.6.2.1. If engines/modules are returned to the depot, an information DR will be completed and forwarded IAW procedures outlined in DAFI 91-204 and TO 00-35D-54.

11.8.6.2.2. All FOD-mishap engines and modules returned to the depot must be properly marked on the outside of the packaging as a FOD-mishap asset. **(T-2)**

11.8.6.2.3. Mark container or package in red with the following statement, "FOD mishap investigation required." **(T-2)**

11.8.6.3. FOD incidents are classified as preventable and non-preventable. Only preventable FOD over $60K (parts and labor) are to be chargeable to the FOD rate. FOD is considered preventable except when the damaged can be attributed to the following:

11.8.6.3.1. Caused by natural environment or wildlife. This includes hail, ice, animals, insects, sand, and birds. Report this type of damage IAW DAFI 91-204. Do not include these in the FOD rates.

11.8.6.3.2. From internal engine materiel failure as long as damage is confined to the engine.

11.8.6.3.3. Caused by materiel failure of an aircraft component if the component failure is reported as a DR using the combined mishap DR reporting procedures of DAFI 91-204 and TO 00-35D-54.

11.8.6.3.4. Found during depot overhaul for maximum operating time.

11.8.6.4. Additionally, the following apply:

11.8.6.4.1. Engine damage caused by improper anti-ice/de-ice procedures by either flight or ground crews are considered preventable.

11.8.6.4.2. Engine or airframe damage caused by gunnery or rocket mission ricochets are considered non-preventable provided mission parameters were not exceeded and range cleaning was sufficient.

11.8.6.4.3. Engine and propeller damage caused by rocks, stones, wood, or other objects ingested during low hover operations or unimproved runway landings are considered non-preventable, provided mission parameters were not exceeded.

11.8.6.4.4. MAJCOMs will determine reporting criteria for FOD incidents that result in a blade blending requirement IAW applicable tech-data.

11.8.6.4.4. **(AETC)** FOD related mishaps that can be blended at the unit do not require reporting to 19 AF/A4. All corrective actions will be annotated on the AFTO Form 95.

11.8.6.5. Preventable FOD over $60K incurred at ETS or on trim pad will be chargeable. **(T-2)**

11.8.6.6. Appropriate MAJCOM offices will assist in resolving any questionable FOD issues, preventable or non-preventable.

11.8.6.6. **(AETC)** The 19 AF/A4 FOD manager will assist in resolving any questionable FOD issues.

11.8.6.7. The Wing FOD Monitor will provide an initial report of all FOD incidents to the MAJCOM FOD monitor within 24 hours of occurrence. **(T-2)**

11.8.6.7. **(AETC)** Report FOD incidents to 19 AF/A4 via SharePoint at the following link: **https://usaf.dps.mil/sites/aetc-19af/lg/fod/sitepages/home.aspx**. Ensure the FOD report is filled out entirely with clear and concise information. A detailed damage description is required prior to submitting the form. Describe compressor and turbine damage at each stage, how many blades or vanes are affected, blade or vane damage appearance, nicks, dents, or tears. Example: "#2 engine sustained damage to the following areas; 2 each 1st stage IGV's nicked, 5 each 2nd stage compressor blades nicked, all 3rd stage compressor blades and stators damaged beyond repair. High/low pressure turbine sustained damage throughout."

11.8.6.7.1. A follow-up report will be required every 45 days until closeout. **(T-2)** Use the FOD report format as listed in **Attachment 6**.

11.8.6.7.1. **(AETC)** Provide follow-up FOD reports to the Propulsion Systems Branch (19 AF/A4MP) via the FOD SharePoint site.

11.8.6.7.1.1. **(Added-AETC)** Units will coordinate with 19 AF/A4MP, depot and base supply to determine component cost and estimated labor hours for FOD repairs when completing final reports. **(T-2)** Labor hourly rates can be found via SharePoint at the following links: **https://usaf.dps.mil/sites/aetc-19af/lg/fod/sitepages/home.aspx** or **https://www.my.af.mil/gcss-af/USAF/ep/contentView.do?contentType=EDITORIAL&contentId=cF575FC8E240BBA87012497BE57EB1E54&programId=tF575FC8E240BBA8701249793D81F1E30&channelPageId=s6925EC13537F0FB5E044080020E329A9**.

11.8.6.7.1.1.1. **(Added-AETC)** If the commander concurs with wing safety's recommended maintenance actions in the mishap or incident report, the actions will be initiated after wing safety transmits the final mishap report.

11.8.6.7.1.1.2. **(Added-AETC)** If maintenance does not concur with wing safety recommendations, the MXG/CC or equivalent will submit justification for non-concurrence to 19 AF/A4 within 5 workdays and send an information copy to the Flight Safety Division, HQ AETC/SEF or Ground Safety Division, HQ AETC/SEG, as applicable. **(T-2)**

11.8.6.7.1.2. **(Added-AETC)** Units will ensure final reports a completed and uploaded to 19 AF/A4MP SharePoint prior to engine shipment to depot. **(T-2)** Link: **https://usaf.dps.mil/sites/aetc-19af/lg/fod/sitepages/home.aspx**.

11.8.6.7.2. MAJCOMs will determine FOD standards, MDS specific flying hour source data, period of time for calculation, reporting procedures, and meeting frequency for units that exceed standards in their supplement to this DAFI.

11.8.6.7.2.1. **(Added-AETC)** FOD rates for each MDS and MDS-specific flying hours can be found at the following link: **https://usaf.dps.mil/sites/aetc-19af/lg/fod/aetc%20fod%20standard%20rates/forms/allitems.aspx**.

11.8.6.7.2.2. **(Added-AETC)** MDS specific flying hour source data is defined as the flying hours flown. Period of time for calculation will be cumulative data from previous month. **(T-2)**

11.8.6.7.2.3. **(Added-AETC)** Wing FOD managers will compute and submit rates monthly, by the 10th calendar day of the following month to 19 AF/A4MP via the link in **paragraph 11.8.6.7**. The report will include monthly cumulative data. A fiscal year roll up will be submitted NLT 15 Oct each year.

11.8.6.8. FOD rates are computed by MDS as follows: Number of Preventable FODs (damage exceeding $60K) ÷ Aircraft Flying Hours X 10,000 = FOD Rate. **Note:** ALCs compute FOD rates as follows: Number of Preventable FODs (damage exceeding $60K) ÷ Aircraft Flying Hours X 1,000 = FOD Rate. ALCs compute aircraft flying hours by using acceptance flights, functional check flights, ground runs, and the number of un-installed ETS starts.

11.8.7. FOD Prevention Committee Meeting. This meeting is mandatory for units that exceed the MAJCOM-established standard. **(T-2)**

11.8.7. **(AETC)** FOD Prevention Committee Meeting will be conducted quarterly when MAJCOM FOD rate standards are not met. **(T-2)** Meetings will continue until standards are met. **(T-2)** FOD Prevention Committee meetings, if required, may be in conjunction with other meetings.

11.8.7.1. - 11.8.7.1.1. DELETED.

11.8.7.2. Meeting agenda items should include issues that resulted in the wing exceeding the FOD standard, such as:

11.8.7.2.1. Total number of airframes, engine, and tire FOD incidents during the reporting period. Indicate quantity and cause. Current status of all other pending incidents will be discussed.

11.8.7.2.2. Mechanical/vacuum sweeper status.

11.8.7.2.3. Review and refinement of the existing FOD prevention program.

11.8.7.2.4. New directives/actions established to minimize FOD.

11.8.7.2.5. Status and condition of engine run-up screens as applicable.

11.8.7.2.6. Results of X-rays for FOs during engine bay inspections, acceptance inspections, and PH inspections. Maintenance trends should be discussed when an increase in FO is discovered during these X-rays.

11.8.7.2.7. Identification of potential FOD sources.

11.8.7.2.8. Lost tools/items.

11.8.7.2.9. Increased potential for FOD within the next 30-60 days.

11.8.7.2.10. Dropped objects. Pay particular attention to those that result in downstream FOD.

11.8.7.2.11. Breakdown of FOD inspections/assessments.

11.8.7.2.12. Cockpit FO incidents.

11.8.7.2.13. Recognition of personnel making significant contributions to FOD prevention (such as, golden bolt program, FOD poster contests, or other FOD recognition programs locally developed at each unit).

11.8.8. Bird Strikes. Consult TO 1-1-691 for bird strike clean-up procedures and DAFMAN 91- 223, *Aviation Safety Investigation and Reports* for bird strike reporting procedures.

11.9. Dropped Object Prevention (DOP) Program. A dropped object is any aircraft part, component, surface, or other item lost during aircrew operations (unless intentionally jettisoned) from engine start to engine shutdown. Inadvertently released munitions are not considered dropped objects and will be reported IAW DAFI 91-204. **Note:** Missing Chaff/Flare/Decoy endcaps/LO coating are not reportable dropped objects.

11.9.1. Responsibilities. All units, which fly, service, or maintain aircraft, will develop a DOP Program with the following provisions: **(T-2)**

11.9.1.1. MAJCOM DOP monitors or aircraft functional managers will act as OPR for all dropped object inquiries IAW MAJCOM established standards.

11.9.1.2. The WG/CD serves as the Wing DOP Program Manager and will appoint a Wing DOP Monitor. **(T-2)**

11.9.2. Investigation. The DOP Monitor will investigate each dropped object incident. **(T-2)**

11.9.2.1. Every effort needs to be made to determine the precise cause to ensure positive corrective action is accomplished. Anytime a materiel or design deficiency is the cause, or suspected cause, a DR will be submitted IAW TO 00-35D-54, even when an exhibit is not available.

11.9.2.2. Investigation results will be distributed to each appropriate work center for inclusion in personnel training and education programs. **(T-2)**

11.9.3. Reporting. Units will follow MAJCOM DOP Program reporting procedures. **(T-2)**

11.9.3.1. Transient Aircraft. The host Wing DOP Monitor will be responsible to investigate dropped objects from a transient aircraft. **(T-2)**

11.9.3.1.1. The host Wing DOP Monitor will provide the home station Wing DOP Monitor with sufficient data to generate a report for trending and tracking purposes. **(T-2)**

11.9.3.2. **(Added-AETC)** Report dropped objects to 19 AF/A4 via SharePoint at the following link: **https://usaf.dps.mil/sites/aetc-19af/lg/dop/default.aspx**. **(T-2)** See **paragraph 2.4.3.34**.

11.9.3.3. **(Added-AETC)** Provide a monthly report of all dropped objects that occurred during the previous month NLT the 5th day of each month. **(T-2)**

11.10. Aircraft Structural Integrity Program (ASIP). The ASIP includes requirements for collection and evaluation of aircraft usage data to update or confirm the original design or baseline spectrum and to adjust maintenance intervals on an individual aircraft basis. The Loads/Environment Spectra Survey data is collected via flight data recorders of instrumented aircraft to evaluate the loads spectrum. The Individual Aircraft Tracking data is collected via flight data recorders or manual forms such as "bubble sheets" and the data is used to make maintenance/inspection/force structure decisions. Both the Loads/Environment Spectra Survey and Individual Aircraft Tracking usage data programs are established by applicable MDS-specific TOs and DAFI 63-140 and require coordinated action by a number of base-level maintenance activities to achieve the required data capture rates. An effective ASIP aircraft usage data collection program is essential to establish, assess and support inspections, maintenance activities, repairs and required modification/replacement actions. MAJCOMs will:

11.10. (AETC) Aircraft Structural Integrity Program (ASIP). 19 AF/A4D is the command OPR for Lead Command aircraft and 19 AF/A4M is the OPR for ASIP data collection systems.

11.10.1. Publish ASIP roles and responsibilities for each assigned weapon system IAW DAFI 63-140.

11.10.2. Ensure operational units continuously meet authorized reporting requirements established by Program Offices.

11.10.3. Document causes and corrective actions for units that fail to meet reporting requirements and retain until resolved or relief of the reporting requirement is granted from the Program Office in writing.

11.10.4. **(Added-AETC)** As required, units will provide data on system utilization, operational usage, and fleet experience, as necessary, to the ASIP manager through the aircraft program manager. In addition, units will:

11.10.4.1. **(Added-AETC)** Notify the aircraft program manager and ASIP manager of contemplated changes in operational usage that deviate from the original design.

11.10.4.2. **(Added-AETC)** Ensure ASIP hardware is installed, operated, and maintained, as required.

11.10.4.3. **(Added-AETC)** Plan, program, and budget for funding as required.

11.10.4.4. **(Added-AETC)** Prepare and process operational usage data as required and ensure an effective data collection system is functioning at unit level.

11.10.4.5. **(Added-AETC)** Coordinate with the program manager to establish required service life for all aircraft systems.

11.11. Identification Friend or Foe (IFF) Program.

11.11.1. MAJCOMs will establish an Identification Friend or Foe Program for aircraft in their command (if equipped).

11.11.1.1. MAJCOM programs will identify additional requirements necessary to ensure status of Identification Friend or Foe systems meets mission requirements.

11.11.1.2. **(Added-AETC)** The AETC IFF Program is located at https://usaf.dps.mil/sites/aetc-19af/LG/LGM/LGMV/SitePages/Home.aspx where additional requirements are identified.

11.11.2. DELETED.

11.11.3. Equipped aircraft will be checked prior to its first sortie of the day during contingency operations. **(T-2)**

11.12. Radar Warning Receiver/Radar Threat Warning Testing.

11.12.1. MAJCOMs will identify weapon systems with enhanced on-board diagnostics and internal testing capabilities which do not require external testing in their supplement to this instruction (if equipped).

11.12.1. **(AETC)** AETC Aircraft do not have on-board diagnostic and internal testing capabilities.

11.12.1.1. MAJCOMs will determine non-contingency system functional check requirements necessary to ensure Radar Warning Receiver/Radar Threat Warning systems are maintained operationally ready to meet mission requirements IAW the MESL or MDS equivalent.

11.12.1.1. **(AETC)** Follow established procedures as outlined in each weapons system -6 technical order. **(T-2)**

11.12.2. DELETED.

11.12.2.1. The Radar Warning Receiver/Radar Threat Warning Manager if assigned, will coordinate test procedures with the Wing Electronic Warfare Officer and the MXS, if applicable. **(T-2)**

11.12.2.2. The Radar Warning Receiver/Radar Threat Warning Manager if assigned will ensure each unit accomplishes the required minimum number of checks as defined below. **(T-2)**

11.12.2.2.1. For contingency missions, the Radar Warning Receiver/Radar Threat Warning Manager will coordinate with the Electronic Warfare Officer/Electronic Combat Officer who will determine system check requirements and specific threats to be simulated. **(T-3)**

11.12.3. When an aircraft is found to have a malfunctioning Radar Warning Receiver/Radar Threat Warning system prior to flight, the Aircraft Commander (AC) determines the course of action based on operational needs and requirements.

11.13. Cannibalization Program.

11.13.1. General. CANN actions may be necessary when a condition prevents the accomplishment of a mission, and the required assets are not immediately available from supply. Prior to performing a CANN action, verify the required component cannot be sourced from LRS, TNB or back shop. When authorizing a CANN, the expenditure of man-hours and potential damage to equipment need to be weighed against the expected benefit. High risk CANNs should not be performed unless priority aircraft are involved, or lack of ready equipment will impede mission accomplishment. See **Table 1.2** (Reference AFTTP 3-4.21V1).

11.13.2. Definition. CANN is the authorized removal of a specific assembly, subassembly, or part from one weapon system, system, support system, or equipment end item for installation on another end item to satisfy an existing supply requisition and to meet priority mission requirements with an obligation to replace the removed item. Weapon systems, support systems, or equipment include aircraft, missiles, drones, RPA, uninstalled engines, uninstalled engine modules, aircrew and/or launch crew training devices, Communications-Electronics equipment, AGE, TMDE, serviceable uninstalled pods, and guns.

11.13.2.1. **(Added-AETC)** A component already removed cannot be cannibalized. Changing the destination of a component already removed is a transfer or diversion action, not a CANN.

11.13.2.2. **(Added-AETC)** Examples of a priority mission requirement are CANN actions to meet flying schedule commitments or the timely completion of a major inspection (PE, PH, or ISO).

11.13.3. Responsibilities. CANN Authorities (CA) will be tracked in the MIS and SCR (see **Table 11.1**). **(T-2)**

11.13.3. **(AETC)** The Propulsion Flight Chief or Propulsion Supervisor, in coordination with the EM, will authorize engine-to-engine CANNs. **(T-2)** If unit does not have a Propulsion Flight Chief or Propulsion Supervisor assigned, the MXG/CC or equivalent will designate a person to perform this duty. The AGE function supervisor will authorize AGE-to-AGE CANNs. **(T-2)** The munitions accountability system officer (MASO) must coordinate the CANN of munitions items. **(T-2)**

11.13.3.1. CA will be SNCOs, officers or civilian equivalents. **(T-2)** These personnel are typically Pro Supers.

11.13.3.2. Those who are authorized to approve CANNs will not further delegate their responsibility. **(T-2)**

11.13.4. If an assembly is cannibalized to satisfy a condition caused by lack of bits and pieces (such as, washers, nuts, and bolts), the assembly is counted as a CANN, and the bits and pieces are considered transfer actions. Bits and pieces removed from an end item (without removing the assembly) for installation on another end item are considered individual CANN actions.

11.13.5. When a required part cannot be delivered and installed on time, the CA may approve the CANN of parts before the initiation of CANN documentation (such as, Red Ball maintenance). The CA will give this approval only after confirming the part is not readily available in LRS, TNB, forward supply points, or back shops. **(T-2)**

11.13.5.1. The CA will notify the appropriate supply activity to change the “mark-for” components in the document number. **(T-2)**

11.13.5.2. The CA will also ensure complete documentation is accomplished for each CANN action. **(T-2)**

11.13.5.2. **(AETC)** In the event the MIS is not available, AETC Form 1158, *Cannibalization Control Register*, or a locally approved form, may be used as backup documentation. Ensure copies of all AETC Forms 1158 are reconciled with the supply system.

11.13.6. When TCIs, serially controlled items, items affecting compliance of a TCTO, or other components with inspection requirements that align to specific hourly, calendar, or event limits are considered for CANN, the CA will coordinate with PS&D or EM to ensure adequate time remains on the item to justify the CANN and to ensure appropriate records are updated. **(T-2)**

11.13.6.1. If the CANN action takes place, the performing work center will update the MIS and notify PS&D or EM. **(T-2)**

11.13.7. Installed engines are not end items; installed engines are considered a LRU (similar to a radar component, gun, seat, canopy, radio, multifunction display unit).

11.13.7.1. If a functional LRU is removed from one end item to put on another end item to fill a “hole” which was caused by a supply requisition, (the requisition could be against the LRU), then this is considered a CANN.

11.13.8. Restrictions.

11.13.8.1. Egress system component CAD/PAD cannibalization actions are considered "High-Risk" and should not be performed unless priority aircraft are involved (example, higher headquarters/alert status), or lack of ready equipment will impede mission accomplishment.

11.13.8.1.1. To ensure system integrity and validation of the explosive CAD/PAD listing, cannibalization of egress explosive and seat components require MXG approval. **(T-3)**

11.13.8.1.1. **(AETC)** When CANN of CAD/PAD items is approved, the CANN authority will follow procedures for serially controlled components in **paragraph 11.13.6**. **(T-2)**

11.13.8.1.2. After cannibalization actions, Egress Red X discrepancies in the aircraft AFTO Form 781As will not be cleared until verification that CAD/PAD S/N content matches the S/N content entries in the MIS. **(T-2)**

11.13.8.1.3. Only (2A6X3) Egress personnel will accomplish this action. **(T-2)**

11.13.8.2. CANN actions involving parts from ABDR training aircraft, AF Museum Aircraft, Maintenance Training Devices, GITA, TAA, or DLADS will not be accomplished without authorization from the Program Office. **(T-2)**

11.13.8.2.1. Parts will not be removed from static display/AF Museum Aircraft except as authorized by AFI 84-103. **(T-2)**

11.13.8.2.2. If the part is approved for CANN, it must not be put into service until all necessary inspections (such as, NDI, pressure checks, operational checks, TCTOs) have been accomplished using specific guidance from the item manager to ensure proper serviceability. **(T-2)**

11.13.8.3. Units will not CANN parts from aircraft possessed by AFMC (B or D PIC) without first coordinating through the MAJCOM functional manager who will request approval from the applicable PM. **(T-2)**

11.13.8.4. An aircraft that has been extensively cannibalized will not be launched on an overseas or cross-country sortie/mission on the first flight following CANN rebuild without the owning MXG/CC or equivalent approval. **(T-2)**

11.14. Hangar Queen Aircraft.

11.14.1. General. The objective of this program is to ensure the entire fleet remains healthy and all possible management actions are carried out to ensure aircraft do not remain inoperative for extended periods. MAJCOMs will establish a Hangar Queen Management Program.

11.14.1. **(AETC)** Commanders at all levels must place special emphasis on the Hangar Queen Program. Leaders must focus resources on aircraft that have not flown for an extended time and take deliberative steps to return those aircraft to flyable, mission-ready condition as quickly as possible. **(T-2)** Deliberative steps include CANN-actions (to include engines) from a mission-ready aircraft to return the hangar queen aircraft to mission-ready condition.

11.14.1.1. **(Added-AETC)** When aircraft become Hangar Queen, assign a Hangar Queen Manager, and establish a recovery plan. **(T-2)** Ensure strict management, control, and documentation of all maintenance actions. Ensure aircraft status is accurately reflected.

11.14.1.2. **(Added-AETC)** Report aircraft in Hangar Queen according to AETCI 21-105. **(T-2)**

11.14.1.3. **(Added-AETC)** QA will perform a review of aircraft forms/MIS prior to first flight out of Hangar Queen. **(T-2)**

11.14.2. Definitions. A “Hangar Queen” is a unit-possessed aircraft that has not flown for at least 30 calendar days. Aircraft are exempt from accruing Hangar Queen time for up to 10 days immediately following DFT/CFT repair or maintenance; however, if an aircraft is not flown after the 10th day, the 10 days are included in the total number of days since last fly date to determine the Hangar Queen category computation. Hangar Queen aircraft will be further defined by the following three categories:

11.14.2.1. Category 1: Aircraft that have not flown for 30 to 59 calendar days. **(T-2)**

11.14.2.1. **(AETC)** Category 1 Hangar Queens will be managed locally. Limit CANN actions to mission essential only. Each CANN must be approved by the MXG/CC or DOM or their designate.

11.14.2.2. Category 2: Aircraft that have not flown for 60 to 89 calendar days. **(T-2)**

11.14.2.2. **(AETC)** Provide 19 AF/A4D and Chief COR if applicable a Category 2 Hangar Queen recovery plan not later than the 65th calendar day of the no-fly status. The plan shall include a list of all supply and maintenance drivers with current status. CANN actions are not authorized unless approved by the MXG/CC or DOM. CANN requests shall

have a detailed justification statement and current supply status. Provide an updated Category 2 Hangar Queen recovery plan within 3 duty days of each additional CANN action.

11.14.2.3. Category 3: Aircraft that have not flown for 90 or more calendar days. **(T-2)**

11.14.2.3. **(AETC)** The AETC standard is zero Category 3 Hangar Queen aircraft. CANN actions are not authorized from Category 3 Hangar Queens unless approved by the 19 AF/A4D Functional Manager. CANN requests shall include a detailed justification statement, current recovery plan and current supply status. Provide 19 AF/A4D and C-COR, if applicable, with a recovery plan no later than the 90th calendar day of the no-fly status. The plan will address all required maintenance actions with milestone dates to return the aircraft(s) to flyable mission-ready condition. Provide a recovery plan update every 7 calendar days to 19 AF/A4D and C-COR.

11.14.2.3.1. **(Added-AETC)** Perform an OCF on the first flight of category 3 Hangar Queens. **(T-2)**

11.14.2.3.2. **(Added-AETC)** Perform an FCF on the first flight of category 3 Hangar Queens for MDS without mission specific equipment (T-1, T-6, and T-38 aircraft). **(T-2)**

11.14.3. All aircraft placed on higher HHQ alert status are exempt from the Hangar Queen Management Program and reporting throughout the duration of alert status/posturing.

11.14.4. An aircraft is released from Hangar Queen status after the first flight. The following examples are provided to clarify when an aircraft becomes a Hangar Queen:

11.14.4.1. A unit-possessed aircraft has not flown for 20 calendar days, enters depot status for 5 more calendar days, and then returns to unit possession on the 26th non-fly day; the unit has up to 10 calendar days to fly the aircraft to avoid Hangar Queen status. If this aircraft does not fly on the 10th calendar day (35th non-fly day), the aircraft will become 36-day Category 1 Hangar Queen on the next day.

11.14.4.2. A unit-possessed aircraft has not flown for 2 calendar days, then enters depot status for 1 calendar day and is returned to unit possession, the unit must fly the aircraft in the next 27 calendar days to avoid becoming a Category 1 Hangar Queen.

11.15. Ground Instructional Trainer Aircraft (GITA). GITA are permanently grounded aircraft declared excess to future operations or flying requirements by higher headquarters and will be re-designated by the addition of the prefix "G" to the basic MDS. GITA are not maintained in a flyable condition but maintain system/subsystem operational condition for purposes of maintenance training and will be carried in assignment/PIC outlined in DAFI 21-103 and AFI 16-402. This section does not apply to ABDR training aircraft. ABDR training aircraft are managed by AFSC/LZDB (ABDR Program Office (PO)). This **Chapter** does not apply to training equipment maintained by Contract Logistics Support contracts administered by commands other than AETC.

11.15.1. Only those items requested by the PM are considered for removal. If the item does not affect training and if approved by MXG/CC, the part will be removed and turned in as per the ALC MXG/CC's (or equivalent) instructions. **(T-2)**

11.15.1.1. Units are responsible for storing uninstalled or removed equipment that is not required for training. **(T-3)**

11.15.2. Training Aid Aircraft (TAA). TAA are permanently grounded aircraft that, at a minimum, require an aircraft fuselage that was previously in the AF inventory as an aircraft.

11.15.2.1. Assigned TAA are not maintained in airworthy condition, and only the system/subsystem required for the specific training requirements will be maintained in operational condition for purposes of required maintenance/organizational training. **(T-2)**

11.15.2.2. TAA used for training are not terminated from the AF inventory IAW AFI 16-402. TAA requests for use by non-maintenance AFSCs require coordination through AFMC/LCMC and the PM prior to approval of assignment via an AF Form 913. **(T-3)**

11.15.2.3. Questions about the designation of an aircraft used for training should be directed to the MAJCOM AVDO.

11.15.2.4. Permanently grounded missiles retain their original MDS without a prefix.

11.15.2.5. Upon assignment of a permanently grounded GITA/TAA, the MXG will contact the applicable MAJCOM to coordinate "save list" requirements identified by the applicable PM. **(T-2)**

11.15.2.5. **(AETC)** In coordination with the trainer maintenance activity, the commander of the training squadron to which the GITA is assigned (82 Training Group (TRG)/CC and 782 TRG/CC at Sheppard) will review and approve the save list. **(T-2)** Ensure items removed are not required for training, safe for maintenance tasks, and will not disfigure the appearance of the GITA. **(T-2)** The save list should not include those -21 items necessary to provide adequate safety and protection for the equipment (i.e., covers, plugs, pins, lock devices).

11.15.2.5.1. “Save list” items removed will be turned into LRS for shipment. **(T-3)**

11.15.2.5.2. If an item on the “save list” is not removed, the reason for not removing it will be annotated and coordinated with the applicable MAJCOM. **(T-2)**

11.15.2.5.3. If items on the “save list” are required for training and an unserviceable item will suffice, units will coordinate with the applicable MAJCOM for receipt of the unserviceable item(s). **(T-2)**

11.15.2.5.4. All unserviceable items furnished by ALC will be marked/identified as “unserviceable” in a conspicuous manner (such as, Red X or Red dot system). **(T-2)**

11.15.3. MAJCOM Responsibilities. MAJCOMs will determine use of MIS for permanently grounded GITA records management.

11.15.3.1. MAJCOMs will coordinate “save list” requirements/changes with the applicable PMs.

11.15.4. MXG/CC Responsibilities. MXG/CC or equivalent will:

11.15.4.1. - 11.15.4.2. DELETED.

11.15.4.2.1. GITA maintenance includes on- and off-equipment maintenance of active systems and subsystems and necessary actions to maintain the aircraft in a safe and presentable condition.

11.15.4.2.2. TAA require minimal maintenance on systems/subsystems used to meet training requirements and should be maintained in a safe and presentable condition.

11.15.4.2.3. Determine which system and subsystem are required to support the training. Consider present, future, and cross-utilization of systems when making determinations. These systems will be maintained in the same configuration as operational equipment. **(T-3)**

11.15.4.2.4. - 11.15.4.2.7. DELETED.

11.15.4.2.7.1. Prior-to-use inspections will be conducted by the using organization employing a tailored weapon system pre-/post-dock checklist. **(T-3)**

11.15.4.2.7.2. Conduct periodic maintenance inspections using a tailored work deck. **(T-3)**

11.15.4.2.8. DELETED.

11.15.4.2.8.1. When changes in requirements occur, initiate a new memorandum.

11.15.4.2.8.2. Ensures copies of all GITA/TAA memorandums to the MAJCOM AVDO. **(T-2)**

11.15.4.2.9. DELETED.

11.15.4.2.10. DELETED.

11.15.4.2.10.1. Owning units not having maintenance capability will establish MOAs or MOUs with organizations which can provide maintenance support. **(T-2)**

11.15.4.2.11. - 11.15.4.2.11.2. DELETED.

11.15.4.2.12. DELETED.

11.15.4.2.12.1. When an item is removed or replaced, supervisors will ensure this action is documented in the aircraft forms. **(T-2)** Include the authority for removal (such as, message number, telecon, letters, and dates) and condition of installed/replacement items.

11.15.4.2.12.2. When the limited save list actions have been done, a copy of the completed list will be forwarded to the appropriate PM and the local documentation function which will be added to the TAA historical record. **(T-2)**

11.15.4.2.12.3. W&B handbook requirements will be maintained IAW TO 1-1B-50 and applicable -5 series TOs. **(T-2)**

11.15.4.2.12.4. Operating and maintenance technical data will be readily accessible whenever the GITA/TAA is in use or undergoing inspection. **(T-2)**

11.15.4.2.12.5. DELETED.

11.15.4.2.12.5.1. The GITA/TAA Manager must be qualified to operate GITA/TAA systems and appropriate support equipment to conduct GITA/TAA

maintenance. **(T-3)**

11.15.4.2.12.5.2. The GITA/TAA Manager will accomplish and/or coordinate maintenance actions for the GITA/TAA and ensure GITA/TAA documentation is accurate and complete. **(T-3)**

11.15.4.2.13. For equipment designated as trainers, only the systems required for technical training (or those required to ensure safety or system integrity) need to be maintained. **Note:** This does not apply to "temporarily" grounded aircraft or operational equipment or systems on loan from MAJCOMs or ALCs.

11.15.4.2.13. **(AETC)** The systems to be maintained on permanently grounded aircraft are identified on the aircraft utilization and requirements listing published in coordination with the school activity and trainer maintenance activity.

11.15.4.2.14. **(Added-AETC)** Use of the MIS is not required for permanently grounded GITAs.

11.15.5. Technical Data Applicability.

11.15.5.1. Operational systems on GITA/TAA are maintained IAW applicable technical data. The specific policy governing the use and modification of technical data is contained in TO 00-5-1.

11.15.5.1.1. Some systems may be operated and maintained with original contractor data because formal technical data was never developed and/or the contractor data was never assigned a TO number.

11.15.5.2. Inspection and lubrication requirements may be adjusted to correspond with training requirements and equipment usage and to prevent over or under inspection.

11.15.5.2. **(AETC)** A master listing of items exempt from inspection requirements will be maintained and reviewed annually. **(T-2)** Source documents for exempt items will be maintained by the QA function. **(T-2)** Any deviations to technical data requirements for configuration-controlled training equipment or systems must be coordinated with the applicable program manager. **(T-2)**

11.15.5.3. When significant savings may be achieved, the commander or contract project manager must request deviations or changes to technical data requirements, including substitution of materiel from the weapon system program manager.

11.15.5.3.1. If deviations are approved, the unit will retain approved deviations/changes in the GITA historical records. **(T-3)** In all cases, safety or design function must not be compromised.

11.15.5.4. TCTOs. The QA function or other designated agency will be responsible for determining applicability of TCTOs for GITAs. **(T-2)** TCTO upgrades are not required on TAA.

11.15.5.4.1. Ensure timely completion of TCTOs on systems designated for configuration management and proper configuration status accounting is maintained.

11.15.5.4.2. Accomplish TCTOs on systems not designated for configuration management as required to ensure safety of operation or as directed by the PM.

11.15.4.2.11.2. DELETED.

11.16. Aircraft Inlet/Intake/Exhaust Certification.

11.16.1. MAJCOMs will determine the requirement to implement an Aircraft Inlet/Intake/Exhaust Certification program and certification frequency requirements.

11.16.1. **(AETC)** This program is applicable to installed engines on F-16 and F-35 aircraft. MT will develop a training program to ensure personnel are knowledgeable and proficient in the performance of intake/inlet/exhaust inspections. **(T-2)** See **Table 11.1** for Certifier requirements. Each certified technician will be recertified annually. **(T-2)**

11.16.2. DELETED.

11.17. Engine Run Training and Certification Program.

11.17.1. A comprehensive engine run certification program will be developed and strictly enforced to prevent safety mishaps and potential loss of life. **(T-2)**

11.17.1.1. DELETED.

11.17.1.2. All maintenance personnel authorized to start and operate aircraft engines, APUs, and uninstalled engines and APUs will be trained and certified to operate engines at TO determined power settings. **(T-2)**

11.17.1.3. Aircraft engine motoring will only be performed by qualified engine run personnel. **(T-2)** Exception: Rotary wing maintenance personnel qualified through OJT may motor engines IAW prescribed TO.

11.17.1.4. The following minimum requirements will be used to certify engine run personnel:

11.17.1.4.1. The MT will serve as the OPR and focal point for the management and development of the engine run certification program, engine run certification test question bank, and written tests for their respective weapon system. **(T-2)**

11.17.1.4.1. **(AETC)** Refer to AFI 36-2650 and AFI 36-2650_AETCSUP as applicable, for further guidance.

11.17.1.4.2. Pre-run training will be conducted in the trainee's work center through OJT. **(T-2)** Pre-run training is designed to prepare the trainee for successful completion of initial engine-run training. As a minimum, pre-run training will include:

11.17.1.4.2.1. An evaluation by immediate supervisor or NCOIC/Flight Chief to determine the individual’s level of maturity and experience prior to being selected for engine-run training. **(T-2)**

11.17.1.4.2.2. The trainee will review and become familiar with engine-run operations to include emergency procedures IAW the applicable aircraft general system type TO and engine run checklist. **(T-2)**

11.17.1.4.2.3. MTs may develop a handout to facilitate learning engine-run procedures, engine limitations, and emergency procedures.

11.17.2. Certifying Officials. Certifying official certification requirements are listed in **Table 11.1**.

11.17.2.1. Instructor Pilots (IP) can also be used as certifying officials during the practical engine-run demonstration.

11.17.2.2. Certifying officials must maintain proficiency in the same manner as other technicians; certifying officials must recertify each other. **(T-2)**

11.17.3. Instructors. Individuals selected as instructors will possess a 7-skill level or civilian equivalent, a qualified contractor, or AFETS/CETS personnel. **(T-2)**

11.17.3.1. AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, aircraft and engine TOs, commercial aircraft/engine operating procedures, and special test project engineering procedures will be used to develop engine run certification training programs. **(T-2)**

11.17.4. Installed Engine Run Personnel. Prior to entering engine run training, personnel will meet the following requirements:

11.17.4.1. Personnel will be selected IAW criteria established in **Table 11.1**. **(T-2)** MXG/CCs may designate contractors in writing to run aircraft engines.

11.17.4.2. Qualified to operate the aircraft APU as applicable. **(T-2)**

11.17.4.3. Qualified as a brake operator. **(T-2)**

11.17.4.4. Qualified in basic radio and interphone systems operation. **(T-2)**

11.17.4.5. Qualified on marshalling signals. **(T-2)**

11.17.4.6. **(Added-AETC)** Certified on engine inlet/intake/exhaust inspections IAW criteria established in **Table 11.1** prior to beginning engine run training. **(T-2)**

11.17.5. The initial engine run certification program will consist of following three phases, each of which will be successfully completed before progressing to the next phase:

11.17.5.1. Phase 1. **(T-2)** Phase 1 is formal classroom training. Classroom instruction will include:

11.17.5.1.1. General aircraft familiarization to include, as a minimum, basic MDS airframe characteristic, aircraft safe-for-maintenance procedures, cockpit configuration and systems, throttles and aircraft controls, egress, normal and emergency braking systems, and aircraft system/subsystems related to safe engine operation. **(T-2)**

11.17.5.1.2. A thorough review of TO procedures with emphasis on and notes, cautions, and warnings. **(T-2)**

11.17.5.1.3. Engine/APU operation, to include normal operational parameters and limitations. **(T-2)**

11.17.5.1.4. Ensuring aircraft, engine, and APU emergency procedures are memorized. **(T-2)**

11.17.5.1.5. UHF/VHF radio operation, Air Traffic Control tower procedures, and emergency radio transmissions. **(T-2)**

11.17.5.1.6. A two-part closed book examination (students will successfully complete **Part I** before taking **Part II**). **(T-2)** The examination will consist of the following:

11.17.5.1.6.1. **Part I** - Students will be given a written/computer-based examination on all boldface emergency procedures or all emergency procedures identified in applicable technical data requiring a passing score of 100 percent. **(T-2)**

11.17.5.1.6.2. **Part II** - Students will be given a written examination covering normal engine run procedures and limitations requiring a minimum passing score of 90 percent, corrected to 100 percent. **(T-2)**

11.17.5.1.7. Personnel failing the written/computer-based examination will receive additional instruction before being re-tested. **(T-2)**

11.17.5.1.8. Students will not be given the same **Part II** test during re-testing efforts. **(T-2)**

11.17.5.1.9. After a second failure of the two-part closed book examination, the SQ/CC (or equivalent) will determine if personnel may retest and continue with the program. **(T-3)**

11.17.5.2. Phase 2. **(T-2)** Phase 2 is simulator training. All maintenance personnel requiring engine run certification will receive simulator training on each specific aircraft MDS and APU. **(T-2)**

11.17.5.2. **(AETC)** Simulator or cockpit trainers are not required for initial engine run qualification on UH/TH-1 and HH-60 helicopters.

11.17.5.2.1. Phase 2 simulator training will be accomplished in an Aircrew Training Device, Cockpit Trainer, flight simulator, Maintenance Training Device, or approved Technology Development Trainer. **(T-2) Note:** If any of the above are not available, a similar MD(S) simulator may be used if the procedures are the same or "dry run" procedures will be accomplished in an aircraft to ensure procedural knowledge.

11.17.5.2.2. As a minimum, students will demonstrate knowledge and proficiency in the following areas:

11.17.5.2.2.1. Proper run clearance procedures. **(T-2)**

11.17.5.2.2.2. UHF/VHF radio operation, Air Traffic Control tower procedures, and emergency radio transmissions. **(T-2)**

11.17.5.2.2.3. Normal APU, engine start, run, and shutdown procedures. **(T-2)**

11.17.5.2.2.4. Augmenter or thrust reverser operation (as applicable). **(T-2)**

11.17.5.2.2.5. Applicable aircraft systems/subsystems normal operating parameters. **(T-2)**

11.17.5.2.2.6. Ensure TO emergency bold face items are memorized. **(T-2)**

11.17.5.2.2.6.1. Instructors will evaluate the student on response time and ability to handle emergency situations to include egress procedures. **(T-2)**

11.17.5.3. Phase 3. **(T-2)** Phase 3 is practical demonstration. Each individual will receive a practical engine run evaluation after successful completion of Phase 1 and Phase 2 training. **(T-2)** For fighter-type aircraft, it is preferable to conduct the evaluation in an NSS,

or on a trim pad. As a minimum, the student will demonstrate successful completion of the following areas without any discrepancies based on a go/no-go standard:

11.17.5.3.1. Run clearance procedures. **(T-2)**

11.17.5.3.2. UHF/VHF radio operation, Air Traffic Control tower procedures, and emergency radio transmissions. **(T-2)**

11.17.5.3.3. Normal APU, engine start, run, and shutdown procedures, including notes, cautions, and warnings. **(T-2)**

11.17.5.3.4. Augmenter or thrust reverser operation as applicable, including notes, cautions, and warnings. **(T-2)**

11.17.5.3.5. Applicable aircraft systems/subsystems normal operating parameters, including notes, cautions, and warnings. **(T-2)**

11.17.5.3.6. Ensure TO emergency bold face items are memorized. **(T-2)** Instructors will evaluate the student on response time and ability to handle emergency situations. **(T-2)**

11.17.5.3.7. Egress procedures. MAJCOM/Lead Command, TO, and checklist procedures for the applicable MDS will be demonstrated without error. **(T-2)**

11.17.5.4. **(Added-AETC)** The following specific engine run-up limitations apply: **(T-2)**

11.17.5.4.1. **(Added-AETC)** Maintenance engine runs in the aircraft parking area will not exceed 75 percent power for T-38 aircraft, 80 percent of N2 power for T-1 aircraft, and 30 percent torque for T-6 aircraft. Ground maintenance engine operations above 75 percent power will be performed one engine at a time.

11.17.5.4.2. **(Added-AETC)** Maintenance personnel will not accomplish jet engine maintenance runs above a prescribed percent revolutions per minute (RPM) threshold where an approved test facility does not exist and the aircraft cannot be secured according to the aircraft TO. A rated pilot may perform the engine run if available. If this situation occurs at other than home station and a rated pilot is not available, maintenance personnel will contact home station for further direction. The run-up areas provided must have a clear area of at least 200 feet in front of and directly behind the aircraft.

11.17.5.4.3. **(Added-AETC)** Units will establish local instructions identifying approved engine run sites and restrictions to include RPM or power limitations for parking areas. **Note:** This requirement does not apply to T-38, T-1 and T-6 aircraft.

11.17.5.4.4. **(Added-AETC)** The MXG/CC or MA will designate maintenance run-up areas at AETC auxiliary fields where engine maintenance runs for recovery of aircraft are required on a recurring basis.

11.17.5.4.5. **(Added-AETC)** If the individual running the aircraft on a single-seat MDS is in a training status, the instructor/trainer will maintain visual and voice contact via the intercom system. On an MDS with two or more seats, the instructor/trainer will be located in the cockpit with the trainee.

11.17.5.4.6. **(Added-AETC)** A firefighting vehicle must stand by in the immediate vicinity when an aircraft is being run in an isolated area or when run for fuel or oil leaks. **Note:** The base fire chief will determine the need for a vehicle based on AFI 32-2001, *Fire and Emergency Services (F&ES) Program.*

11.17.5.5. **(Added-AETC)** Maintenance personnel (FAA-certified mechanics only) are permitted to taxi aircraft assigned to 306 FTG at the United States Air Force Academy (USAFA). These units will develop guidance addressing procedures and qualifications for taxiing aircraft.

11.17.6. Annual recertification for certifying officials and engine run certified personnel will be accomplished by successfully completing the written test (**Part I** and **Part II**) administered by the MT and demonstrating proficiency of normal and emergency procedures to a certifying official by operating one of the following: Aircrew Training Device, Cockpit Trainer, authorized Technology Development Trainer (if assigned or available), or aircraft as appropriate. **(T-2)**

11.17.6.1. Personnel failing the written examination will receive additional instruction before being re-tested. **(T-2)**

11.17.6.2. Students will not be given the same **Part II** test during re-testing efforts. **(T-2)**

11.17.6.3. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-2)**

11.17.6.3.1. The SQ/CC (or equivalent) will determine if personnel may retest and continue with the program, and whether they must attend all three phases of initial training prior to being recertified. **(T-2)**

11.17.6.4. Certified individuals who PCS to the same MDS, and engine type and model must be approved by the SQ/CC (or equivalent) and complete an initial evaluation by a certifying official prior to becoming run qualified at the gaining base. **(T-2) Note:** MAJCOMs will determine if additional training is required for the specific engine series.

11.17.6.4.1. The evaluation will include, as a minimum, familiarization of local procedures and requirements. **(T-2)**

11.17.6.4.2. Carry over the date of original class completion from previous documentation (certificate, training record, MIS printout).

11.17.7. Documentation. Qualifications of installed engine run certifying officials and engine run certified personnel, will be documented in the MIS and entered on the SCR. **(T-2)**

11.17.8. Proficiency. MAJCOMs will determine proficiency requirements for maintenance personnel authorized to operate installed engines.

11.17.8. **(AETC)** Maintain proficiency by performing at least one installed engine run every 90 days. **(T 2)**

11.17.8.1. Units will track run proficiency requirements in the MIS. **(T-2)**

11.17.8.2. Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-2)**

11.17.8.2.1. Decertified individuals will recertify IAW **Paragraph 11.17.6**. **(T-2)**

11.17.9. Engine run certification tests are controlled items and will be handled IAW DAFMAN 36-2664, *Personnel Assessment Program*, and administered only by MT personnel or regional training centers. **(T-2)**

11.17.10. Aircraft APU Installed Operation Training. The following requirements and standards will apply to qualifying maintenance personnel on operating the aircraft APU:

11.17.10.1. When conducting initial operator qualification training for APU, use the applicable video or other training program. **(T-2)**

11.17.10.2. A two-part closed book examination consisting of the following: **Note:** MAJCOMs will determine examination applicability requirements for PMA only APU operations in their supplement/addendum to this DAFI.

11.17.10.2.1. **Part I** - Students will be given a written/computer-based examination on all boldface emergency procedures or all emergency procedures identified in applicable technical data requiring a passing score of 100 percent**. (T-2)**

11.17.10.2.2. Students will successfully complete **Part I** before taking **Part II. (T-2)**

11.17.10.2.3. **Part II** - Students will be given a written/computer-based examination covering normal APU run procedures and limitations requiring a minimum passing score of 90 percent, corrected to 100 percent. **(T-2)**

11.17.10.3. Personnel failing the examination will receive additional instruction before being re-tested. **(T-2)**

11.17.10.4. Students will not be given the same **Part II** test during re-testing efforts. **(T-2)**

11.17.10.5. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-2)**

11.17.10.5.1. The SQ/CC (or equivalent) will determine if personnel may retest and continue with the program prior to being recertified. **(T-2)**

11.17.10.5.2. Individuals must attend all three phases of initial training prior to being recertified. **(T-2)**

11.17.10.6. **Part III** Personnel must then accomplish an on-equipment practical evaluation for certification completion. **(T-2)**

11.17.10.7. Personnel will be recertified annually using the initial certification procedures. The practical evaluation portion will be accomplished by operating one of the following: Aircrew Training Device, Cockpit Trainer, authorized Technology Development Trainer (if assigned or available), or aircraft as appropriate (or as determined by the certifying official). **(T-2) Note:** Recertification is not required if the individual is engine run certified and has maintained annual engine-run certification requirements.

11.17.11. Documentation. Qualifications of APU run certifying officials and APU run certified personnel, will be documented in the MIS and entered on the SCR. **(T-2)**

11.17.11.1. If applicable, MAJCOMs will define SCR applicability requirements for PMA only APU operations in their supplement/addendum to this instruction.

11.17.12. Proficiency. MAJCOMs will determine proficiency requirements for maintenance personnel authorized to operate APUs.

11.17.12. **(AETC)** The APU proficiency requirement is 90 days. **(T-2)** Only annual recertification is required for 97 AMW APU operators.

11.17.12.1. Units will track run proficiency requirements in the MIS. **(T-2)**

11.17.12.2. Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-2)**

11.17.13. Certification tests are controlled items and will be handled IAW AFI 36-2605 and administered only by MT personnel. **(T-2)**

11.17.14. Uninstalled Engine Operation on Test Stands and Cells (includes Jet Fuel Starter /APU uninstalled operations). All personnel identified for uninstalled engine run qualification will complete an uninstalled engine run training program prior to certification. **(T-2)** The following minimum requirements will apply:

11.17.14.1. Certification Requirements. Individuals will be certified for each specific engine TMS authorized to run IAW criteria established in **Table 11.1**. **(T-2)**

11.17.14.2. Certifying Officials will be designated IAW criteria established in **Table 11.1**. **(T-2)**

11.17.14.3. Instructors. Individuals selected as instructors will be 7-skill level or civilian equivalent, a qualified contractor, or an AFETS/CETS representative, and be run certified on each TMS (if they are to be certifying officials). **(T-2)**

11.17.14.4. Training. Uninstalled engine run training will consist of the following three phases:

11.17.14.4.1. Phase 1. Phase 1 is formal training. Instruction will include, as a minimum, the following areas:

11.17.14.4.1.1. General engine familiarization to include, as a minimum, basic engine description, component location, and functions. **(T-2)**

11.17.14.4.1.2. Thorough familiarization of control cabs, NSSs, ETSs, and T-9 fire suppression control panels (if applicable). **(T-2)**

11.17.14.4.1.3. Thorough review of TO procedures with emphasis on notes, cautions, and warnings. **(T-2)**

11.17.14.4.1.4. Uninstalled engine operation to include normal operating parameters and limitations. **(T-2)**

11.17.14.4.1.5. Ensuring uninstalled engine emergency procedures are memorized. **(T-2)**

11.17.14.4.1.6. Local communication procedures. **(T-2)**

11.17.14.4.1.7. A two-part closed book examination (students will successfully complete **Part I** before taking **Part II**) consisting of the following:

11.17.14.4.1.7.1. **Part I** - Students will be given a written/computer-based examination on all boldface emergency procedures or all emergency procedures

identified in applicable technical data requiring a passing score of 100 percent. **(T-2)**

11.17.14.4.1.7.2. **Part II** - Students will be given a written/computer-based examination covering normal engine run procedures and limitations requiring a minimum passing score of 90 percent, corrected to 100 percent. **(T-2)**

11.17.14.4.1.8. Personnel failing the examination will receive additional instruction before being re-tested. **(T-2)**

11.17.14.4.1.9. Students will not be given the same **Part II** test during re-testing efforts. **(T-2)**

11.17.14.4.1.10. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-2)**

11.17.14.4.1.10.1. The SQ/CC (or equivalent) will determine if personnel may retest and continue with the program prior to being recertified or be removed from program. **(T-2)**

11.17.14.4.1.10.1.1. Individuals must attend all three phases of initial training prior to being recertified. **(T-2)**

11.17.14.4.2. Phase 2. Phase 2 is the control cab evaluation. After successful completion of formal training, students will properly demonstrate the following minimum requirements to a certifying official without discrepancies using the go/no-go standard:

11.17.14.4.2.1. Proper uninstalled engine start, run, and shutdown procedures, including notes, cautions, and warnings (engine not operating). **(T-2)**

11.17.14.4.2.2. Proper uninstalled engine boldface emergency procedures, including notes, cautions, and warnings (engine not operating). **(T-2)**

11.17.14.4.2.3. Knowledge of normal uninstalled engine operating limits, including notes, cautions, and warnings. **(T-2)**

11.17.14.4.2.4. Augmenter or thrust reverser operation (as applicable), including notes, cautions, warnings, and emergency procedures. **(T-2)**

11.17.14.4.3. Phase 3. Phase 3 is the practical evaluation. Each individual will receive a practical uninstalled engine run evaluation after successful completion of classroom training and control cab evaluation from a certifier. **(T-2)** As a minimum, the student will demonstrate successful completion of the following areas without discrepancies based on a go/no-go standard:

11.17.14.4.3.1. Run clearance procedures. **(T-2)**

11.17.14.4.3.2. Emergency communication procedures. **(T-2)**

11.17.14.4.3.3. Normal uninstalled engine start, run, and shutdown procedures, including notes, cautions, and warnings. **(T-2)**

11.17.14.4.3.4. Augmenter or thrust reverser operation (as applicable), including notes, cautions, and warnings. **(T-2)**

11.17.14.4.3.5. Proper emergency procedure corrective actions during all bold face uninstalled engine emergency conditions. **(T-2)**

11.17.14.5. Recertification. Recertification for certifying officials and uninstalled engine run qualified personnel will be accomplished annually. **(T-2)**

11.17.14.5.1. The following three requirements must be met to obtain recertification:

11.17.14.5.1.1. Successfully completing the written test (**Part I** and **Part II**) administered by the MT. **(T-2)**

11.17.14.5.1.2. Passing a control cab evaluation demonstrating knowledge of normal and emergency procedures to a certifying official. **(T-2)**

11.17.14.5.1.3. Completing a practical engine run demonstration. **(T-2)**

11.17.14.5.2. Personnel failing the written examination will receive additional instruction before being re-tested. **(T-2)**

11.17.14.5.3. Students will not be given the same **Part II** test during re-testing efforts. **(T-2)**

11.17.14.5.4. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-2)**

11.17.14.5.4.1. The SQ/CC (or equivalent) will determine if personnel may retest and continue with the program prior to being recertified. **(T-2)**

11.17.14.5.4.2. Individuals must attend all three phases of initial training prior to being recertified. **(T-2)**

11.17.14.6. Proficiency. MAJCOMs will determine proficiency requirements.

11.17.14.6. **(AETC)** Maintain proficiency by performing at least one uninstalled engine run every 90 days. Track this requirement in the MIS. Personnel who do not maintain proficiency will be decertified. **(T-2)**

11.17.14.6.1. Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-2)**

11.17.14.6.1.1. Decertified individuals will recertify IAW **Paragraph 11.17.14.5**. **(T-2)**

11.17.15. Fire Control Panel Operation in NSS. This section applies to all NSS designed for enclosed aircraft and uninstalled engine operation (such as, T-9, T-10, T-11, T-12, and T-20) with fire suppression systems. Only qualified personnel will be certified to use the NSS Fire Suppression Systems. **(T-2)** The following certification requirements will apply:

11.17.15.1. Meet criteria established in **Table 11.1**. **(T-2)**

11.17.15.2. Training will consist of formal training using TOs and hands on familiarization and will include the following minimum requirements:

11.17.15.2.1. NSS Fire Suppression System familiarization and operation. **(T-2)**

11.17.15.2.2. Emergency procedures, including local notification procedures. **(T-2)**

11.17.15.3. NSS supervisor, contractor, AFETS/CETS personnel or individual designated by the NSS supervisor will serve as certifying official(s). **(T-2)**

11.17.15.4. Annual recertification of NSS Fire Suppression System certified personnel will be accomplished utilizing the same criteria as initial certification. **(T-2)**

11.18. Engine Blade Blending Training and Certification Program.

11.18.1. General. All units will have a comprehensive training program to ensure technical standards are met, and proficiency is maintained. **(T-2)** The number of individuals authorized to inspect and repair blades should be sufficient to meet mission requirements and production needs. Personnel will be selected for certification IAW criteria established in **Table 11.1**. **(T-2)** MXG/CCs may designate contractors in writing to complete blade blending certification.

11.18.2. Responsibilities and Management. The MT or TD will be responsible for management and development of the blade blending training program. **(T-2)**

11.18.2.1. At a minimum, the course will include care and handling of equipment, applicable technical data, fault isolation/damage assessment/defect size determination, techniques required to correctly inspect and repair blades and performance of an engine blade blend. **(T-2)**

11.18.2.2. Prior to placement on the SCR, members must complete formal blade blending training (MT or TD course) and initial engine blade blending certification will be mandatory. **(T-2)**

11.18.3. - 11.18.3.3. DELETED.

11.18.4. Certification Officials. Certifying officials will be selected IAW criteria established in **Table 11.1**.

11.18.5. **(Added-AETC)** Proficiency Requirements. Certifiers and technicians must perform one blend repair every 180 days to maintain proficiency. **(T-2)** Units with MDS rarely affected by damage requiring blade blend may use a training device (set of blades) to satisfy the 180-day proficiency requirement.

11.18.6. **(Added-AETC)** Annual Recertification. Certifiers and technicians must recertify annually by demonstrating they can perform the task(s). **(T-2)** A QA PE may be used to satisfy this requirement if the QA evaluator is a certifying official. **(T-2)**

11.18.7. **(Added-AETC)** All units will establish procedures for notification and documentation of FOD prior to blade blending, other than for minor sand nicks or scratches. **(T-2)**

11.19. Engine Flexible Borescope Inspection Training and Certification Program. The purpose of this program is to ensure individual knowledge and proficiency levels; proper care and use of equipment; and standardization of program requirements.

11.19.1. All units maintaining engines using flexible borescopes will establish a comprehensive training program. **(T-2)** Certification procedures described here are only for engine borescope certification.

11.19.1.1. Training will be annotated in training records. **(T-2)**

11.19.1.2. **(Added-AETC)** Personnel will be certified IAW **Table 11.1**.

11.19.2. MAJCOMs will:

11.19.2.1. Ensure an engine flexible borescope formal training course is developed, tracked, and managed by MT/TD.

11.19.2.2. Ensure engine flexible borescope proficiency and annual recertification (by a certifying official) requirements are established by course code.

11.19.2.2. **(AETC)** Flexible borescope proficiency requirements are not required for non-engine or non-TO driven inspections. Personnel using the flexible borescope for non-engine or non-TO driven uses are only required to maintain annual qualification via care and use/handling training.

11.19.2.3. Ensure time, training and documentation currency requirements are established for engine flexible borescope certified personnel who PCS to the same MDS/engine.

11.19.2.4. Determine training requirements for personnel using borescopes for non-engine type inspections (such as, behind ejection seats, wing boxes) to include, as a minimum, proper use, and care of borescopes.

11.20. Flying Crew Chief (FCC) Program. The purpose of the FCC Program is to enhance mission effectiveness by providing qualified maintenance support for aircraft at locations other than home station. The FCC flies in Mission Essential Personnel status. FCC's typically fly with the aircraft for the purpose of accomplishing ground maintenance at the TDY location. The duty period typically starts when the FCC shows at the aircraft prior to departure. FCCs are qualified in their duty AFSC and are required to obtain, maintain, and apply basic knowledge in several other aircraft maintenance AFSCs. They are responsible for launch, recovery, inspection, servicing, generation, and maintenance of aircraft in austere locations and locations where specific MDS maintenance capability may not be available.

11.20.1. MAJCOMs may authorize/develop an FCC Program under the direction of AF/A4LM for maintainers who are required to regularly fly and maintain aircraft.

11.20.1.1. FCCs will be selected per mission requirements as directed by MAJCOMs and qualify for Special Duty Assignment Pay (SDAP) IAW AFI 36-3017, *Assignment Incentive Pay and Special Duty Assignment Pay*.

11.20.2. The FCC program only applies to personnel assigned to positions on the Unit Manning Document with a "C" prefix for the Duty AFSC.

11.20.3. The following situations will not qualify the FCC for SDAP:

11.20.3.1. Occasional flights where the aircraft is used as transportation in lieu of commercial air.

11.20.3.2. Incentive or indoctrination flights.

11.20.3.3. Deployments where additional maintenance personnel are required at the designated location to supplement assigned maintainers.

11.20.4. Qualifying missions. A mission consists of one or more sorties with a mission number as entered on the AFTO Form 781, *Aircrew/Mission Flight Data Document*. The mission must meet at least one of the following criteria to qualify for this program:

11.20.4.1. The FCC is required to accomplish maintenance at locations other than home station to prepare the aircraft for its next departure. **(T-2)**

11.20.4.2. The FCC is required to perform in flight maintenance tasks, if required IAW MDS TO requirements or Special/Alert sorties assigned with a mission number with documented agreement between the Operations and Maintenance Squadron Commanders. **(T-2)**

11.20.5. FCC Program responsibilities.

11.20.5.1. AF/A1PA oversees the overall SDAP and provides guidance in AFI 36-3017.

11.20.5.2. AF/A4LM is the SDAP functional manager for FCCs.

11.20.5.2.1. AF/A4LM sets criteria for FCCs, validates MAJCOM FCC reports, and forecasts FCC SDAP budget needs.

11.20.5.2.2. AF/A4LM approves/disapproves FCC position increases/decreases in coordination with AF/A1PA.

11.20.5.3. MAJCOMs implement the FCC Program and will appoint in writing an FCC Program Manager to enforce standards and prepare the annual report.

11.20.5.4. MAJCOM FCC Program Managers will determine which squadrons will participate in the FCC Program and will:

11.20.5.4.1. Validate and forward squadron FCC SDAP requests (**Attachment 5**) to AF/A4LM and AF/A1PA.

11.20.5.4.2. Annually validate FCC SDAP positions.

11.20.5.4.3. Assign FCC SDAP positions with an AFSC prefix of "C" and an appropriate SEI on command manpower documents.

11.20.5.4.4. Establish command unique training requirements and set additional qualification standards for their FCCs as needed.

11.20.5.4.5. Maintain quarterly and annual FCC reports (**Attachment 3** and **Attachment 4**).

11.20.5.4.6. Prepare and submit the command annual FCC report to AF/A4LM at **AF.A4LM.Workflow@us.af.mil** and AF/A1PA by 15 August each year. Submit the biennial FCC report to AF/A1PA upon request.

11.20.5.4.7. Review and approve/disapprove ACR for changes of the “C” prefix to an AFSC on the UMD.

11.20.5.4.8. Review and recommend approval/disapproval of ACRs for additions, deletions of the “C” prefix to an AFSC on the UMD.

11.20.5.5. MAJCOM (A1M) Command Manpower and Organization Responsibilities. A1M will:

11.20.5.5.1. Coordinate and obtain approval/disapproval from MAJCOM for Installation Manpower and Organization Office ACRs pertaining to validation of “C” prefix to AFSCs on the UMD.

11.20.5.5.2. Assign the "C" prefix to AFSCs upon approval from MAJCOM FCC Program Manager. This provides MAJCOM functional managers and unit senior maintenance managers the visibility of squadron FCC SDAP positions. **Note:** FCC SDAP positions do not affect a unit's manpower authorizations.

11.20.5.6. SQ/CC's will:

11.20.5.6.1. Administer the squadron FCC Program IAW AFI 36-3017, AFMAN 36-2100, *Military Utilization and Classification*, and this instruction.

11.20.5.6.2. Ensure FCCs fly only when required for the mission. **(T-2)**

11.20.5.6.3. Appoint and remove personnel from the FCC Program IAW AFMAN 36-2100.

11.20.5.6.3.1. Assign FCCs for a minimum of one year, unless removed for cause. **(T-2)**

11.20.5.6.4. Ensure only qualified FCCs and assistant FCCs who meet minimum requirements IAW AFI 36-3017 receive SDAP and fly a minimum of three qualifying missions per quarter. **(T-2)** An indicator of having too many FCCs may be reflected in a unit whose FCCs routinely do not meet minimum quarterly requirements.

11.20.5.6.5. Assign no more than two FCCs per aircraft (an FCC and assistant FCC) to each qualifying mission unless otherwise approved by MAJCOM. **(T-2) Exception**: SQ/CC may assign the minimum number of additional FCCs when required to maintain proper work-rest cycles or to meet TO requirements.

11.20.5.6.6. Appoint in writing a Unit FCC Program Manager. **(T-2)**

11.20.5.7. Unit FCC Program Managers will:

11.20.5.7.1. Track status and prepare unit reports. **(T-2)**

11.20.5.7.2. Ensure personnel possess the appropriate SEI for their MDS aircraft. **(T-2)**

11.20.5.7.3. Provide a letter to their Installation Manpower and Organization Office and an information copy to the MAJCOM FCC Program Manager to change, add, or delete a "C" prefix to the AFSC on the UMD. **(T-2)**

11.20.5.7.3.1. The letter will contain the unit designation, function account code, AFSC, position number, and a POC. **(T-2)**

11.20.5.7.4. Ensure FCCs and assistant FCCs are aligned in a duty position with a "C" prefix by initiating an DAF Form 2096, *Classification/On-the-Job Training Action*, or special order. **(T-2)**

11.20.5.7.5. Counsel FCCs and assistant FCCs on SDAP termination (AFI 36-3017, Table 3 lists reasons for termination). **(T-2)**

11.20.5.7.5.1. SDAP stops on the dates listed in this table. As long as a "C" prefix is attached to an AFSC the member will receive SDAP. **(T-2)**

11.20.5.7.6. Review, update, and authenticate the monthly SDAP roster. **(T-2)** The SDAP roster is the only administrative tool used to start, stop, or continue the FCC pay entitlement.

11.20.5.7.6.1. If changes are made on the monthly SDAP roster, an DAF Form 2096 or special order must be submitted to the Military Personnel Section (MPS). **(T-2)**

11.20.5.7.6.2. Authentication of the monthly SDAP roster validates that each FCC is meeting the full intent of the program. **Note:** AFI 36-3017 provides commanders conditions concerning pay entitlements.

11.20.5.7.7. Submit SDAP position increase/decrease requests to MAJCOM FCC Program Manager by message, e-mail, or letter stating the number of positions to be increased/decreased with a brief justification. **(T-2)**

11.20.5.7.7.1. MAJCOMs will forward requests to AF/A4LM for final approval.

11.20.5.7.8. Provide information for processing DD Form 1610, *Request and Authorization for TDY Travel of DoD Personnel*, for FCCs. **(T-3)**

11.20.5.7.9. Ensure TDY orders authorize FCCs to travel in Mission Essential Personnel status. **(T-2) Note:** Aeronautical orders do not apply to this program, as FCCs are not aircrew members.

11.20.5.7.10. Monitor training qualifications and currency to ensure only qualified FCCs are scheduled for missions. **(T-2)**

11.20.5.7.10.1. As a minimum, maintain a folder for each FCC containing training qualifications, immunizations, military passport information, appointment letters, and FCC Mission Reports. **(T-2)** If the unit mobility section already maintains these source documents, either electronic or paper copies may be maintained.

11.20.5.7.11. Coordinate scheduling of FCCs through Flight CC/Chiefs and operations schedulers. **(T-2)**

11.20.5.7.12. Maintain a Unit FCC Program Manager's Continuity Book. **(T-2)** As a minimum the continuity book will include:

11.20.5.7.12.1. Lists of required instructions with web addresses (including AFI 36-3017, AFMAN 36-2108 and this instruction). **(T-2)**

11.20.5.7.12.2. Unit FCC Program Manager appointment letter, DAF Form 2096 or special orders. **(T-2)**

11.20.5.7.12.3. Manpower correspondence assigning "C" prefix AFSC. **(T-2)**

11.20.5.7.12.4. Quarterly and annual FCC status reports, SDAP position requests and miscellaneous FCC and SDAP correspondence. **(T-2)**

11.20.5.7.13. Report program status by Fiscal Year (FY) quarters to MAJCOM FCC Program Manager NLT the 15th day of the month following each FY quarter and report FY annual program status to the MAJCOM NLT 15 July each year. **(T-2)**

11.20.5.7.13.1. Annual report will consist of the previous FY 4th quarter and

current FY 1st, 2nd, and 3rd quarters (1 Jul - 30 Jun). **(T-2)**

11.20.5.7.14. Submit funding requests for flight clothing, per diem, and other related expenses for the annual budget (for safety during flight, flight clothing is mandatory for FCCs and Assistant FCCs). **(T-2)**

11.20.5.8. Installation Manpower and Quality Office will:

11.20.5.8.1. Forward ACR to MAJCOM to add, delete, or change "C" prefixes on AFSCs existing on the UMD. **(T-2)**

11.20.5.9. Enroute supervisors will:

11.20.5.9.1. Not assign FCCs to work other enroute aircraft. **(T-2)** However, FCCs left at an enroute location and awaiting transportation may be assigned to work other enroute aircraft.

11.20.5.9.2. Brief FCCs on local safety precautions, maintenance practices, and limitations. **(T-2)**

11.20.5.9.3. Coordinate with the Pilot in Command (PIC) and FCC to obtain transportation to/from quarters. **(T-2)**

11.20.5.10. The FCC will:

11.20.5.10.1. Establish duty shifts and rest periods with the PIC and enroute supervisor based on maintenance and mission requirements. **(T-2) Note:** Consider the duration of the flight, the ability to rest during the flight, and the quality of the rest during the flight. FCCs do not automatically enter crew rest with the aircrew upon arrival at an enroute/transient location unless the duty day was exceeded.

11.20.5.10.1.1. If the FCC's safety is jeopardized by fatigue, the FCC's duty day must end. **(T-2)**

11.20.5.10.2. Upon arrival at enroute locations, determine their ability to perform duties safely and effectively. **(T-2) Note:** The FCC's primary job is preparing the aircraft (inspect, service, aircraft forms maintenance) for the next mission.

11.20.5.10.2.1. Notify Tanker Airlift Control Center/Logistics Cell of planned crew rest periods and or establish an alternate point of contact during scheduled rest periods to minimize rest cycle interpretations. **(T-2)**

11.20.5.10.3. Coordinate with the PIC to ensure crew integrity for quarters is maintained. **(T-2)**

11.20.5.10.4. Coordinate with the PIC to ensure the FCC Performance Feedback Form in **Attachment 2** is completed by the PIC and provided the Unit FCC Program Manager upon return to home station. **(T-2)**

11.20.6. FCC qualifications and responsibilities.

11.20.6.1. FCCs should be a 2AX AFSC 5- or 7-skill level.

11.20.6.2. As a minimum, the FCC must be qualified and certified on the following MDS applicable items:

11.20.6.2.1. Possess a SEI of the aircraft assigned to the FCC. **(T-2)**

11.20.6.2.2. Refuel/defuel member and supervisor; concurrent servicing supervisor (as applicable). **(T-2)**

11.20.6.2.3. Tow member, tow supervisor, and tow brake operator. **(T-2)**

11.20.6.2.4. LOX/GOX servicing, nitrogen, and tire servicing. **(T-2)**

11.20.6.2.5. Tire and brake change; launch; recovery; marshalling; pre-flight, thru-flight and post-flight inspection. **(T-2)**

11.20.6.2.6. APU operation/quick air start system. **(T-2)**

11.20.6.2.7. Engine run. **(T-2)**

11.20.6.2.8. Kneeling operation and cargo door/ramp/visor operation on applicable MDS. **(T-2)**

11.20.6.2.9. All applicable powered/non-powered AGE. **(T-2)**

11.20.6.2.10. Qualified to operate, troubleshoot, service, and perform maintenance on their aircraft's critical systems as required by the MAJCOM. **(T-2)**

11.20.6.3. Assistant FCC qualifications and responsibilities.

11.20.6.3.1. Assistant FCCs must be a 5-level A1C or above with at least a SEI on their assigned aircraft and must accompany a fully qualified FCC. **(T-2)**

11.20.6.3.2. As a minimum, the Assistant FCC will be qualified and certified on the following MDS applicable items:

11.20.6.3.2.1. Refuel/defuel member. **(T-2)**

11.20.6.3.2.2. Tow member and tow brake operator. **(T-2)**

11.20.6.3.2.3. LOX/GOX servicing, nitrogen, and tire servicing. **(T-2)**

11.20.6.3.2.4. Tire and brake change; launch; recovery; marshalling; pre-flight, thru-flight and post-flight inspection. **(T-2)**

11.20.6.3.2.5. APU operation/quick air start system. **(T-2)**

11.20.6.3.2.6. Cargo door/ramp/visor operation on applicable MDS. **(T-2)**

11.20.6.3.2.7. All applicable powered/non-powered AGE. **(T-2)**

11.20.7. Work/rest plan (see **Chapter 1**).

11.20.8. MAJCOM FCC Program reporting.

11.20.8.1. MAJCOMs will forward a yearly report to AF/A4LM by 15 August.

11.20.8.2. Use previous FY 4th quarter, and current FY 1st, 2nd, and 3rd quarters. Late reports may postpone FCC waiver requests. Refer to **Attachment 3** and **Attachment 4** for reporting criteria.

11.20.9. Waivers.

11.20.9.1. Forward unit waiver requests to the MAJCOM FCC Program Manager, who will either disapprove/return to unit, or recommend approval/forward to AF/A4LM for final approval IAW DAFMAN 90-161. **(T-2)**

11.20.9.1.1. All approved waivers are reviewed annually as part of the annual report unless otherwise stipulated by the approval authority.

11.20.9.1.2. Waiver renewals. Submit a brief justification for waivers requiring renewal.

11.21. Maintenance of Flash Blindness Protective Devices.

11.21.1. MAJCOMs will define responsibilities across maintenance for sustainment of flash blindness protective devices for assigned aircraft in a supplement to this instruction. As a minimum, MAJCOM supplements will assign responsibilities that ensure:

11.21.1.1. Units maintain aircraft thermal protective devices, shields, and associated hardware IAW aircraft TOs.

11.21.1.2. Units will establish a training program to qualify individuals to install, inspect, and when required, seal aircraft thermal protective devices and shields. **(T-2)**

11.22. WRM External Nestable Fuel Tank Build-Up. MAJCOMs will ensure units sustain the capability to support assigned wartime taskings. External Nestable Fuel Tank Build-Up is a wartime capability, supported/tasked through a UTC to provide a critical wartime skill that compensates for the expenditure of aircraft fuel tanks (refer to **Chapter 4**). With exception of the core 2A6X4 personnel, augmentees may come from any group or squadron within the wing. MAJCOMs, as applicable, will:

11.22.1. Ensure units adhere to the direction outlined in their Mission Capability statement and DOC statement IAW DAFI 10-401 governing the quantity, size, and composition of fuel tank build-up teams.

11.22.2. Provide guidance for UDMs to ensure personnel tasked/selected for WRM Nestable Fuel Tank Build-Up team augmentees are not tasked for other wartime UTCs.

11.22.2.1. MAJCOMs must ensure UDMs responsible for deploying 2A6X4 personnel are designated as the focal point for WRM Nestable Fuel Tank Build-Up team assembly and are required to develop/maintain a written plan. The plan must be kept current, reviewed annually, and contain the following:

11.22.2.1.1. Specific manning positions across the wing to be tasked as Nestable Fuel Tank Build-Up team augmentees. **Note:** The applicable independent Nestable Fuel Tank Build-Up UTC Manpower Force Packaging System will be used as a guide to construct the teams.

11.22.2.1.2. Guidelines for activation of the tank build-up teams are established.

11.23. Protective Aircraft Shelters (PAS). MAJCOMs that possess PAS will publish guidance for aircraft maintenance operations in a PAS environment. At a minimum, MAJCOM guidance and procedures will address:

11.23.1. PAS marking and floor plans.

11.23.2. Electrical Requirements.

11.23.3. Refueling/Defueling Operations.

11.23.4. Shelter Door Operations.

11.23.5. Aircraft Engine Operation.

11.23.6. Aircraft Positioning inside the PAS.

11.23.7. Aircraft Winching (Hot/Cold).

11.23.8. Placement and Storage of Munitions in the PAS.

11.23.9. Collocating Nuclear and Conventional Munitions (AF Munitions).

11.23.10. External Fuel Tank storage.

11.23.11. PAS maintenance and Inspection requirements not covered by existing publications (such as, grounding and ventilation, mods).

11.24. Combat Sortie Generation. Combat sortie generation is a process by which mission capable aircraft are generated in a minimum amount of time, during peacetime or wartime, through separate 2AXXX and 2WXXX tasks or by Concurrent Servicing Operations. Combat sortie generation may include fueling, munitions/ammunition loading/unloading, aircraft reconfiguration, -6 TO inspections, and other servicing requirements, IAW applicable MDS TOs, Technical Order Data (TOD), IETM, TO 11A-1-33, *Handling and Maintenance of Explosives-Loaded Aircraft*, TO 00-25-172 and other applicable directives. Procedures can be compressed through pre-positioning resources and concurrent performance of tasks.

11.24.1. Wings will determine when to exercise combat sortie generation procedures. Procedures may be used during actual contingencies, scheduled exercises, and daily flying operations.

11.25. Hot Refueling Procedures. For the purpose of this instruction hot refueling is the transfer of fuel into an aircraft having one or more engines running. The purpose of hot refueling is to reduce aircraft ground time, personnel and equipment support requirements and increase system reliability by eliminating system shut down and subsequent restart. Refer to the following sources for additional guidance: TO 00-25-172, TO 00-25-172 CL-4, *Checklist -- Aircraft Fuel Servicing with R-9, R-11, and Commercial Fuel Servicing Trucks and with Fuels Operational Readiness Capability Equipment (FORCE)*, TO 37A9-3-11-lCL-l, *Checklist, Operational and Organizational Maintenance Hot Refueling and Hot Integrated Combat Turnaround Procedures, Aircraft Fuel Servicing Unit Type GRU 17/E Pantograph PACAF Type IV Hydrant Servicing*, and DAFMAN 91-203. **Exception:** N/A for MAJCOMs/Mx units not tasked to maintain hot pit refueling capabilities.

11.25.1. Hot Refueling Site Types. In addition, the process for certifying a site on Foreign Nation is outlined in section **11.25.8**. Personnel will not perform hot refueling operations until the location, equipment requirements, and personnel qualifications are certified IAW this instruction and TO 00-25-172. **(T-2)**

11.25.1.1. Site Certification. MAJCOMs will develop hot refueling site certification requirements. **(T-2)** Site certification team composition will be at a minimum IAW TO 00-25-172, paragraph 6.5. **(T-2)**

11.25.1.1. **(AETC)** Certification Teams will consist of a field grade maintenance officer as the site certifying official; a representative from OSS's Airfield Operations Flight knowledgeable of aircraft taxiways, parking ramps, and hot refuel safe distance requirements; a maintenance member with AFSC 2AXXX or equivalent from MXG/QA;

a wing Occupational Safety member with AFSC 1S071 or civilian equivalent; Fuels Servicing, AFSC 2F071; Liquid Fuels Engineer; and a fire protection member with a minimum AFSC 3E271 or civilian equivalent familiar with fire protection standby requirements in TO 00-25-172 for hot refueling. **(T-2)**

11.25.1.1.1. The following questions will be addressed as part of the site certification:

11.25.1.1.1.1. Has the aircraft been approved by System Safety Engineering Analysis (SSEA) for hot pit refueling? **(T-3)**

11.25.1.1.1.2. Is adequate area provided to position the aircraft safely (evaluate ability to reposition due to wind direction)? **(T-3)**

11.25.1.1.1.3. Is the ramp level to prevent drainage that could cause environmental impact? Request the fire department dump water to verify flow, if questionable. **(T-3)**

11.25.1.1.1.4. Is the location adequate for the number of aircraft to be serviced? **(T-3)**

11.25.1.1.1.5. Has a hot brake holding area been established? **(T-3)**

11.25.1.1.1.6. Is there proper clearance between the hot pit area and hot brake holding area to prevent conflict? **(T-3)**

11.25.1.1.1.7. Is there proper clearance between the hot pit and Explosive Clear Zone/Hot Cargo Pad/Airfield Clearance Zones to prevent violations of any area/zone? **(T-3)**

11.25.1.1.1.8. Is the hot pit adequately clear of the aircraft/vehicle traffic area? **(T-3)**

11.25.1.1.1.9. Is the hot pit and cursory check area of the ramp clear of FOD potential? **(T-3)**

11.25.1.1.1.10. Does the location provide for rapid access of emergency equipment and egress of aircraft/equipment? **(T-3)**

11.25.1.1.1.11. Are adequate grounding points available? **(T-3)**

11.25.1.1.2. QA or responsible unit will maintain site certification documentation and a master listing of hot pit refueling sites administered by the MXG. **(T-2)**

11.25.1.1.2. **(AETC)** [*Kirtland AFB*] The 58 OG maintains site certification documentation.

11.25.1.1.2.1. QA or responsible unit will coordinate with Fuels Base Support Manager to ensure Base Support and Expeditionary (BaS&E) Planning Tool is updated for hot pit site certification listing any time sites are added, changed, or deleted. **(T-2)**

11.25.1.1.3. Each unit hot refueling site will be certified by a unit certification team, and approved by Installation Commander, when one of the following occurs:

11.25.1.1.3.1. Construction of new hot refueling sites. **(T-2)**

11.25.1.1.3.2. Change in the unit MDS, or when an additional MDS is acquired.

(T-2)

11.25.1.1.3.3. Change in refueling equipment. **(T-2)**

11.25.1.1.3.4. Changes in the certified site areas which affect/change in the previous certification. **(T-2)**

11.25.1.1.4. - 11.25.1.1.10.4. DELETED.

11.25.2. Hot refueling site master listing. This listing must contain the following information for all hot refueling sites established and/or sustained by an AF installation or equivalent:

11.25.2.1. All sites must be identified by coordinates on a map. **(T-3)**

11.25.2.1.1. Each facility within the distance identified in TO 00-25-172, must be identified as to its use/contents and its distance in feet from the refueling site/operation. **(T-3)**

11.25.2.1.2. Other refueling sites, aircraft parking areas, also need to be identified and all distances must be shown even if a violation exists. **(T-3)**

11.25.2.1.3. The request cover letter will state if there are no violations. **(T-3)**

11.25.2.1.4. Procedures such as aircraft taxi routes should also be shown. Use arrows or dotted lines to show taxi directions, both entry and exit. **(T-3)**

11.25.2.1.5. Address any restrictions to normal operations and actions required IAW with TO 00-25-172. **(T-3)**

11.25.2.2. State the type of equipment used for hot refueling at each site, (such as, hose carts, truck). **(T-3)**

11.25.2.2.1. Show the location of any fixed fuel pits and usual location of cart or truck if used. **(T-3)**

11.25.2.2.2. Unit-approved sites will be identified on the aircraft parking plan. **(T-3)**

11.25.2.2.3. OSS, CE, and QA and will maintain copies of hot refueling sites on file. **(T-3)**

11.25.2.3. State whether or not all hot refueling areas comply with the quantity-distance separation requirements of DESR6055.09_AFMAN 91-201 in relation to surrounding exposed sites/potential explosion sites.

11.25.3. Hot refueling requires detailed procedures be published in appropriate TOs and unit-developed Local Checklists. Unit Local Checklists will be developed IAW **Chapter 6** and include detailed procedures, normal and emergency, to meet requirements of the local environment. **(T-3)**

11.25.3.1. Units will forward Local Checklists to their respective QA office for approval. **(T-3)**

11.25.4. Units will publish procedures to supplement this section and outline local requirements and additional precautions as necessary for hot refueling, including hot refueling with ordnance, when authorized, IAW TO 00-25-172. **(T-3)**

11.25.5. Units tasked to perform hot refueling operations will ensure hot refueling crews are available to meet mission requirements. **(T-3)** MXS maintenance personnel may be utilized.

11.25.6. Temporary Sites. Temporary sites allow site certification and use for specific exercises, contingencies, and bare base operations in support of Agile Combat Employment. Temporary sites will be approved by installation commander or appropriate host. **(T-2)**

11.25.6.1. Temporary Site Certification. MAJCOMs will develop site certification team requirements. **(T-2)**

11.25.6.1. **(AETC)** Temporary site certifications team requirements are the same as for permanent site teams identified in **paragraph 11.25.1.1**. If this team composition is impractical for a specific temporary site certification, contact 19 AF/A4PP for approval to deviate.

11.25.6.1.1. and 11.25.6.1.2. DELETED.

11.25.6.2. The following questions will be addressed as part of the site certification:

11.25.6.2.1. Has the aircraft been approved by system safety engineering analysis (SSEA) for hot pit refueling?

11.25.6.2.2. Is adequate area provided to position the aircraft safely (evaluate ability to reposition due to wind direction)?

11.25.6.2.3. Is the ramp level to prevent drainage that could cause environmental impact? Request the fire department dump water to verify flow, if questionable.

11.25.6.2.4. Is the location adequate for the number of aircraft to be serviced?

11.25.6.2.5. Has a hot brake holding area been established?

11.25.6.2.6. Is there proper clearance between the hot pit area and hot brake holding area to prevent conflict?

11.25.6.2.7. Is there proper clearance between the hot pit and Explosive Clear Zone/Hot Cargo Pad/Airfield Clearance Zones to prevent violations of any area/zone?

11.25.6.2.8. Is the hot pit adequately clear of the aircraft/vehicle traffic area?

11.25.6.2.9. Is the hot pit and cursory check area of the ramp clear of FOD potential?

11.25.6.2.10. Does the location provide for rapid access of emergency equipment and egress of aircraft/equipment?

11.25.6.2.11. Are adequate grounding points available?

11.25.6.3. - 11.25.6.5. DELETED.

11.25.7. Units will develop a checklist addressing the following at a minimum:

11.25.7.1. Required conditions and materials **(T-2)**

11.25.7.2. Site certification procedures **(T-2)**

11.25.7.3. Preparation for operations. **(T-2)**

11.25.7.4. Map Overlays **(T-2)**

11.25.8. Foreign nation site certification. Provides maintenance units the capability to conduct hot refueling operations. The completion of the site certification assures by MDS that safe hot refueling can be accomplished at locations in support of operations or exercises.

11.25.8.1. Unit Responsibility. At a minimum, requesting unit will accomplish hot refueling site certification IAW this instruction and TO 00-25-172. Owning/Host MAJCOM/A4 should be included in site certification process to help facilitate and advocate for required resources.

11.25.8.2. MXG QA Responsibility. MXG QA review site certification package prior to approval. Develop and maintain completed and approved site certification package. Completed package will be sent to MAJCOM/A4 for their records.

11.25.8.3. MAJCOM/A4 with Unit responsibility (i.e., ACC, AFGSC, etc.). Facilitate and advocate for requesting unit for required resources, as needed.

11.25.8.4. Host MAJCOM/A4 (i.e., PACAF, USAFE, etc.). In coordination with owing MAJCOM, facilitate and advocate for requesting unit for required resources, as needed. Develop and maintain file of approved packages.

11.25.8.4.1. - 11.25.8.4.5. DELETED.

11.25.8.5. Approval Authority. The requesting unit WG/CC is the approving official for the final site certification package. **Exception:** For deployed unit(s)/Task Force, commander with operational command is the approving authority for the final site certification package.

11.25.8.5.1. - 11.25.8.6. DELETED.

11.25.9. Hot Refueling Team Members and Duties. MAJCOMs will determine team member's prerequisites for each position. **(T-2)**

11.25.9. **(AETC)** Refer to SCR, **Table 11.1** for prerequisites.

11.25.9.1. Pad Supervisor. Responsible for overall supervision of hot refueling operations when two or more aircraft are simultaneously hot refueled on the same pad (multiple hot refueling). Maintains full view and control of multiple hot refueling operations.

11.25.9.1.1. - 11.25.9.1.2. DELETED.

11.25.9.2. Refuel supervisor "A" member. Individual will be refuel task qualified, capable of supervising hot refuel crew. **(T-2)**

11.25.9.3. Refuel crew "B" member. Individual will be task qualified. **(T-2)**

11.25.9.4. Fuels specialist with 2F0X1 AFSC, or equivalent, "C" member. Individual will be refuel task certified on the specific facility/equipment, and task qualified for aircraft hot refueling. **(T-2)**

11.25.9.5. Additional refuel crew "D" member. Individual will be task qualified. **(T-2)** Use "D" members as required by applicable aircraft technical data.

11.25.10. Hot refueling team members and QA/Unit certifying officials/evaluators may be multi- MDS qualified.

11.25.10.1. After initial certification on each MDS, personnel must update their hot refueling currency by performing hot refueling on each MDS. **(T-2) Exception:** Fuels specialist will maintain certification and proficiency IAW DAFI 23-201, *Fuels Management*.

11.25.10.2. Section NCOICs/Chiefs will ensure personnel maintain proficiency on each MDS. **(T-2)**

11.25.11. Conducting Hot Refueling Training, Certification and Documentation. [For additional information, refer to AFI 11-235, *Specialized Refueling Operations*]. **Note:** Fuels specialist training will be conducted IAW DAFI 23-201 and CFETP. Qualification training of hot refueling personnel will be conducted in three distinct phases. **(T-2)** The three hot refueling qualification training phases are as follows:

11.25.11.1. Phase 1. "Familiarization" phase. Designated instructors familiarize trainees with applicable technical data, procedures, and guidance for hot refueling. Place special emphasis on procedures for hot refueling with ordinance loaded, when authorized.

11.25.11.2. Phase 2. "Hands-on" phase. Apply information learned in Phase 1 to develop in-depth knowledge and proficiency in all facets of hot refueling. Training will include proper operation, preventive maintenance, use of hand signals and emergency procedures. **(T-2)** Simulate hot refueling by performing all hot refueling tasks without aircraft engines running (cold pit). Designated instructors will demonstrate tasks then require trainees to perform tasks, practice emergency procedures, critique performance and provide additional training as required. **(T-2)**

11.25.11.3. Phase 3. "Demonstration/Certification" phase. Trainees will demonstrate hot refueling under the supervision of designated certifying officials with aircraft engine(s) running. **(T-2)** The Squadron Certifying Officials will certify individuals upon successful demonstration of hot refueling. **(T-2)** If Phase 3 training has not been completed within 30 days of Phase 2 training, Phase 2 training must be repeated. **(T-2)**

11.25.11.4. Qualification training will:

11.25.11.4.1. Stress safety requirements, emergency procedures and equipment inspection in all three phases of training. **(T-2)**

11.25.11.4.2. Ensure procedures in TO 37A9-3-11-1CL-1, TO 00-25-172, and TO 00-25-172CL-4 are taught to all team supervisors and members. **(T-2)**

11.25.11.4.3. Allow Phase 2 and Phase 3 training to be conducted utilizing joint sessions including 2F0X1 AFSC personnel and all maintenance AFSCs. **(T-2)**

11.25.11.4.4. Utilize both fuels (2F0X1) and maintenance AFSC instructors for joint sessions (T-2)

11.25.11.4.5. Be conducted by MT (QA if MT not available). **(T-2)**

11.25.11.5. QA hot pit certifying officials and QA hot pit certifier augmentees (squadron certifying officials) will train, evaluate, and certify unit personnel. **(T-2)** QA hot pit certifying officials will ensure augmentees conduct evaluations using procedures outlined in this instruction, applicable aircraft TOs and local procedures. **(T-2)**

11.25.11.6. DELETED.

11.25.12. Document training for personnel performing, evaluating, supervising, or instructing hot refuel operations as follows:

11.25.12.1. Document all aircraft maintenance and 2F0X1 AFSC personnel Phases 1, 2, and 3 initial training in MyLearning. **(T-2)**

11.25.12.1.1. For AFSCs where "refuel aircraft with engines operating" is not contained in MyLearning, use DAF Form 797/MIS to document initial hot refuel training. **(T-2)**

11.25.12.1.2. Track recurring hot refueling certification in the MIS (initial and annual) IAW with TO 00-25-172 and this DAFI. **(T-2)**

11.25.12.2. 2F0X1 AFSC personnel will use MyLearning/DAF Form 1098, *Special Tasks Certification and Recurring Training*, to document Phases 1, 2, and 3 initial/recurring hot refuel training. **(T-2)** Fuels (2F0X1) certifying officials will be appointed by the LRS/CC IAW DAFMAN 36-2689. **(T-2)**

11.25.13. Track hot refueling members, by position, on the SCR. **(T-2)**

11.25.14. Unique proficiency, certifying, and decertifying actions for hot refuel team members will be outlined in MAJCOM supplements/addendums to this DAFI. **(T-2)**

11.26. Aircraft Rapid/Hot Defueling.

11.26.1. Rapid defueling presents hazards which are not normally encountered in normal defueling operations. Owning MAJCOMs will develop and sustain a rapid defueling capability to meet routine and contingency mission requirements IAW TO 00-25-172 and MDS-specific TOs.

11.26.1. **(AETC)** Rapid/hot defueling are not accomplished in AETC except on KC-135 aircraft and all necessary guidance is prescribed by TO.

11.26.1.1. Rapid defueling operations are considered hot defueling operations whenever the provider/source aircraft has an engine running.

11.27. 406 MHz Emergency Locator Transmitter Systems Program.

11.27.1. Units will ensure procedures are established to update the Emergency Locator Transmitter registration database whenever 406 MHz Emergency Locator Transmitter–equipped aircraft are transferred to other commands/wings, Emergency Locator Transmitter that are taken out of service, removed for maintenance, or destroyed. **(T-0)**

11.27.2. Aircraft maintenance functions must register and track status of fixed-mounted aircraft 406 MHz Emergency Locator Transmitter systems. **(T-0)**

11.27.3. IAW DoDI 3002.02, *Personnel Recovery and 406 MHZ Search and Rescue (SAR) Emergency Beacons in the Department of Defense*, USAF 406 MHz Emergency Locator Transmitter systems must be registered in the DoD Joint Search and Rescue Satellite Aided Tracking Electronic Tracking System database. **(T-0)**

11.27.3.1. The POC for JSETS registration is the Personnel Recovery Mission Software Help Desk at **PRMSMail@jricp.osis.gov**.

11.27.3.2. The governing agencies are the Joint Personnel Recovery Agency and the Electronic Services Command at Hanscom AFB, MA. Refer to AFMAN 10-207, *Command Posts*, for Command Post or C2 function responsibilities regarding 406 MHz Emergency Locator Transmitter and Personal Locator Beacon systems.

11.28. Crashed, Damaged or Disabled Aircraft Recovery (CDDAR) Program.

11.28.1. Installation/WG/CCs responsible for active airfields/runways, and flying missions will implement a CDDAR Program IAW TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*. **(T-2)** The program must be designed to provide a response and/or recovery capability of assigned host, tenant, and consider transient aircraft consistent with the following considerations: (1) urgency to open the runway for operational use; (2) prevention of secondary damage to the aircraft; and (3) preservation of evidence for mishap or accident investigations IAW DAFI 91-202 and DAFI 91-204.

11.28.2. Responsibilities:

11.28.2.1. MAJCOMs will:

11.28.2.1.1. Ensure flying units maintain a CDDAR capability IAW 00-80C-1.

11.28.2.1.2. Designate a MAJCOM CDDAR OPR. As a minimum, the CDDAR OPR will:

11.28.2.1.2. **(AETC)** The HQ AETC CDDAR OPR is the MDS specific weapons system manager in 19 AF/A4D and/or 19 AF/A4PP for policy requirements.

11.28.2.1.2.1. Standardize CDDAR equipment inventory accountability and reporting requirements by MDS for all on hand CDDAR equipment prescribed by TO 00-80C-1, allowance standard and applicable weapons system TOs across assigned units with active airfields/runways.

11.28.2.1.2.1.1. Review unit's annual CDDAR equipment inventories to identify and document equipment shortfalls.

11.28.2.1.2.1.2. Coordinate AS change request with the applicable AFMC AS activity IAW AFI 23-101.

11.28.2.1.2.1.3. Ensure excess CDDAR equipment is redistributed to fill internal shortfalls prior to units turning equipment into supply/DLADS as excess.

11.28.2.1.2.2. Participate as member of CDDAR Working Group. **(T-2)**

11.28.2.2. AETC will:

11.28.2.2.1. Develop, sustain, and administer the CDDAR training program.

11.28.2.3. AFMC will:

11.28.2.3.1. Utilize AFSC/LZDB to serve as AF CDDAR Program OPR (**AFSC.LZDB.CDDAROPR@us.af.mil**) with the following responsibilities:

11.28.2.3.1.1. Provide CDDAR Program guidance to MAJCOM CDDAR OPRs. **(T-2)**

11.28.2.3.1.2. Provide routine communication to MAJCOM CDDAR OPRs on

relevant matters such as new technology, guidance changes, significant events, equipment recall notifications, and best practices. **(T-2)**

11.28.2.3.1.3. Coordinate and consolidate MAJCOM CDDAR OPR inputs on CDDAR policy, training, and technical data, and present this information to the appropriate agency as required. **(T-2)**

11.28.2.3.1.4. Develop, manage, and chair a CDDAR Working Group to address equipment requirements, priorities, and funding. The CDDAR Working Group members will consist of MAJCOM CDDAR OPRs. The CDDAR Working Group will make efforts to gain economy of scale when requesting new equipment. **(T-2)**

11.28.2.3.2. Provide approved tech-data outlining equipment procedures to safely respond and/or recover aircraft from a CDDAR event.

11.28.2.3.3. Provide timely engineering support to facilitate resolution of unique CDDAR events which cannot be resolved by existing tech-data.

11.28.2.3.4. Develop, manage, and maintain AS needed to sustain a weapon system for peacetime and wartime operations IAW AFI 23-101.

11.28.2.4. - 11.28.2.5.7. DELETED.

11.28.2.6. CDDAR Team Chief and alternate will:

11.28.2.6.1. Be designated as the unit's subject matter expert on aircraft recovery operations and equipment and will be thoroughly familiar with and perform their Team Chief duties IAW TO 00-80C-1. **(T-2)**

11.29. Aircraft Battle Damage Repair (ABDR). ABDR is an effective force multiplier contributing to wartime sortie production by assessing and repairing battle damaged aircraft rapidly to support flying operations. ABDR repairs will be accomplished during contingency or wartime only. However, weapons system program managers may approve ABDR repairs during peacetime on a case-by-case basis using trained ABDR Technicians.

11.29.1. Responsibilities:

11.29.1.1. The Directorate of Logistics (AF/A4L) will provide overall policy and guidance for the USAF ABDR Program.

11.29.1.2. AFMC will:

11.29.1.2.1. Assume management responsibility for USAF ABDR Programs.

11.29.1.2.2. Publish a MAJCOM instruction to implement the ABDR requirements contained in this instruction.

11.29.1.2.3. Develop and manage ABDR policy for pre-positioning of tools, materiel kits, related SE, and management of ABDR training aircraft.

11.29.1.2.4. Support development and publication of ABDR TOs for new weapon systems.

11.29.1.2.5. Maintain ABDR UTCs for AFMC organizations.

11.29.1.2.6. Plan for and develop capability to repair battle/crash damaged aircraft.

11.29.1.2.6.1. Ensure plans include procedures to add additional repair capabilities into operating locations and provide aircraft evacuation alternatives.

11.29.1.2.7. Plan, program, and submit ABDR funding requests.

11.29.1.2.8. Maintain an ABDR Technical Support Office to advocate and provide day-to-day management of tasks associated with development, implementation, maintenance, and support needed to enhance the USAF ABDR capability.

11.29.1.2.9. Provide support in determining technical requirements, repair techniques, repair materials, assessment aids and Research & Development (R&D) efforts.

11.29.1.2.10. Manage TO 1-1H-39, *Aircraft Battle Damage Repair General Technical Manual*, and the engineering handbook for ABDR engineers and support initiatives to develop, publish, and maintain weapon system-specific –39 TOs.

11.29.1.2.11. Ensure the status of aircraft permanently grounded for ABDR training is reported IAW DAFI 21-103.

11.29.1.2.12. Establish Aircraft Battle Damage Evaluator training program, manage course documentation and provide training to MT Instructors as required. **(T-2)**

11.29.1.3. MAJCOMs will:

11.29.1.3.1. Establish a command focal point to work ABDR issues with AFMC.

11.29.1.3.2. In conjunction with AFMC, develop a command ABDR Concept of Operations and ensure Concept of Operations covers unit plans for repair of battle/crash damaged aircraft during combat operations.

11.29.1.3.2.1. Address ABDR in mission need statements for new weapon systems that support or engage in combat operations.

11.29.1.3.2.2. Incorporate ABDR in command war planning documents.

11.29.1.3.2.3. Task AFMC ABDR UTCs to support OPLANs.

11.29.1.3.2.4. Develop plans for the reception and employment of AFMC ABDR teams at the onset of hostilities.

11.29.1.3.2.5. Formalize integration and bed down requirements in applicable BSP IAW AFI 10-404.

11.29.1.3.2.6. Provide unit level weapon-system-specific tools (other than common hand tools) and equipment needed to repair battle/crash damaged aircraft.

11.29.1.3.2.7. USAFE and Pacific Air Forces (PACAF) will store and maintain serviceability, accountability, and status reporting to include Financial Improvement and Audit Readiness reporting of AFMC owned and provided WRM ABDR trailers IAW established procedures. **(T-2)**

11.29.1.3.2.8. Provide technical support to the ABDR Technical Support Office for live fire or similar testing.

11.29.1.3.3. – 11.29.1.3.10. DELETED

11.29.1.4. Unit Responsibilities. Units will:

11.29.1.4.1. Utilize trained Aircraft Battle Damage Evaluators to evaluate aircraft battle damage and mishap damage sustained during combat or contingency operations. **(T-3)**

11.29.1.4.2. Ensure shelf-life items listed in TO 1-1H-39 and weapon system-specific –39 TOs are maintained at required levels to support ABDR requirements. **(T-3)**

11.29.1.4.3. Ensure aircraft battle damage is documented on an AFTO Form 97, *Aerospace Vehicle Battle Damage Incident Debrief/Assessment/Repair Record* or AFTO Form 97B, *Aircraft Battle Damage Evaluator Checklist* as required IAW TO 1-1H-39. Completed forms will be forwarded to the Aircraft Battle Damage Repair Program Office. **(T-2)** CLASSIFIED messages must be sent to SIPR: **usafsaf.wright-patt.afsc-lg.mbx.afsc-lzd-abdr-tso@mail.smil.mil** and UNCLASSIFIED messages must be sent to NIPR: **AFSC.LZD.ABDRTSO@us.af.mil** for filing in the historical archives. **(T-2)**

11.29.1.5. Aircraft Battle Damage Evaluator/Training:

11.29.1.5.1. Aircraft Battle Damage Evaluator training provides MXG/CC's with ABDR knowledgeable forces and prepares units to execute Air Tasking Orders in a denied airspace with potential heavy losses. Aircraft Battle Damage Evaluator roles and responsibilities are outlined in TO 1-1H-39.

11.29.1.5.2. Maintenance Supervision will determine the proper mixture of personnel to attend Aircraft Battle Damage Evaluator training. **(T-3)**

11.29.1.5.3. Aircraft Battle Damage Evaluator formal training will be IAW the approved ABDR course control documents. **(T-2)**

11.29.1.5.4. Aircraft Battle Damage Evaluators will complete unit provided refresher training every 24 months. **(T-2)**

11.29.1.5.5. Course documents and instructor training is provided by the ABDR Technical Support Office NIPR, and can be requested at: **AFSC.LZD.ABDRTSO@us.af.mil**

11.30. Egress/Cockpit Familiarization Training.

11.30.1. All non-egress personnel who access aircraft cockpits with egress systems maintained and managed by 2A6X3 Egress Systems personnel must complete initial and refresher familiarization training. **(T-2)**

11.30.1.1. As a minimum, initial and refresher egress/cockpit familiarization training will include location and installation procedures of egress system safety devices, cockpit entry/exit procedures, procedures for determining whether or not an egress component is expended, emergency procedures associated with an expended egress component, and local maintenance concerns identified by the egress work center supervisor. **(T-2)**

11.30.1.2. New personnel to the unit must receive initial familiarization training prior to accessing cockpits unless last duty position involved same mission design aircraft as current duty position. **(T-2)**

11.30.1.3. Personnel not requiring initial training will attend refresher training when they become due. **(T-2)**

11.30.1.4. Initial egress familiarization training will normally be hands-on using an aircraft. **(T-2)**

11.30.1.4.1. Due to the diverse egress systems across all weapon systems, units desiring to use an aircraft maintenance trainer in lieu of an aircraft must submit a request from the MXG/CC to the MAJCOM for approval/disapproval. Approving MAJCOM must coordinate with the MDS lead command to ensure no technical/other mitigating factors exist and to provide transparency. **(T-2)**

11.30.1.5. Refresher familiarization training will be conducted annually using an aircraft, maintenance trainer or media, which is approved and designated by the egress work center supervisor. **(T-2)**

11.30.1.5.1. Non-egress personnel may administer training media (slideshow/video) during refresher familiarization training.

11.30.1.5.2. Direct students to the egress section if technical assistance is required and/or questions are raised concerning course subject matter.

11.30.1.6. Only egress personnel, certified on assigned egress system(s), should instruct initial egress familiarization training. **(T-2)** MXG/CC may authorize MT personnel to instruct this training provided they are currently certified to perform egress maintenance.

11.30.1.6. **(AETC)** CORs at contract locations may conduct egress familiarization training for CORs, provided they have met the requirements of DAFI 21-101 and this supplement.

11.30.1.7. Training media must meet approval of the 2A6X3 AFSC MAJCOM Functional Manager (MFM) or current media produced by the 367 Training Support Squadron listed on the Defense Imagery at **http://www.defenseimagery.mil. (T-2)**

11.30.1.8. Individuals overdue for annual egress familiarization training will not access aircraft cockpits until they complete familiarization training. **(T-2)**

11.30.1.9. Units with unique, experimental, or test aircraft requirements.

11.30.1.9.1. If training courses are not available through AETC, units must use interagency training before considering non-government training sources. **(T-2)**

11.30.1.9.1.1. If courses in both of these sources are not available, units will establish a documented training program that meets the intent of this instruction. **(T-2)**

11.30.1.9.1.2. Training will be conducted by the most qualified personnel and must be approved by the MFM prior to implementation. **(T-2)**

11.30.2. MAJCOMs in coordination with the applicable lead command will identify emergency aircraft egress/evacuation training and frequency requirements in their supplement to this DAFI for personnel assigned to weapon systems that do not have aircraft egress systems maintained and managed by 2A6X3 personnel.

11.30.2. **(AETC)** Emergency egress training for AETC aircraft without an egress system is a one-time requirement that will be completed via on-the-job training and documented in MyLearning for newly assigned personnel without experience on the assigned aircraft. **(T-2)**

11.31. Aircraft Defensive Systems Loading Program.

11.31.1. Aircraft Defensive Systems Loading Program provides instruction required to install/remove chaff/flare on unique mission aircraft in units where there are no 2W1 AFSC authorizations assigned.

11.31.2. Authorized units will establish a program to train and qualify personnel to perform these tasks IAW procedures outlined in DAFMAN 21-201 and this **Chapter**.

11.31.3. Units will work with the installation Weapon System Manager (WSM) and Airfield Operations Flight to develop written instructions for handling chaff/flare-loaded aircraft IAW DESR6055.09_AFMAN 91-201 and DAFI 91-202.

11.31.3.1. As a minimum, written instructions will include procedures for launch/recovery/parking of chaff/flare-loaded aircraft; chaff/flare storage and transportation; and partially ejected flares and minimum requirements outlined in DESR6055.09_AFMAN 91-201.

11.31.4. The MXG/CC will appoint 7-skill or 9-skill level individual with maintenance AFSC as the Weapons Task Qualification Manager (WTQM). **(T-2) Note:** Units with 2W1 AFSCs assigned will comply with training/qualification requirements in **Chapter 10**.

11.31.5. WTQM and Weapons Task Qualification Crew (WTQC) responsibilities. The WTQM/WTQC provide oversight of chaff/flare loading operations to ensure they are conducted safely by providing initial and recurring load training, serving as the focal point for all chaff/flare loading issues, and observing loading operations during training. The WTQM and WTQC will not participate in load operations during training. **(T-2)**

11.31.5.1. WTQM. The WTQM typically holds a 2A871X AFSC; however, other flightline personnel with the 2AX7X AFSC may perform this function. The WTQM develops and oversees the chaff/flare loading standardization program, sets standards, and develops local policies and procedures. The WTQM will be tracked on the SCR. **(T-2)** The WTQM will:

11.31.5.1.1. Receive initial and recurring load qualification training from a WTQC and maintain currency on chaff/flare loading tasks. **(T-2)**

11.31.5.1.2. Once trained and qualified, the WTQM will develop and administer the unit's chaff/ flare load training program and train/qualify home station WTQC personnel. **(T-2) Note:** In the event a unit is initially tasked and has no qualified instructors, it will be necessary for the WTQM to become certified at a unit with qualified trainers. The WTQM will:

11.31.5.1.2.1. Ensure sufficient numbers of personnel are qualified to load chaff/flare to support the unit's mission requirements. **(T-2)**

11.31.5.1.2.1.1. A course code will be loaded in the MIS to identify trained personnel and qualification status. **(T-2)**

11.31.5.1.2.2. Establish time standards for initial and recurring loading tasks. **(T-2)**

11.31.5.1.2.2.1. Lead wings will develop time standards for each MDS for qualification purposes. **(T-2)**

11.31.5.1.2.2.2. The senior evaluator has the discretion to add to the time standard if inclement weather or equipment failure is the cause for exceeding the time standard.

11.31.5.1.2.3. As a minimum, the WTQM will identify the number of qualified personnel, names and employee numbers, MDS qualification, Defensive Systems, equipment type, qualification date, and date(s) recurring training is due. **(T-2)**

11.31.5.1.2.4. The WTQM will select, train, evaluate, and qualify a minimum of two personnel as the WTQC on safe and reliable munitions loading procedures. **(T-2)**

11.31.5.1.2.4.1. The WTQM will evaluate and re-certify WTQC members annually. **(T-2)** WTQC members will be tracked on the SCR. **(T-2)**

11.31.5.1.3. Review and approve/disapprove RCs that pertain to chaff/flare loading technical data. **(T-2)**

11.31.5.1.4. Develop a local Task Assignment List by utilizing lead wing-developed MDS-specific Task Assignment Lists for use during training for all chaff/flare loading operations. **(T-2)** A Task Assignment List is derived from applicable MDS munitions load checklist (TO 33-1-20-series) and identifies the load crew members' responsibilities by step.

11.31.5.1.5. Ensure chaff/flare loading CTKs are standardized to the maximum extent possible. **(T-2)**

11.31.5.1.5.1. Chaff/flare loading CTKs must include all tools and equipment necessary to support applicable MDSs and AME configurations. **(T-2)**

11.31.5.1.6. Coordinate the scheduling of personnel for chaff/flare load training. **(T-2)**

11.31.5.1.6.1. The WTQM may delegate this duty to the WTQC.

11.31.5.1.7. Coordinate with PS&D, or the Regional Training Center, if applicable, to obtain chaff/flare dispensing system-equipped aircraft for training purposes. **(T-2)**

11.31.5.1.8. Ensure training magazines match the characteristics and "feel" of live magazines (such as, weight, dimensions). **(T-2)**

11.31.5.2. WTQC. The WTQC assists the WTQM in managing the chaff/flare loading standardization program. The WTQC's primary purpose is to train and qualify personnel to load chaff/flares but may also perform chaff/flare load duties. The lead WTQC member is typically a 7-skill level technician with the 2AX7X AFSC. Initial training will be conducted using inert munitions. **(T-2)** The number of trained WTQC members should be based on current/anticipated workloads and their ability to maintain proficiency on all applicable MDSs. WTQC members are qualified by the WTQM. The WTQC members will:

11.31.5.2.1. Provide personnel with initial and recurring load qualification training. **(T-2)** One WTQC member will be required to conduct practical training. **(T-2)**

11.31.5.2.2. Monitor personnel qualifications to ensure required academic and practical training is complete. **(T-2)**

11.31.5.2.2.1. Disqualify individuals if recurring requirements are not met. **(T-2)**

11.31.5.2.3. Spot-check personnel to evaluate proficiency. **(T-2)**

11.31.5.2.3.1. The WTQC will disqualify personnel who violate safety, technical data, and reliability procedures, or fail to demonstrate proficiency. **(T-2)**

11.31.5.2.4. Develop/coordinate training schedules and provide to PS&D for inclusion in the appropriate schedule (monthly, weekly). **(T-2) Note:** Enroute WTQMs forward training requirements to the UTM, who coordinates for ground training aircraft with the Regional Training Center.

11.31.6. Training Requirements. Personnel are considered qualified upon successful completion of training provided by a qualified WTQC.

11.31.6.1. Initial qualification will be conducted using inert munitions. **(T-2)**

11.31.6.2. Live munitions may be used during annual qualification to maintain currency. Load qualification training consists of academic and practical training.

11.31.6.3. Document the initial and recurring load qualification training requirements in MyLearning or other approved training process if MyLearning is unavailable (i.e., 623A, *Individual Training Record*) **(T-2)**

11.31.6.4. Academic and practical training must be provided during initial and recurring load qualification training. **(T-2)**

11.31.6.4.1. Academic training is required before practical training is accomplished. **(T-2)**

11.31.6.4.2. Initial practical training must be completed within 14 days of successfully completing initial academic training. **(T-2)**

11.31.6.4.2.1. Practical training should duplicate operational conditions as closely as possible.

11.31.6.4.3. Recurring practical task qualification is administered at least annually. **(T-2)**

11.31.6.4.3.1. As a minimum, practical training will include chaff/flare module serviceability criteria, actual chaff/flare loading, and operation of support equipment/AGE used during loading operations. **(T-2) Note:** Weapons task qualification academic training may fulfill the requirements for explosive safety training if the requirements of DAFI 91-202 are included.

11.31.6.5. Academic training is administered every 12 months. **(T-2)** As a minimum, academic training will include:

11.31.6.5.1. Familiarization with chaff/flare loading publications, including TO 11A-1-33, MAJCOM, and local procedures. **(T-2)**

11.31.6.5.2. Aircraft and munitions familiarization. **(T-2)**

11.31.6.5.3. Safety, security, and emergency procedures. **(T-2)**

11.31.6.5.4. Support, test, handling equipment, and special tools familiarization. **(T-2)**

11.31.6.5.5. Task Assignment Lists and aircraft specific 33-1-2 series TOs must be available at the load-training site. **(T-2) Note:** Training course control documents will be coordinated annually through the Wing Safety and MT. **(T-2)**

11.31.6.6. Personnel qualified on a specific task on a specific MDS are considered qualified to perform that task on all series of that MDS; however, the member must be familiar with differences within the MDS (such as, cockpit switch locations). **(T-2)**

11.31.6.6.1. The WTQM or WTQC will provide practical, on-aircraft training on these differences and document these qualifications for each dispensing system in the qualification status or equivalent system. **(T-2)**

11.31.7. Disqualifying Chaff/Flare Load Personnel. Disqualification will be documented in A - Changed to MyLearning, or other approved training process if MyLearning is unavailable (i.e., 623A), and the qualification status system. **(T-2)**

11.31.7.1. Although not all-inclusive, the following criteria constitute grounds for disqualifying personnel from chaff/flare loading duties:

11.31.7.1.1. Failing to complete recurring training.

11.31.7.1.2. Committing a safety or reliability error.

11.31.7.1.3. Lack of proficiency.

11.31.8. Transient Aircraft.

11.31.8.1. Apply the following when working transient aircraft:

11.31.8.1.1. Under no circumstances will personnel attempt chaff/flare load operations without current technical data. **(T-2)**

11.31.8.1.2. If current technical data is available, then qualified personnel may perform chaff/flare load operations. **(T-2)**

11.31.8.1.3. If current technical data is available but no one is qualified on the transient aircraft type, then the MXG/CC (or Air Mobility Squadron (AMS)/CC at enroute locations) may authorize the WTQC or WTQM to de-arm and/or unload the aircraft.

11.31.8.1.3.1. The WTQM will submit a written request to the MXG/CC (or AMS/CC at enroute locations) identifying personnel selected to perform the task, aircraft type and (if applicable) number of aircraft to be de-armed and unloaded. **(T-2)**

11.31.8.1.3.1.1. Approved requests will be maintained for 90 days. **(T-2) Note:** This is a temporary, one-time authorization to facilitate required maintenance when qualified personnel are not available.

11.31.9. Identification of Chaff/Flare-Loaded Aircraft. Verify chaff/flare load status of aircraft by checking AFTO Form 781A/C before performing any maintenance.

11.31.9.1. Explosive placards are not required on AMC aircraft.

11.31.9.2. If an aircraft is loaded with chaff/flare, it will be safed IAW applicable technical data prior to performing any maintenance. **(T-2)**

11.31.9.3. Before loading chaff/flares, review the AFTO Form 781C, A*vionics Configuration and Load Status Document*, for defensive systems inspection status. **(T-2)**

11.31.9.3.1. If chaff/flare is loaded on aircraft, ensure/verify applicable MIS documentation requirements are completed. **Note:** Do not load chaff/flares if the aircraft is overdue a scheduled DS inspection.

11.31.10. Tracking and Reconciliation of Chaff/Flare-Loaded Aircraft.

11.31.10.1. Expenditure tracking and processing will be handled by Munitions Personnel (2W0X1) IAW DAFMAN 21-201, Chapter 7.

11.31.10.2. Munitions personnel will not use the direct input method to process flightline chaff/flare expenditures; all chaff/flare expenditures will be returned to the Munitions Storage Area (MSA) for verification by munitions personnel before processing expenditures in Theatre Integrated Combat Munitions Systems (TICMS). **(T-2)**

11.31.11. Additional Requirements (as applicable).

11.31.11.1. Document DS software version data and aircraft inspections (such as, 90-, 120-, or 180-day checks) on AFTO Form 781C. **(T-2)**

11.31.11.2. For software version data, enter the following information in the remarks section for each reprogrammable system: type system; installed Operational Flight Program (OFP) version; and/or Mission Data File (MDF) version (such as, ALE-47, OFP XXXX, MDF XXXX).

11.31.11.2.1. If a system contains multiple OFPs, list all applicable versions (such as, ALE-47, Programmer OFP XXXX, Sequencer OFP XXXX, MDF XXXX).

11.31.12. Chaff/Flare Build-up. Chaff/flare magazine build-up will only be accomplished by personnel with 2W0 AFSC or qualified contractors. **(T-2)**

11.31.12.1. Units will only perform chaff/flare build-up in facilities/locations approved by the installation WSM IAW DESR6055.09_AFMAN 91-201. **(T-2)**

11.31.12.2. Units must have an approved explosive site plan or explosives facility license on file with Wing Safety prior to initiating chaff/flare build-up or storage operations. **(T-2)**

11.32. Aircraft and Equipment Decontamination.

11.32.1. Maintenance organizations need to have the Ability to Survive and Operate in a Chemical, Biological, Radiological, Nuclear, and high-yield Explosives (CBRNE) environment and have the capability to decontaminate operational aircraft, vehicle, and SE.

11.32.2. Units will employ AF and locally developed TTPs IAW DAFI 10-2503, *Chemical Biological, Radiological, Nuclear, (CBRN) Defense Program*. **(T-2)**

11.32.2.1. TTPs provide the fundamental counter-chemical warfare (CCW) tools to survive to operate and maximize combat sortie generation capabilities in a CBRNE environment.

11.32.3. The following references in addition to MDS-specific technical data should be utilized when developing unit decontamination programs: DAFMAN 91-203, AFI 10- 2501, AFTTP 3-4, *Airman's Manual*, TO 00-110A-1, *Guidelines for Identification and Handling of*

Aircraft and Material Contaminated with Radioactive Debris, TO 00-20-1, TO 11C15-1-3, *Chemical Warfare Decontamination, Detection and Disposal of Decontamination Agents*, TO 11D1-3-8-1, *Decontamination Apparatus, Power Driven, Portable Type A/E32U- 8, (Engineered Air).*

11.33. End-of-Runway (EOR) Inspection.

11.33.1. EOR is MDS specific, PM directed inspection of aircraft systems identified in the Dash 6 TO or equivalent and published in Dash 6 work cards IAW TO 00-20-1. (N/A to aircraft that do not have an EOR -6 TO requirement).

11.33.2. If local requirements dictate, publish additional guidance to TOs for EOR inspections IAW TO 00-20-1 and TO 00-5-1. **Note:** Safing, arming, and de-arming of live munitions will be accomplished by personnel qualified IAW Chapter **4**, **5**, and **10**.

11.33.3. The EOR team chief (identified by a reflective vest) will carry an EOR checklist and ensures each item is inspected as required. **(T-2)** On aircraft with a ground intercom system, units are only required to establish verbal communications with the pilot when communication beyond the standard EOR marshalling hand signals is required unless otherwise directed by MDS specific technical data.

11.34. Wing Avionics Manager (WAM).

11.34.1. WAM Duties and Responsibilities.

11.34.1.1. Will be in the minimum grade of MSGT, 7 Level or equivalent, and 2A Avionics AFSC. **(T-3)**

11.34.1.2. Act As the Wing Avionics Functional Manager. **(T-2)**

11.34.1.3. Serve as the maintenance group focal point for all avionics related interactions between PMs, MAJCOMs, Lead Commands, Wings, Operations and Maintenance or equivalent activities to discern and implement changes in avionics configuration requirements. **(T-2)**

11.34.1.4. Ensure RAMPOD updates are completed IAW DAFI 21-103.

11.34.1.5. Ensure classified pods/components and equipment are stored in authorized areas IAW AFI 16-1404. **(T-2)**

11.34.1.6. Ensure classified aircraft/Support/Test equipment are stored in authorized areas IAW AFI 16-1404. **(T-2)**

11.34.1.7. Meet quarterly with MXG SEL to review avionics manning status and ensure manning resources are strategically distributed to provide the greatest possibility for mission success. **(T-2)**

11.34.1.8. Serve as the MXG Identify Friend or Foe Program Manager IAW **Paragraph 11.11** of this publication. **(T-2)**

11.34.1.9. Serve as the MXG Radar Warning Receiver/Radar Threat Warning program manager IAW **Paragraph 11.12** of this publication. **(T-2)**

11.34.1.10. Serve as the MXG EW program manager and EW Integrated Reprogramming focal point. **(T-2)**

11.34.1.11. Serve as MXG focal point for external organizations 406 MHz Emergency Locator Transmitter Systems Program IAW **Paragraph 11.27**. **(T-2)**

11.34.1.12. Coordinate with the wing EW POC to ensure compliance with DAFMAN 10-703, *Electronic Warfare Integrated Reprogramming*. **(T-2)**

11.34.1.13. Track wing assigned ECM, electronic attack and sensor pods, and associated support equipment. **(T-2)**

11.34.1.14. Coordinate all pod shipments as directed by MAJCOM to/from base or operating location. **(T-2)**

11.34.1.15. Track all incoming and outgoing pod parts and SE until received or arrived at destination. **(T-2)**

11.34.1.16. Coordinate with Electronic Combat Pilot/Electronic Warfare Officer to ensure most current MDF to configure Radar Warning Receiver/Radar Threat Warning to meet mission requirements. **(T-2)**

11.34.1.17. Serve as the MXG focal point for external organizations on all cybersecurity matters pertaining to aircraft interface equipment. **(T-2)**

11.35. Fire Extinguisher Requirements.

11.35.1. Unit coordinate with Fire Emergency Services Flight and Airfield Operations Flight to ensure required number of portable fire extinguishers are available for on and off installation operational requirements. Refer to DAFMAN 91-203, TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*.

11.36. Air Force Repair Enhancement Program (AFREP).

11.36.1. The AFREP optimizes AF resources and repair capability of aerospace parts and equipment by increasing the wing-level (referred also as field-level) participation with the appropriate Program Office. This is accomplished by field-level identification and recommendation of candidates for reparability consideration by the appropriate PO.

11.36.1.1. The AFREP is an optional program.

11.36.1.2. Unit leadership must verify mission benefit outweighs the cost and obtain MAJCOM AFREP Manager Approval prior to program implementation.

11.36.1.2. **(AETC)** Units must submit written justification to the AETC AFREP Manager, 19 AF/A4PP, to obtain authorization to implement an AFREP.

11.36.2. AFREP is repairing consumable/expendable items (XF3 and XB3). Repair Network is repairing XD2 (recoverable) and XF3 (field level/condemnable). The concept is to make recommendations to the PM of consumable/expendable items which the field-level has identified as desirable candidates to be considered for conversion to field-level repair, limited repair or even full depot-level repair, contract or organic as directed by the Depot Source of Repair process in AFI 63-101/20-101, in addition, ensure repair cost/benefit analysis takes into consideration the total costs to the AF as outlined in Air Force TO 00-20-3, *Maintenance Processing of Reparable Property and Repair Cycle Asset Control System*.

11.36.2.1. The approval authority to change the SMR/ERRC codes, or select, use, arrange for, contract with, qualify sources of repair, or authorize the initiation of any local or other repair action rests solely with the PM.

11.36.2.2. Repair Approval. Personnel must coordinate any operational change to the system, end item, modified configuration, or maintenance procedure prior to implementation IAW AFI 63-101/20-101. For example, additional base-level repair or contract repair of any item beyond the provisions which already exist in field-level TOs. **(T-2)**

11.36.2.3. Field-level personnel, including AFREP work centers, will not contract out or arrange for repair services without prior written authorization by the PM and approval by the MAJCOM AFREP Manager. **(T-2)** The PM responsible for the system or end item will retain responsibility for making any decision stemming from such a recommendation. Field-level TOs do not give permission for local contract or off-base repair of any item, only on-base repair to the extent specified by the SMR code for a given item.

11.36.3. Operational Safety, Suitability & Effectiveness (OSS&E). OSS&E is an outcome of properly planned and applied systems engineering.

11.36.3.1. Organizations responsible for preserving OSS&E of AF systems or end items must ensure that operational use, configuration changes, maintenance repairs, aging, part substitutions, and similar activities and events do not degrade baselined characteristics of systems or end items over their operational life.

11.36.3.2. OSS&E is an integrated effort to ensure items are not allowed to degrade as a result of maintenance, repairs, parts substitutions, and similar activities.

11.36.3.2.1. The program manager is responsible for the assurance of OSS&E throughout the life cycle of each configuration of each component of each system. Only the PM may convert an item from non-repairable to reparable.

11.36.4. Requirements. Given authorized repair of a consumable/expendable item, the PM will determine the SMR/ERRC code validity. All resulting changes are linked with Supply Chain Manager Consideration for that item.

11.36.4.1. Supply Chain Management issues must be considered as a matter of law, given these issues affect Congressionally Authorized budget authority and funds allocated to accomplish specifically different supply chain functions (spares buys versus repairs).

11.36.4.1.1. Any personnel, organization, or AFREP work center may request SMR/ERRC code changes IAW TO 00-25-195 and AFH 23-123, Volume 2, Part 2, *Integrated Logistics System-Supply (ILS-S), Standard Base Supply System Operations*, Chapter 8.

11.36.4.2. Non-repairable (XB3) assets submitted to PM for repair approval will contain RC (SMR/ERRC change) IAW TO 00-25-195 and a MAJCOM published form for the AFREP Vendor Repair Approval that will include all supply data, full justification, and test/repair procedures. This document will be reviewed by the MAJCOM AFREP Manager IAW **Paragraph 11.36.8**. **(T-2)**

11.36.4.2. **(AETC)** Submit SMR/ERRC code changes using ETIMs RC request process IAW TO 00-5-1.

11.36.4.3. Repairable (XF3) assets submitted to PM for vendor repair approval will be submitted on MAJCOM published form. The form must contain all current vendor certifications and governing technical procedures utilized for test/repair by vendor. This document will be reviewed by MAJCOM AFREP Manager and signed off.

11.36.4.4. **(Added-AETC)** Wing AFREP Managers will submit XB3 and XF3 repair authorization requests to 19 AF/A4PP using AETC Form 136, *Repair Enhancement Approval Request*. Upload using the following link: **https://usaf.dps.mil/sites/aetc-19af/LG/productimprovement/AFREP%20MAJCOM%20Repairable%20Assets%20Form/Forms/AllItems.aspx?viewpath=%2Fsites%2Faetc-19af%2FLG%2Fproductimprovement%2FAFREP%20MAJCOM%20Repairable%20Assets%20Form%2FForms%2FAllItems.aspx**. Once approved by the AETC AFREP Manager, route the AETC Form 136 to the item's TO owning authority depicted on the title page of the TO for Program Manager approval, along with a SMR/ERRC change using the ETIMs RC process, IAW TO 00-5-1.

11.36.5. Asset Turn-In. Items repaired IAW technical data will be turned in to the supply system following guidance in DAFMAN 23-122 and TO 00-20-3. **(T-2)**

11.36.6. AFREP Reporting Instructions: Wing AFREP Managers will provide quarterly updates to the MAJCOM AFREP Manager. **(T-2)**

11.36.6. **(AETC)** Quarterly reporting periods begin with the start of the fiscal year. Wing AFREP Managers will use the Wing Quarterly Report template and upload reports NLT the seventh calendar day following the end of each quarter. Upload reports to the Product Improvement SharePoint site: **https://usaf.dps.mil/sites/aetc-19af/LG/productimprovement/Air%20Force%20Repair%20Enhancement%20Program%20AFREP/Forms/AllItems.aspx?viewpath=%2Fsites%2Faetc-19af%2FLG%2Fproductimprovement%2FAir%20Force%20Repair%20Enhancement%20Program%20AFREP%2FForms%2FAllItems.aspx**.

11.36.6.1. MAJCOM AFREP Managers will report yearly activity updates from October 1 to September 30 and file their yearly report with AF/A4LM by 15 October. **(T-2)**

11.36.6.1.1. The quarterly/yearly updates will include at a minimum the nomenclature and total number of items repaired, total cost avoidance, and total cost savings. **(T-2)**

11.36.7. AF/A4L Roles and Responsibilities.

11.36.7.1. Prepares, publishes, and reviews AF-level policy and guidance for AFREP.

11.36.7.2. Perform annual program analysis to verify mission benefits outweigh costs.

11.36.8. MAJCOM AFREP Manager Responsibilities.

11.36.8.1. Administer/manage the MAJCOM AFREP in coordination with the applicable Program Office.

11.36.8.2. Perform annual analysis on program viability.

11.36.8.3. Mandate use of Program Office/selection authority criteria guidance and recommendations related to maintenance, supply, and repair sources.

11.36.8.4. Designate a focal point within the applicable Program Office for the MAJCOM and end users to contact regarding AFREP recommendations and OSS&E issues.

11.36.8.5. Establish a process to identify candidate items for submission to Program Office for consideration.

11.36.8.5.1. At a minimum, process will ensure base AFREP certifies the candidate item is beyond repair from all applicable on-base organic maintenance work centers/back shops. Certification must be documented (email, logbook). Parts coded direct NRTS are exempt from this requirement. **(T-2)**

11.36.8.6. Establish and maintain an AFREP Program Office submission and status tracking website.

11.36.8.6. **(AETC)** AETC submission and tracking is located at the following site: **https://usaf.dps.mil/sites/aetc-19af/LG/productimprovement/AFREP%20MAJCOM%20Repairable%20Assets%20Form/Forms/AllItems.aspx?viewpath=%2Fsites%2Faetc-19af%2FLG%2Fproductimprovement%2FAFREP%20MAJCOM%20Repairable%20Assets%20Form%2FForms%2FAllItems.aspx**. When uploading requests ensure document file names begins with unit (e.g., 12 MXG).

11.36.8.7. Compile annual program cost benefit analysis information and forward to AF/A4L.

11.36.8.8. Provide Program Office repair recommendations for evaluation and track their status (**Part I** identification, initiation date, submittal date, closure date).

11.36.8.9. Maintain, update, and distribute a list of Wing/Unit AFREP POCs to include representatives from other agencies (such as, DLA, ALCs, MAJCOMs).

11.36.8.10. Review/Validate Wing/Unit SMR/ERCC requests IAW TO 00-25-195 and TO 00-20-3 prior to submission to the applicable Program Office for evaluation/approval.

11.36.8.11. Validate items are approved for contract repair for strategic sourcing opportunities.

11.36.8.12. Initiate the opportunity assessment of strategic sourcing candidates when deemed appropriate or when requested by the Program Office.

11.36.8.13. Provide quarterly MAJCOM cross-tell of AFREP repairs to Base/Center AFREP managers. The minimum data will include nomenclature, total cost, and total amount saved for each item across the MAJCOM.

11.36.9. Wing/Unit Responsibilities:

11.36.9.1. Participate in AFREP when approved by the MAJCOM AFREP Manager. **(T-2)**

11.36.9.1. **(AETC)** Wing AFREP Managers will identify themselves to the MAJCOM AFREP manager (AETC 19 AF/A4PP) upon role assignment.

11.36.9.1.1. DELETED.

11.36.9.1.2. MXG SEL will ensure AFREP Manning Positions are categorized as an additional duty and not listed as positions on the MXG UMD. **(T-2)**

11.36.10. Wing/Unit AFREP Manager Responsibilities:

11.36.10.1. Submit SMR/ERRC change recommendations to the MAJCOM AFREP Manager for Program Office coordination. See TO 00-25-195, and this DAFI. **(T-2) Note:** Field-level TOs do not give authorization for local contract repair of any item, only on-base repair to the extent specified by the SMR code for a given item. AFREP or any other field level personnel will not perform repairs not authorized by technical data. **(T-2)**

11.36.10.1.1. Workcenters participating in AFREP repairs will submit Critical Application Items (CAI) and Critical Safety Items (CSI) repair recommendations to the MAJCOM AFREP Manager for screening to determine appropriate PM for submission. **(T-2) Note:** CAIs, CSIs, or elements of a system which the PM has designated as a CAI system, or a CSI system are prohibited from consideration under the AFREP program unless otherwise approved by an authorized engineering authority.

11.36.10.1.1.1. All Electronic Warfare (EW) Systems are CAI-designated systems. Verify CAI and CSI items on the Joint Services Critical Item Data Viewer, located at: **https://remote3.amrdec.army.mil/csiviewer/**. See **Attachment 2**, CAI & CSI for additional information.

11.36.10.1.2. Contractor repairs of any item are not allowed without prior written authorization from the PM and approval by the MAJCOM AFREP Manager. **(T-2) Note:** AFREP work centers are prohibited from entering into repair source contractual/obligation relationships with contractors. DoD regulations exist to assign such actions (finding and qualifying repair sources) to the authorized engineering authority.

11.36.10.1.2. **(AETC)** Wing AFREP Managers using contract services for asset repair will maintain written product approval documentation and provide documentation to AETC 19 AF/A4PP.

11.36.10.1.2.1. If contract repairs are authorized, contracts will be established IAW local contracting procedures. **(T-2)**

11.36.10.1.3. The Wing/Unit AFREP Manager will ensure the SOW includes, as a minimum, the following items for contracted repairs:

11.36.10.1.3.1. Requirement for the contractor to perform/document receiving inspections. **(T-2)**

11.36.10.1.3.2. Requirement for the contractor to inspect/test the item following repair. **(T-2)**

11.36.10.1.3.3. Requirement for the contractor to provide a record of the repair and test results to the AFREP office and made available for the Government Inspector (such as, Defense Contract Management Agency (DCMA)). **(T-2)**

11.36.10.1.3.4. Contract will specify expected shipping, transportation, and repair-estimate completion dates. **(T-2)**

11.36.10.1.3.5. Repair items IAW Technical Data. **(T-2) Note:** Restricted use of

systems will result from use of components which have been repaired as described immediately above, without prior written authorization from the program manager.

11.36.10.1.3.6. Enter data into the AFREP Recommendation Submittal site: AFREP - Home (dps.mil) The minimum data consists of a roll up AFREP repair total cost and will include:

11.36.10.1.3.6.1. Time expended coordinating PM approval for AFREP repair authorization. **(T-2)**

11.36.10.1.3.6.2. Man-hours to complete repair "labor hours". **(T-2)**

11.36.10.1.3.6.3. Nomenclature/Stock Number of part being repaired. **(T-2)**

11.36.10.1.3.6.4. Total cost of item if sourced from the supply chain. **(T-2)**

11.36.10.1.3.6.5. Total cost of tangible resources expended to complete AFREP repair (such as, wiring/consumables). **(T-2)**

11.36.10.1.3.7. Assist technicians by interfacing with engineering, Equipment Specialists (ES), QA, Air Force Engineering Technical Services, and other field-level agencies. **(T-2)**

11.36.10.1.3.8. Accumulate and forward data requested by MAJCOMs concerning AFREP. **(T-2)**

11.36.10.1.3.9. Provides repair authorizations to the MXG QA PIM IAW DAFI 21- 101.

11.36.10.1.3.10. Ensure individuals assigned AFREP extra duties are trained, qualified and maintains a minimum five-skill level in their AFSC IAW DAFMAN 36-2689.

11.36.10.1.3.11. Submit and monitors DR for deficiencies discovered during a Wing/Unit AFREP initiative, IAW TO 00-35D-54 or equivalent PM approved DR process.

11.36.10.1.3.12. Review daily Awaiting Parts (AWP) and MICAP lists from maintenance activities to determine if the AFREP office can recommend to the appropriate PO, items from those lists. **(T-2)**

11.36.10.1.3.13. Provided quarterly AFREP repair updates to MXG/CC. The repair updates at a minimum will include nomenclature, total cost, and total amount saved for each item. **(T-2)**

11.36.10.1.3.14. Establish collection points within unit supply sections for consumable/expendable items coded with ERRC XB3 to determine reparability of assets prior to permanent disposal.

11.36.10.1.3.15. **(Added-AETC)** DIFM Status Code CTR is reserved for AFREP DIFM items IAW AFH 23-123, Vol 2, Part 1. Assets issued to AFREP are not to exceed 180 days. If DIFM detail exceeds 180 issue days, provide justification to the AETC AFREP manager. **(T-2)**

11.37. Calibration Limitation Approval Certification Program.

11.37.1. General. A limited TMDE calibration could seriously impact mission capability of weapon systems. All units will have a comprehensive training program to ensure authorized personnel can interpret TMDE calibration limitations to the specified requirement of the applicable weapon system. **(T-2)** Personnel will be certified IAW criteria established in **Table 11.1**. **(T-2)** MXG/CCs may designate contractors in writing to authorize calibration limitations.

11.37.2. Responsibilities and Management. The MT or TD will be responsible for management and development of the calibration limitation approval training program. **(T-2)**

11.37.2.1. As a minimum, the course will include when to consider a limited calibration, impact of using improperly calibrated equipment, and how to apply calibration specifications to weapon system requirements. **(T-2)**

11.37.2.2. Prior to placement on the SCR, the calibration limitation approval training (MT or TD course) will be mandatory. **(T-2)**

11.37.3. - 11.37.3.2. DELETED.

11.37.4. Certification Criteria. Certifying officials will be selected IAW criteria established in **Table 11.1**. **(T-2)**

11.38. Oil Analysis Program (OAP).

11.38.1. Program. Oil Analysis is the process of analyzing oil and other fluids used to lubricate or operate mechanical equipment, evaluating the condition of the fluid or the equipment from which the fluid originated, and recommending maintenance actions to the equipment operating activity. An OAP ensures timely and accurate oil analysis support through the strategic location of oil analysis laboratories and the standardization of procedures, data elements, analytical instrumentation, and diagnostic techniques. The Joint Oil Analysis Program (JOAP) is a combined effort of the Army, Navy and AF to set-up and maintain a standard program. Oil analysis requires a centrally managed program and the integration of AF OAP and JOAP plans.

11.38.2. Objectives. The overall objective of the AF OAP is to detect oil-wetted air and space equipment failures before serious malfunction or secondary damage occurs. The specific objectives of the AF OAP and JOAP programs are as follows:

11.38.2.1. Improve the operational safety, readiness, and economy of military equipment through the use of on-board and off-board oil analysis, a condition-monitoring concept that relies on the detection and measurement of wear-metals in the fluid.

11.38.2.2. Collect and analyze oil analysis data in order to increase the effectiveness of oil analysis techniques in the diagnosis of potential equipment failures and lubricant condition; to provide wear metal and lubricant physical property data to the various weapons system managers and others, as required.

11.38.2.3. Ensure oil analysis plans and operations are integrated (where practical) to provide:

11.38.2.3.1. Standard laboratory techniques, procedures, data, calibration standards, and analytical instruments.

11.38.2.3.2. Inter-service oil analysis support to all military departments.

11.38.2.3.3. The most cost–effective means of determining the condition of lubricants, fluids, and mechanical system through the use of various analytical techniques.

11.38.3. Guidance. The OAP helps aircraft technicians and supervisors to make informed, condition-based, preventive maintenance decisions, and can reduce equipment costs, increase equipment availability, and reduce in-flight risk. This is primarily achieved by monitoring the concentration of wear metals in fluids used to lubricate or power mechanical systems.

11.38.3.1. To monitor engine health, the OAP uses a variety of testing mechanisms. These include:

11.38.3.1.1. Atomic Emission spectrometric wear metal analysis.

11.38.3.1.2. Magnetic Chip Detectors/Magnetic Chip Detectors with on-board sensors.

11.38.3.1.3. Scanning Electron Microscope/Energy Dispersive X-ray system technology.

11.38.3.2. To the extent deemed cost effective, EOT will be used as the standard time interval between oil analysis sampling when in-service engines are equipped with an Engine Monitoring System or other operating time recorders.

11.38.3.2.1. For engines without Engine Monitoring System or other operating time recorders, oil analysis trending intervals will be standardized based upon Engine Flying Hours.

11.38.3.3. Analyze oil samples from transient aircraft IAW applicable technical data and owning activity requirements.

11.38.3.3.1. For transient aircraft with an EMS, at bases without the capability to download EOT data, Engine Flight Hours will be used to continue oil analysis trending.

11.38.3.4. Responsible activities must ensure the resultant data is accurate and given promptly to all customers so they can effectively monitor the condition of their equipment.

11.38.3.4.1. AF OAP laboratories will evaluate response times to optimize support of the customer. **(T-2)** Evaluation frequency is established by MAJCOM supplemental guidance.

11.38.3.5. Laboratory operation.

11.38.3.5.1. Each OAP laboratory must be certified IAW TOs 33-1-37-1/-2.

11.38.3.5.2. Seek to maximize inter-service use of existing laboratories through laboratory consolidation, workload sharing, and use of standardized instrumentation, techniques, and procedures. **(T-2)**

11.38.3.5.3. AF OAP laboratories must provide oil analysis services at no charge for all US Government, North Atlantic Treaty Organization (NATO) and friendly Foreign Military Sales aircraft. These services include analyzing oil samples from transient aircraft IAW applicable technical data within the AF OAP laboratory capabilities. **(T-2)**

11.38.4. Roles and Responsibilities

11.38.4.1. AF/A4L is the chief Air Staff agency with policy responsibility for the maintenance of air and space equipment.

11.38.4.1.1. Guidance. Prepares, publishes, and reviews AF-level policy and guidance for the AF OAP.

11.38.4.1.1.1. Coordinates with MAJCOMs to review and resolve guidance-related issues.

11.38.4.1.2. Management. Designates a POC for AF OAP. The representative will manage this publication while closely coordinating with functional experts.

11.38.4.1.2.1. Works with AF representative to the JOAP-Coordinating Group (CG) on policy issues.

11.38.4.2. Major Command. Each MAJCOM establishes a headquarters POC for complying with MAJCOM OAP responsibilities.

11.38.4.2. **(AETC)** AETC OAP POC is 19 AF/A4MS.

11.38.4.2.1. Establishes or relocates OAP laboratories to support MAJCOM mission. Coordinates establishment or relocation with the AF OAP Manager.

11.38.4.2.2. Ensures quality deficiency reports are submitted to the unit Product Improvement Manager IAW TO 00-35D-54. DRs must be submitted to engine program offices on all equipment requiring tear down or overhaul due to an OAP laboratory maintenance recommendation and on all oil-wetted component failures where no OAP laboratory maintenance recommendation was made.

11.38.4.2.3. Ensures laboratories provide the depot a computer-generated printout/record, for each engine undergoing scheduled maintenance or overhaul.

11.38.4.2.4. Ensures laboratories process and evaluate samples IAW TO 33-1-371/- 2.

11.38.4.2.5. Ensures proper training of AF OAP laboratory technicians. This includes identifying training requirements to the AETC.

11.38.4.2.6. Ensures assigned shop instrumentation and equipment is not modified or used for non-OAP applications without AF OAP Office approval.

11.38.4.2.7. Provides guidance necessary to execute the AF OAP and ensures all subordinate organizations understand and properly execute AF OAP and JOAP responsibilities. MAJCOMs/ANG may provide additional guidance in their supplements or addendums to this DAFI as required.

11.38.4.2.8. Ensures AF OAP and JOAP requirements are included in planning, programming, and budgeting process. This includes providing needed funds, personnel, facilities, and other resources to maintain an effective program.

11.38.4.2.9. Supports equipment evaluations and field surveys for the AF OAP Office.

11.38.4.3. Air Force Materiel Command (AFMC). AFMC is the lead MAJCOM for the AF OAP and AF participation in the JOAP. AFMC is also responsible for oil analysis Research, Development, Test and Evaluation (RDT&E). The Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration (AFMC/A4/10) is the

headquarters office of primary responsibility for AF OAP guidance coordination and implementation within AFMC.

11.38.4.3.1. Propulsion Directorate.

11.38.4.3.1.1. Sustainment Chief Engineer represents the AF on the JOAP-Executive Committee.

11.38.4.3.1.1.1. Establishes, funds, staffs, and directs the AF OAP Office.

11.38.4.3.1.2. The Development Program Manager ensures specification guidance for oil analysis sampling provisions or other appropriate measures to detect oil-wetted failures, where applicable, are included during the design phase.

11.38.4.3.1.3. AF OAP Office, AFLCMC/LP. The AF OAP Office manages the AF OAP, and in coordination with the MAJCOMs and propulsion community, leads AF participation in the JOAP.

11.38.4.3.1.3.1. Certifies/decertifies AF OAP laboratories for participation in the JOAP.

11.38.4.3.1.3.2. Maintains a list of AF OAP laboratories, equipment, and customers.

11.38.4.3.1.3.3. Assists MAJCOM/Center managers in program execution. This includes recommending the establishment, location, and relocation of AF OAP laboratories.

11.38.4.3.1.3.3.1. Communicates AF OAP objectives, policies and procedures to the Director of Propulsion, Engine OAP Managers, equipment specialists and program managers.

11.38.4.3.1.3.3.2. Evaluates the need for and performs special studies, as requested by the MAJCOMs or depots.

11.38.4.3.1.3.3.3. The AF OAP Office should periodically conduct laboratory assistance/assessments to determine adequacy and effectiveness of the AF OAP. Identifies problems and recommends solutions.

11.38.4.3.1.3.4. Establishes and manages a data system, meeting tri-service requirements, to evaluate AF OAP participation and effectiveness and to provide engine program offices with historical data on oil sample analysis results.

11.38.4.3.1.3.5. Coordinates and consolidates AF/MAJCOM requirements with Army/Navy to ensure, where practical, the procurement of common OAP equipment.

11.38.4.3.1.3.6. Represents the AF on the JOAP-CG.

11.38.4.3.1.3.7. Develops a comprehensive OAP laboratory certification and quality control program.

11.38.4.3.1.3.8. Maintains and provides AF inputs to TOs 33-1-37-1/-2/-3/-4, *JOAP Manual*.

11.38.4.3.1.3.9. Reviews and evaluates the JOAP school curriculum.

11.38.4.3.1.3.10. Assists the Engine OAP Manager and serves as an advisor for the engine Maintenance Planning Working Group (MPWG) for OAP issues.

11.38.4.3.2. Director of Propulsion (DOP). The DOP AFLCMC/LP in conjunction with Engine Single Managers at AFLCMC/LPS, AFLCMC/LPA and the AF OAP Office assess existing/potential oil analysis technologies. The DOP also ensures wear metal debris and oil analysis is an integral part of the Engine Health Management Program. The DOP appoints Engine OAP Managers for each AF managed engines.

11.38.4.3.2.1. Engine OAP Managers. The Engine OAP Manager is the engineer in charge of a particular engine and is solely responsible for the OAP related issues on that particular engine.

11.38.4.3.2.1.1. Serves as the focal point for the engine MPWG for OAP issues, provides the guidance necessary to accomplish engine-specific oil analysis.

11.38.4.3.2.1.2. Ensures expeditious handling of equipment returned for tear down or overhaul because of an OAP laboratory maintenance recommendation or where oil analysis results indicated a potential problem.

11.38.4.3.2.1.3. Provides guidance necessary to accomplish engine specific oil analysis. Provides updates for TOs 33-1-37-1/-2/-3/-4 to the OAP Office.

11.38.4.3.2.1.4. Provides accurate and timely feedback to the MPWG and field units on OAP-monitored equipment. This includes maintenance findings on equipment in for tear down or overhaul as a result of an OAP laboratory maintenance recommendation. It also includes failure reports and related wear metal and oil analysis data on oil-wetted components where no OAP laboratory maintenance recommendation was made.

11.38.4.3.2.1.5. Works with the MPWG to establish and maintain wear metal limits, diagnostic criteria, and other oil analysis parameters. This is based on a review of data from equipment tear-down and overhaul findings.

11.38.4.3.2.1.6. Maintains metrics on hits, misses, and escapes. Once oil analysis data is included in the Engine Health Management AF Enterprise Center with software capability to perform metric monitoring, the AF OAP will concurrently monitor metrics with the Engine OAP managers.

11.38.4.3.2.1.7. Works with the MPWG, MAJCOM customers and the AF OAP Office to establish engine-specific technical and performance requirements for all wear metal debris and oil analysis equipment.

11.38.4.3.2.1.8. Utilizes the Component Improvement Program as needed to evaluate the cost effectiveness of existing and potential wear metal debris and oil analysis applications, establish test programs, and implement the most cost-effective method(s).

11.38.4.3.2.1.9. Sends updates of specific oil sampling intervals and wear metal limits (evaluate for new engines during the design phase; reconsider for

existing engines when oil-wetted parts undergo any materiel or strength changes) to the MPWG.

11.38.4.3.3. SE and Vehicles Division (AFLCMC/WNZ) procures oil analysis equipment at the request of the AF OAP Office.

11.38.4.3.3.1. Maintains a contract for procurement of JOAP AE spectrometers used by the Army, Navy, and AF laboratories.

11.38.4.3.3.2. Provides technical order provisioning and support.

11.38.4.3.3.3. Establishes inter-service logistics support. This includes spare parts support, instrument repair and overhaul, procurement of common JOAP laboratory equipment and supplies, item management and equipment specialist activities, and funding status of existing contracts.

11.38.4.3.4. Air Force Research Laboratory. The Air Force Research Laboratory accomplishes RDT&E to improve wear metal and oil analysis instruments, materials, and techniques. **(T-2)**

11.38.4.3.4.1. Supports the AF OAP charter to conduct test and evaluation for the oil analysis programs, including the JOAP and the AF OAP, as applicable. **(T-2)**

11.38.4.3.4.2. Coordinates RDT&E activities with the MAJCOMs, DOP, and AF OAP Office as applicable. **(T-2)**

11.38.4.4. AETC. Provides initial oil analysis training for AFSC 2A7X2 through the Nondestructive Inspection course. The AF OAP Management Office and MAJCOMs may request additional training, as required.

11.38.4.4.1. Coordinates course materiel changes with the AF OAP Office and the MAJCOM POCs.

11.38.4.5. **(Added-AETC)** MXG/CC Responsibilities.

11.38.4.5.1. **(Added-AETC)** Appoint a Wing OAP Manager and alternate. **(T-2)**

11.38.4.5.2. **(Added-AETC)** Ensure the NDI/OAP facility is on a priority repair list with base Civil Engineer. **(T-2)**

11.38.4.5.3. **(Added-AETC)** Ensure the base Civil Engineer maintains an alternate power source of sufficient capacity at the OAP Lab to ensure continued operations during power outages. **(T-2)**

11.38.4.5.4. **(Added-AETC)** Ensure the NDI/OAP facility has a Class A telephone and connection to expedite reporting of abnormal wear-metal trends to the MOC. **(T-2)**

11.38.4.6. **(Added-AETC)** Wing OAP Manager Responsibilities.

11.38.4.6.1. **(Added-AETC)** Manage the OAP IAW TO 33-1-37-1/2/3.

11.38.4.6.2. **(Added-AETC)** Develop procedures to establish policy and requirements for the wing OAP. Include a standardized method to ensure the total oil serviced since last OAP sample can be tracked and accurately entered on the DD Form 2026, *Oil Analysis Request*. **(T-2)**

11.38.4.6.3. **(Added-AETC)** Ensure all organizations requiring OAP support appoint an OAP Manager and alternate using an appointment letter. **(T-2)**

11.38.4.6.4. **(Added-AETC)** Provide consolidated quarterly OAP data report to the MXG/CC, the squadron Maintenance Supervision, Propulsion Flight Chief, all organization OAP Managers, and the NDI Section Chief. **(T-2)** As a minimum, the following information will be included in the quarterly report:

11.38.4.6.4.1. **(Added-AETC)** Number of OAP samples processed. **(T-2)**

11.38.4.6.4.2. **(Added-AETC)** Number and percentage of DD Form 2026 errors. **(T-2) Note:** Count each DD Form 2026 containing errors as one error, then divide the number of discrepant DD Form 2026s by the total number of OAP samples processed for the error percentage.

11.38.4.6.4.3. **(Added-AETC)** Number of OAP laboratory maintenance recommendations. **(T-2)**

11.38.4.6.4.4. **(Added-AETC)** Average OAP sample response time. **(T-2) Note:** Enter sample response time to the nearest tenth of an hour and do not include the time when the OAP lab is not manned.

11.38.4.6.4.5. **(Added-AETC)** Number and percentage of OAP samples exceeding required sample response times. Obtain the percentage by dividing the number of OAP samples exceeding required sample response time by the total OAP samples processed. **(T-2)**

11.38.4.6.4.6. **(Added-AETC)** Number and percentage of aircraft engines not sampled as required by applicable technical order. Accomplish this by dividing the number of aircraft engines not sampled as required by the total OAP samples processed. **(T-2)**

11.38.4.6.4.7. **(Added-AETC)** Number of OAP lab maintenance recommendations confirmed by physical finding of abnormal wear or potential for catastrophic failure "hits". **(T-2)**

11.38.4.6.4.8. **(Added-AETC)** For SEM/EDX equipped bases: Number of Magnetic Chip Detector (MCD) analyzed. **(T-2)**

11.38.4.6.4.9. **(Added-AETC)** For SEM/EDX equipped bases: Number and percentage of Level 1, 2 and 3 warnings by material type. **(T-2)**

11.38.4.6.4.10. **(Added-AETC)** For SEM/EDX equipped bases: Number of unserviceable MCDs found. **(T-2)**

11.38.4.6.4.11. **(Added-AETC)** For SEM/EDX equipped bases: Number and percentage of DD Form 2026 errors. **(T-2) Note:** Count each DD Form 2026 containing errors as one error, and then divide the number of discrepant DD Form 2026s by the total number of MCDs analyzed for the error percentage.

11.38.4.6.4.12. **(Added-AETC)** For SEM/EDX equipped bases: Average SEM/EDX analysis response time. **(T-2) Note:** This is the time from when the MCD is pulled to the time results are reported to the MOC. Enter the response time to the nearest tenth of an hour and do not include the time when the OAP lab is not

manned.

11.38.4.6.4.13. **(Added-AETC)** For SEM/EDX equipped bases: Number and percentage of MCDs exceeding required delivery time. Obtain the percentage by dividing the number of MCDs exceeding required delivery time by the total number of MCDs processed. **(T-2)**

11.38.4.7. **(Added-AETC)** Maintenance Supervision Responsibilities.

11.38.4.7.1. **(Added-AETC)** Ensure OAP samples are delivered to the OAP lab with a DD Form 2026 filled out IAW TO 33-1-37-1. **(T-2)**

11.38.4.7.2. **(Added-AETC)** In the DD Form 2026 "hours/miles since overhaul" block, for engines with engine management system (EMS) use engine operating time unless the specific technical order directs otherwise (e.g. F110 engine use EMS in-flight time). Reconcile NDI/OAP lab and aircraft records using downloaded EMS data accordingly. For engines without EMS, use engine flying hours. **(T-2)**

11.38.4.7.3. **(Added-AETC)** Ensure flight line personnel verify with the OAP lab the information entered in the Oil Analysis Record matches during scheduled aircraft records checks. Verify, as a minimum, engine position, engine hours, time since oil change, oil serviced since last records check/OAP sample, engine serial number(s) and aircraft serial number. **(T-2) Note:** MXG/CC or equivalent may waive verification of OAP records against aircraft records when aircraft are deployed and the scheduled aircraft records check is due.

11.38.4.7.4. **(Added-AETC)** Identify AMU OAP Managers and alternates by appointment letter. Forward a copy to the Wing OAP Manager and the OAP laboratory. The appointment letter will include grade, name, duty phone, AFSC, organization and office symbol. OAP manager will be a NCO and will serve as the primary liaison between their AMU and the OAP lab for all OAP issues. Ensures assigned OAP Managers or alternates attend all OAP meetings involving their AMU. **(T-2)**

11.38.4.7.5. **(Added-AETC)** Ensure all aircraft engines under special OAP codes IAW TO 33-1-37 volumes, are not flown until results of the OAP sample(s) are known. Ensure no aircraft engines are operated until the following DD Form 2026 discrepancies are corrected and verified with the OAP lab: equipment and/or end item serial number error, hours (EOT or EFH) since overhaul error, oil change error and oil added since last sample error. **(T-2)** These items are essential to oil analysis trending and require removal of the engine from service until the discrepancy is corrected.

11.38.4.7.6. **(Added-AETC)** Ensure DD Form 2026 with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error are corrected immediately. **(T-2)**

11.38.4.7.7. **(Added-AETC)** Ensure all maintenance actions affecting oil-wetted engine components are provided to the OAP lab using the remarks section of the DD Form 2026 or a suitable local form. **(T-2)**

11.38.4.8. **(Added-AETC)** Propulsion Flight Chief Responsibilities. **Note:** When no Propulsion Flight exists or the propulsion flight performs no maintenance on the affected

oil-wetted system, the MXG/CC or designated representative or equivalent assumes these responsibilities. **(T-2)**

11.38.4.8.1. **(Added-AETC)** Ensure accurate and timely deficiency reports are submitted through the unit PIM to the applicable ALC engine program offices on all engines requiring tear down or overhaul due to an OAP laboratory maintenance recommendation and all oil-wetted component failures. **(T-2)**

11.38.4.8.2. **(Added-AETC)** Ensure a copy of the Oil Analysis Record is provided to the applicable repair facility for each engine undergoing scheduled maintenance or overhaul. **(T-2)**

11.38.4.8.3. **(Added-AETC)** Make the final decision regarding all OAP engine maintenance action recommendations. **(T-2)**

11.38.4.8.4. **(Added-AETC)** Ensure all propulsion flight maintenance actions which affect oil-wetted engine components are provided to the OAP lab. This will be done by using the remarks section of the DD Form 2026 submitted with the OAP sample. **(T-2)**

11.38.4.8.5. **(Added-AETC)** Appoint OAP Managers and provides the names by appointment letter to the Wing OAP Manager and the OAP lab. Include grade, name, duty phone, organization, AFSC and office symbol. **(T-2)**

11.38.4.8.6. **(Added-AETC)** Ensure assigned OAP Managers or alternates attend all OAP meetings. **(T-2)**

11.38.4.9. **(Added-AETC)** MOC Responsibilities.

11.38.4.9.1. **(Added-AETC)** Maintain an OAP status on each assigned aircraft showing all lab recommendation codes next to the aircraft serial number. Prior to commencing the flying day, verify status of aircraft or engines on special surveillance. **(T-2)**

11.38.4.9.2. **(Added-AETC)** The MOC will notify the owning section and the production superintendent of requests for grounding red cap samples.

11.38.4.9.3. **(Added-AETC)** Relay to the OAP lab information regarding engine changes on- and off station as they occur but no later than 0800 the next duty day. **(T-2)**

11.38.4.9.4. **(Added-AETC)** Notify the OAP lab when the cross country/deployed aircraft return. **(T-2)**

11.38.4.9.5. **(Added-AETC)** Initiate follow-up action when the oil analysis record from cross country/deployed aircraft is not returned to the OAP lab. **(T-2)**

11.38.4.10. **(Added-AETC)** NDI/OAP lab non-commissioned officer in charge responsibilities:

11.38.4.10.1. **(Added-AETC)** Perform a daily supervisory review. Supervisory review requires a printout be generated and supervisor initials be placed on the printout to indicate acceptance of review of the daily burn listing for every day samples are processed. Also, perform an oil analysis data base backup procedure daily after the supervisory review is accomplished. **(T-2)**

11.38.4.10.2. **(Added-AETC)** Notify 19 AF/A4MS and AF OAP Office in case of OAP work stoppage or equipment failure by the next duty day after the condition is discovered. Advise whether the backup support plan must be implemented. After exhausting local maintenance capabilities, AETC laboratories will contact the spectrometer manufacturer for additional telephonic troubleshooting assistance. If the problem still cannot be resolved, laboratories must contact the Aircraft Sustainment Group, (639 ACSG/PE), 4750 Staff Drive, Tinker AFB OK 73145-3317, for contractor onsite support according to TO 33-1-37-2, Joint Oil Analysis Program Manual Volume 2. Inform 19 AF/A4MS when support is requested.

11.38.4.10.3. **(Added-AETC)** Ensure the scheduled aircraft records check is documented on the affected engine's oil analysis record with the date the check was accomplished and OAP lab person’s initials. **(T-2)**

11.38.4.10.4. **(Added-AETC)** Ensure a copy of the Oil Analysis Record or a suitable automated form is provided to the propulsion flight for each engine undergoing scheduled maintenance or overhaul at depot, JEIM or CRF. **(T-2)**

11.38.4.10.5. **(Added-AETC)** Ensure analysis results on all installed engines are provided to MOC after analysis of the OAP sample is complete. **(T-2)**

11.38.4.10.6. **(Added-AETC)** Following analysis of a requested red cap sample, ensure NDI immediately notifies the MOC who will notify the Production Superintendent, the owning section and the propulsion OAP monitor of the findings. NDI will provide recommendations based on the analysis and will notify the engine management function when an engine has been put on and/or removed from restricted flight.

11.38.4.10.7. **(Added-AETC)** Immediately notify test cell and the propulsion flight chief when abnormal OAP results are discovered on test cell engines. **(T-2)**

11.38.4.10.8. **(Added-AETC)** Ensure any DD Form 2026 with equipment and/or end item serial number error, hours since overhaul error(s) or oil added since last sample error(s) are corrected immediately. **(T-2)**

11.38.4.10.9. **(Added-AETC)** Inform the MOC upon receipt of any DD Form 2026 errors. Identify the specific discrepancy and request an immediate response. Establish local procedures to ensure all other OAP data errors are corrected in a timely manner. **(T-2)**

11.38.4.10.10. **(Added-AETC)** Track aircraft OAP sample response times for all assigned aircraft to ensure response time compliance. **(T-2)**

11.38.4.10.11. **(Added-AETC)** Maintain a current appointment letter of all customer OAP managers. **(T-2)**

11.38.5. Reporting and Measurement. All MAJCOMs and laboratories must collect and report metrics to the AF OAP Manager IAW TOs 33-1-37-1/-2/-3/-4.

11.38.5. **(AETC)** OAP Sample Response Time Requirements for Routine OAP Samples. **Note:** The OAP sample response time begins at the time the OAP sample is taken and ends at the time the oil analysis results are reported to the MOC. **(T-2)**

11.38.5.1. All laboratories must collect, and report hits, misses, and escapes as a minimum. **(T-2)**

11.38.5.1. **(AETC)** 2 1/2 hours for one and two engine aircraft. Deliver the sample to the OAP lab within 75 minutes of engine shutdown. MXG/CC may adjust the 2 1/2-hour rule as needed to accommodate flying windows. When the OAP lab is not manned, they shall provide results to the MOC NLT 2 hours after the beginning of the next shift. **Note:** OAP response time does not apply to aircraft geographically separated from the supporting OAP lab; however, aircraft will not fly beyond the applicable -6 TO sampling interval. **(T-2)**

11.38.5.2. **(Added-AETC)** 5 hours for all other aircraft. When the OAP Lab is not manned, they shall provide results to the MOC NLT 2 hours after the beginning of the next shift. **Note:** OAP response time does not apply to aircraft geographically separated from the supporting OAP lab; however, aircraft will not fly beyond the applicable -6 TO sampling interval. **(T-2)**

11.38.5.3. **(Added-AETC)** 4 hours for engine ground/trim and test cell runs. **(T-2)**

11.38.5.4. **(Added-AETC)** Immediately processes/analyzes special "Red Cap" samples after drawing the sample. The OAP lab will assign priority to "Red Caps" over routine samples and expedite results to MOC. **(T-2)**

11.38.6. **(Added-AETC)** OAP Requirements For Transfers/Cross-Country Flights/Deployments.

11.38.6.1. **(Added-AETC)** Ensure an electronic and printed copy of the OAP record is provided to the gaining unit/function during aircraft transfers. Ensure copies of the oil analysis history accompany each engine record. (This includes engines going to dedicated supporting maintenance facilities.) The losing laboratory will maintain all engine data until the gaining laboratory acknowledges receipt. The gaining laboratory supervisor will notify the losing laboratory supervisor on receipt of the engine oil analysis history. **(T-2)**

11.38.6.2. **(Added-AETC)** Flight line personnel place an Oil Analysis Record in the aircraft AFTO Form 781-series forms jacket prior to departure. **(T-2)**

11.38.6.3. **(Added-AETC)** The OAP lab personnel ensure the oil analysis record contains at least the last 10 analyzed results. The flight line expediter or pro super notifies the OAP lab in advance for cross-country documents. **(T-2)**

11.38.6.4. **(Added-AETC)** Flight line personnel sign for the oil analysis record at the OAP lab and return it to the lab the day the aircraft returns to home station. **(T-2)**

11.38.6.5. **(Added-AETC)** The OAP lab notifies MOC if the oil analysis record is not returned. **(T-2)**

11.38.6.6. **(Added-AETC)** The OAP lab reviews the returned oil analysis record for adverse trends and takes necessary action. **(T-2)**

11.38.6.7. **(Added-AETC)** AMUs will follow the maintenance procedures in this supplement at the deployment sites. **(T-2)**

11.38.6.8. **(Added-AETC)** Deployed OAP personnel shall have telephone or radio communication with MOC and the AMU to expedite reporting of abnormal OAP trends. **(T-2)**

11.38.7. **(Added-AETC)** OAP Requirements for Transient Aircraft. **(T-2)**

11.38.7.1. **(Added-AETC)** Transient maintenance personnel sample aircraft as required by this section and applicable -6 technical order. **(T-2)**

11.38.7.2. **(Added-AETC)** Transient maintenance personnel draw the OAP sample and make a Red Dash entry on the AFTO Form 781A indicating, "Engine oil analysis results due". **(T-2)**

11.38.7.3. **(Added-AETC)** When OAP capability exists at a transient location and an OAP sample is required, the OAP sample results will be known prior to aircraft departure. **(T-2)**

11.38.7.4. **(Added-AETC)** Transient bases without OAP capability shall take required OAP samples and ensure samples are given to aircrew for processing at next base. **(T-2)**

11.38.7.5. **(Added-AETC)** If OAP sample results are not provided before aircraft departure, the results shall be forwarded via FAX, e-mail or most expeditious manner by the local MOC or transient maintenance to the aircraft's next destination (either MOC, TA, or base operations). **(T-2)**

11.39. Air Force Engineering and Technical Services (AFETS).

11.39.1. General. The AF must maintain its weapons systems and equipment to meet worldwide mission requirements and operational needs at a reasonable cost. To accomplish this, units need the capability to quickly resolve complex or unusual technical problems and provide enhanced system-specific technical training to AF technicians, contractors, and operators. Engineering and Technical Services (ETS) provides this expeditionary resource and is prepared to deploy AFETS and CETS as needed.

11.39.1.1. AFETS personnel are the primary source of Engineering and Technical Services support in the AF. AFETS field engineers are Emergency Essential DoD civilian employees, highly experienced and thoroughly trained technical specialists.

11.39.1.2. CETS can be an important element in developing an independent AF capability on new systems; however, units must develop their own organic capability and/or request AFETS support. **(T-2)** Organizations should normally terminate CETS within 12 months after obtaining self-sufficiency.

11.39.2. AFETS are DoD civilians who provide advantages of long-term continuity and decreased retraining costs provided by a civilian work force. AFETS field technicians will be used and retrained as necessary to meet technical needs and changing mission requirements. **(T-2)**

11.39.2.1. AFETS can design special test equipment, develop special maintenance procedures, develop, and conduct technical training for unit maintainers and operators, and recommend changes to maintenance processes.

11.39.2.2. AFETS also serve as the unit technical liaison and work with MAJCOM functional managers, depot technicians, engineers, item managers, and equipment manufacturers to resolve complex equipment problems.

11.39.2.3. AFETS will certify tasks IAW AFI 36-2650 and DAFMAN 36-2689 in USAF personnel training records when training is provided to the go/no-go level. **(T-2)**

11.39.3. AFETS personnel should be functionally aligned under the local ETS OPR (typically the MXG/CC or equivalent commander) and reside within the assigned organizations maintenance complex.

11.39.3.1. AFETS will not be authorized to overcome manning shortfalls or to perform duties considered organic to the unit's manning. **(T-2)**

11.39.3.2. When AFETS and contracted engineering support (example, CETS, Field Service Engineer or FSR) are assigned to a unit every effort will be made to co-locate these resources to maximize effectiveness of technical support within the organization. **(T-2)**

11.39.4. The AF may utilize CETS to provide on-site proficiency training, technical advice, and technical assistance for initial system bed-down or major modifications when AFETS are unavailable. Units desiring services of strategically assigned CETS will direct their requests to their MAJCOM OPR. **(T-2)**

11.39.4.1. When CETS and AFETS are assigned to the same unit, CETS will support and train AFETS personnel as required. **(T-2)**

11.39.4.2. CETS will certify tasks IAW DAFMAN 36-2689, and AFI 36-2650, in USAF personnel training records when training is provided to the go/no-go level. **(T-2)**

11.39.5. Exclusions. ETS covered in this DAFI excludes:

11.39.5.1. Engineering review and resolution of service-revealed deficiencies reported through normal maintenance information systems.

11.39.5.2. Materiel DR covered in TO 00-35D-54.

11.39.5.3. The engineering determination of materiel integrity.

11.39.5.4. The engineering or technical services used in 61-series instructions.

11.39.6. Limits: CETS are restricted to the duties and responsibilities outlined in this DAFI and specific tasks listed in the Task Work Specification. MAJCOM OPRs (with approval by the applicable MAJCOM Directorate) may grant exceptions to these limits only on a case-by-case basis based on mission need. Do not use CETS to avoid manpower ceilings or other personnel rules and regulations.

11.39.6.1. CETS will not:

11.39.6.1.1. Perform non-ETS duties or normal unit duties. **(T-3)**

11.39.6.1.2. Make policy or represent the using activity at meetings or conferences. **(T-3)**

11.39.6.1.3. Supervise or control AF personnel or personnel of other contractors. **(T-3)**

11.39.6.1.4. Hold engineering decision-making positions. **(T-3)**

11.39.6.1.5. Perform direct maintenance except in emergency situations. **(T-3)**

11.39.7. MAJCOM Responsibilities. MAJCOMs will:

11.39.7.1. Supplement this document as necessary to ensure standardization among subordinate units.

11.39.7.2. Designate a Lead ETS Program Office in a single MAJCOM to administer the activities of the member MAJCOMs merged by MOA/MOU.

11.39.7.3. Designate an ETS OPR in the appropriate Headquarters Directorate or Field Operating Unit (FOA) to serve as the MAJCOM ETS OPR for member MAJCOMs merged by MOA/MOU.

11.39.7.3. **(AETC)** AETC ETS OPR is 19 AF/A4P.

11.39.7.4. Ensure all applicable requirements of this DAFI are met by units authorized to decentralize management of their ETS programs to the using activities.

11.39.7.5. Program and defend MAJCOM ETS funds and manpower requirements over the Future Years Defense Program (FYDP) consistent with AF mission requirements.

11.39.7.6. Budget and fund AFETS PCS, TDY, and Developmental Training costs to support their MAJCOM requirements and submit Program Objective Memorandum (POM) for all ETS requirements.

11.39.7.7. Identify and ensure mobility statements are in AFETS Standard Core Personnel Document and designate positions as Emergency-Essential. Refer to DAFI 36-153, *Civilian Mobility*.

11.39.7.8. Ensure general personnel management records are maintained at the unit of assignment on all ETS personnel to assure proper management and administration of ETS resources.

11.39.7.9. Ensure training for AFETS receive proper priority in AF training plans.

11.39.7.10. Redistribute ETS resources between major activities when mission changes dictate such realignment. All redistribution efforts will be coordinated with losing and gaining organizations.

11.39.7.11. Provide government property support to CETS IAW Federal Acquisition Regulation (FAR), Subpart 45.3, Authorizing the Use and Rental of Government Property.

11.39.7.12. Coordinate CETS contract questions with the AFLCMC/Enterprise Acquisition Division (PZIEB) who performs all central acquisition contracting functions for CETS.

11.39.8. Lead ETS Program Office/Decentralized Management Activities Responsibilities (as applicable). Lead ETS Program Office/Decentralized Management Activities will:

11.39.8.1. Develop Task Work Specification and initiate procurement packages for each approved CETS requirement using appropriate Advisory & Assistance Service policies and procedures IAW FAR Subpart 37.2, *Advisory and Assistance Services*.

11.39.8.2. Oversee Contract Officer Representative (COR) activities.

11.39.8.3. Establish procedures to notify subordinate activities of CETS termination.

11.39.8.4. Develop and utilize assessment criteria to effectively manage, administer, and control ETS activities.

11.39.8.5. Conduct annual assessments of ETS Team performance at each field unit.

11.39.8.6. Validate manpower requirements at least every 24 months. Validation should be accomplished with inputs and recommendations from unit leadership and MAJCOM ETS OPR.

11.39.8.7. Realign AFETS manpower as needed when the mission, system, or equipment changes dictate.

11.39.8.8. Coordinate AFETS placement and Standard Core Personnel Documents with manpower and civilian personnel offices.

11.39.8.9. Maintain the knowledge, training abilities and skills of the AFETS workforce.

11.39.8.10. Update/train AFETS on new weapon systems, equipment conversions and major system modifications.

11.39.8.11. Coordinate with weapon system and equipment managers to program AETC Type I Training and other types of training for AFETS on a priority basis for current and new systems.

11.39.8.12. Provide AFETS instructor training.

11.39.8.13. Verify need for CETS personnel security clearances and take action to maintain access at the minimum level required IAW DoDMAN5200.02_AFMAN 16-1405, *Air Force Personnel Security Program*.

11.39.8.14. Include Personnel Reliability Program guidance in the Task Work Specification of contractors whose duties involve nuclear weapons.

11.39.8.15. Consolidate subordinate units' requirements and establish a validation process through the MAJCOM, FOA, or Direct Reporting Unit (DRU) ETS OPR (as applicable).

11.39.8.16. Establish, maintain, and manage MAJCOM ETS TDY and training budget to include planning and execution of funds.

11.39.9. Using Activity will:

11.39.9.1. Employ ETS resources effectively and efficiently to enhance mission capability IAW AF and MAJCOM guidance. **(T-2)**

11.39.9.2. Provide specific direction and guidance on maintenance activities requiring focused AFETS attention and/or technical support. **(T-2)**

11.39.9.3. Ensure AFETS personnel attend and participate in Group, Squadron, and unit maintenance meetings, as required. **(T-2)**

11.39.9.4. Ensure AFETS personnel are providing desired coverage on all shifts, as required, with a focus on shifts where the significant maintenance and repair activities are ongoing. **(T-3)**

11.39.9.5. Provide local access and oversight of Time and Attendance actions for assigned AFETS personnel.

11.39.9.6. AFETS assigned as tenants will be afforded command/base support by the host commensurate with other assigned DoD civilians to include eligibility for local awards, security clearance processing, annual physicals, passport/visa processing. **(T-2)**

11.39.9.7. Fund AFETS to attend conferences, Technical Interchange Meetings (TIM), and deployments as required. **(T-3)** In addition, fund training requirements to ensure AFETS remain current on assigned and emerging systems. **(T-3)**

11.39.9.8. Provide office supplies, special Information Technology (IT) equipment as necessary to support the unit's mission. **(T-3)**

11.39.9.9. Adhere to AF and ETS TDY/Deployment Policies and regulations. **(T-2)** Units are authorized and encouraged to deploy AFETS to support mission requirements worldwide. AFETS employees must be assigned UTC positions in mobility tasked units on the Deployment Manning Document (DMD) as required. **(T-2)** CETS representatives are typically not deployed but may be deployed on specific approval of the MAJCOM OPR if AFETS personnel are not available, subject to contract provisions and funding availability.

11.39.9.10. UDM/deployment functions/processes are the responsibility of assigned unit for AFETS personnel.

11.39.9.11. Adhere to Adverse Action, Appeal and Grievance Procedures. **(T-2)** Refer to DAFI 36-148, *Discipline and Adverse Actions of Civilian Employees*, issue based 36-Series AFIs, and Negotiated Labor Management (Union) Agreement as applicable, before proceeding.

11.39.9.12. Provide support through the local security manager to process AFETS personnel security periodic reviews and updates.

11.39.9.13. Provide AF Certifying Officer Support. **(T-2)** The using activity OPR will serve as or designate AF Certifying Officers for CETS personnel and provide the name, office symbol, signature, and telephone number of the Air Force Certifying Officer to the Administrative Contracting Officer, with a copy to the MAJCOM OPR, no later than 30 days after the CETS assignment or within five workdays of any AF Certifying Officer change. **(T-2)**

11.39.9.13.1. The CETS contract line items assigned to each certifying officer will be clearly identified in this designation.

11.39.9.13.2. The AF Certifying Officer is responsible for certifying the monthly Certificate of Service. It is recommended that the using activity delegate the AF Certifying Officer responsibilities to the Director of Operations of the squadron primarily using the individual CETS employee’s services.

11.39.9.13.2.1. The designated certifying officer will be a commissioned officer. **(T-2)** When it is impractical to designate a commissioned officer or one is not available, requests for approval to appoint a senior NCO or AF civilian (GS-11 or above) as AF Certifying Officer will be submitted by the using activity OPR in writing to the MAJCOM OPR. Each request will be evaluated on an individual basis.

11.39.10. AFETS Responsibilities. AFETS personnel will:

11.39.10.1. Provide field service engineering, technical advice; and assistance to resolve system anomalies and equipment failures. **(T-2)**

11.39.10.2. Develop and teach specific technical training for maintaining and operating unit equipment and assigned weapons systems. **(T-2)**

11.39.10.3. Investigate equipment failures and mishaps and train personnel to help prevent recurrence. **(T-2)**

11.39.10.4. Develop contacts with contractor, depot, and AFLCMC engineers, technicians, and item managers to resolve maintenance problems, design deficiencies, and supply problems. **(T-2)**

11.39.10.5. Develop special test equipment and maintenance procedures to resolve complex system problems. **(T-2)**

11.39.10.6. Perform emergency maintenance (direct assistance) on equipment when temporary skill or manning shortages prevent accomplishment by other assigned personnel. **(T-2)**

11.39.10.7. Advise the ETS OPR on the best utilization and management of CETS. **(T-2)**

11.39.10.8. Document technical activates and provide stakeholders a written account of maintenance activities by the end of each month. **(T-2)**

11.39.10.9. Maintain mobility readiness and accomplish unit required ancillary training. Training must be kept current. **(T-2)**

11.39.11. CETS Contractor Responsibilities. CETS contractor will:

11.39.11.1. Provide ETS through CETS employees to perform the duties described in the Task Work Specification. **(T-2)**

11.39.11.2. Select, supervise, and exercise sole and autonomous control and direction over CETS employees. **(T-2)**

11.39.11.3. Comply with the administrative and security regulations of the using activities. **(T-2)**

11.39.11.4. Provide copies of the Task Work Specification to CETS employees. **(T-2)**

11.39.11.5. Provide CETS security clearance certification to the unit security office. **(T-2)**

11.40. Senior Leader Mission Generation (SLMG) Course.

11.40.1. The Senior Leader Mission Generation (SLMG) Course was developed in 2013 and focused on wing leadership teaming between maintenance, operations, and logistics support to achieve safe and effective mission generation. SLMG objectives are to 1) comprehend the organizational dynamics and responsibilities of operational, maintenance, logistics support, and medical functions for aircraft mission generation; 2) comprehend the necessary integration and teamwork between operational, maintenance, logistics support, and medical functions for aircraft mission generation.

11.40.2. Only Wing CCs/CVs, Operations Group Commander (OG/CCs), MXG/CCs, Mission Support Group (MSG/CCs), MDG/CCs and their equivalent to be stationed at wings with a flying or nuclear mission are required for attendance. **(T-2) Note:** MAJCOM/CV is the waiver authority for attendance. Officers in Space, Cyber, Intel, Air Base Wings or other "non-traditional" wings are not mandated to attend; however, officers desiring to attend from non-

mandated wings can contact their Senior Leader Management office and be added to the course. Registration for SLMG will be accomplished during registration for Pre-Command Training. **Note:** The SLMG course is a unit funded TDY.

11.41. Condition Based Maintenance Plus (CBM+). CBM+ is the application and integration of appropriate processes, technologies, and knowledge-based capabilities to improve the reliability and maintenance effectiveness of USAF systems and components. CBM+ is maintenance performed based on evidence of need provided by RCM analysis and other enabling processes and technologies. The CBM+ Process has four distinct phases, including Component Selection, Enhanced Reliability Centered Maintenance (eRCM), Sensor-Based Algorithms (SBA), and CBM+ Deployment.

11.41.1. PREDICTIVE MAINTENANCE ALERT LOOP (PMAL). A six-step collaborative process that allows stakeholders to receive and act upon the results of eRCM analyses and/or sensor-based algorithms/modules. PMAL transforms eRCM forecasts and sensor-based algorithm alerts into Mx and supply chain actions and is a critical component in the integration of a successful USAF Predictive Mx culture.

11.41.2. GOVERANCE. A CBM+ Team is assigned per weapon system and includes representatives from AFLCMC/RO, the Program Office, the MAJCOM (including direct CBM+ support, WSMs/WSTs and field unit contacts), AFSC/LZRB, and 420 SCMS. For platforms managing many MOBs, a field representative may also serve as an optional member of the CBM+ Team to provide feedback on the execution of Mx. The CBM+ Team oversees the execution of the PMAL. The CBM+ Team meets on an as-needed basis to discuss the most recently published forecast, the locations of affected aircraft, and the availability of supply to make informed, collaborative decisions and recommendations.

11.41.3. PLAN AND SCHEDULE MAINTENANCE. The PS&D Section will be the focal point for CBM+ management, including ordering parts, ensuring that CBM+ parts desired to be changed are scheduled on the weekly operations and maintenance schedule, and that all documentation is complied with IAW **Chapter 14** of this instruction. Refer to the respective MAJCOM guidance on how and when to schedule maintenance for assigned locations. When supply is limited or aircraft are deployed or preparing for mission deployment, the MAJCOM may prioritize Mx requirements or coordination with applicable supporting organizations.

11.41.3.1. **(Added-AETC)** Access the CBM+ Forecast at: **https://cbmplus.cce.af.mil/**. Units must access the CBM+ Forecast on the 15th of each month (or the next duty day if the 15th falls on a weekend or holiday) in order to forecast the maintenance schedule priority. Communicate any inconsistencies to the WSM. **(T-2) Note:** Individual CBM+ component threshold hours will change over time.

11.41.3.2. **(Added-AETC)** The scheduling priority is based on the CBM+ threshold with the highest priority for aircraft with components over the threshold, followed by the aircraft with components forecasted for removal within the next 30, 60, 90, 120, 150, 180-day intervals.

11.41.3.3. **(Added-AETC)** Each CBM+ component forecasted for removal should be scheduled in conjunction with the closest scheduled maintenance event where the CBM+ maintenance action can take place. Example: Units may determine, through the local scheduling process, that an aircraft with a component forecasted for removal that is within

the 30-day to 180-day threshold is already scheduled down and may elect to complete the CBM+ maintenance action ahead of an aircraft that has a component that is over the threshold. This is a local decision and meets the objective of CBM+ by employing opportunistic maintenance to prevent an anticipated part failure.

11.41.3.3.1. **(Added-AETC)** Consult maintenance tasks SMEs for the typical time duration the maintenance action takes in order to appropriately schedule the task as required.

11.41.3.3.2. **(Added-AETC)** Parts loaded into the MIS that are CBM+ items will be loaded to fully track component history and life usage. Automated History Events (AHE) will be enabled for parts loaded with CBM+ WUCs/LCNs and the Maintenance Type Interval (MTI) will be established as "H" (for hours) based on the end item's operating time.

11.41.3.4. **(Added-AETC)** Units should align the CBM+ forecasted maintenance with other planned/scheduled events and order the part(s) to ensure DIFM items are processed IAW **paragraph 9.18.7.4**.

11.41.3.4.1. **(Added-AETC)** Units are to use project code 063 and urgency justification AU/BU when ordering the CBM+ WUC/LCN part.

11.41.3.4.2. **(Added-AETC)** Units should not pull parts from the MRSP to fill CBM+ parts orders.

11.41.3.5. **(Added-AETC)** Units will utilize profile job standards (JST) for each CBM+ WUC/LCN to standardize maintenance entries.

11.41.4. **(Added-AETC)** Flight Service Centers. FSC will use the LIMS-EV/ACC D23 (CBM+ version) to track CBM+ parts once an order is placed until the part is turned in. **(T-2)** Once LIMS-EV sunsets, this capability will be available in BLADE.

11.41.4.1. **(Added-AETC)** FSC D23 manager will pull the D23 report using the following procedures:

11.41.4.1.1. **(Added-AETC)** Query filter sequence. **(T-2)**

11.41.4.1.2. **(Added-AETC)** Date (D23), SRAN (applicable base), CTH – start date, and CTH – end date. **(T-2)**

11.41.4.2. **(Added-AETC)** FSC will complete the following actions when receiving a part from maintenance: **Note:** Parts overhauled in a maintenance backshop will follow standard documentation procedures.

11.41.4.2.1. **(Added-AETC)** Ensure AFTO Form 350 is stamped "CBM+". **(T-2)**

11.41.4.2.2. **(Added-AETC)** Process the TIN and stamp the -1A shipping document for visibility. **(T-2)**

11.42. (Added-AETC) AETC Training Groups:

11.42.1. **(Added-AETC)** Technical Training Wing Responsibilities. In general, maintenance policy and procedures are developed and focused on maintenance activities supporting operational aircraft and/or equipment and wing, group, squadron activities and environments. The AETC technical training mission, duties and responsibilities are significantly different

than operational units because they train with non-operational/grounded equipment and aircraft. Therefore, training group commanders will develop a separate instruction that prescribes the maintenance policy and procedures necessary to implement DAFI 21-101 and this supplement in a training environment. **(T-2)** Coordinate the instruction with 19 AF/A4 prior to implementation. **(T-2)** The instruction will address:

11.42.1.1. **(Added-AETC)** How maintenance programs and the requirements of DAFI 21-101 and this supplement will be applied while executing the technical training mission. **(T-2)**

11.42.1.2. **(Added-AETC)** The unique differences between a maintenance group maintaining operational aircraft/equipment and one maintaining non-operational aircraft/equipment in an academic environment. **(T-2)**

11.42.1.3. **(Added-AETC)** The duties and responsibilities the training group will follow to meet the requirements of DAFI 21-101 without mandating/requiring unnecessary and clearly non-value added tasks to be accomplished. **(T-2)**

11.42.1.4. **(Added-AETC)** Functional responsibilities (e.g., AGE, munitions); technical order management and use (to include eTO/eTool); tools, equipment accountability and management; forms and documentation; FOD; and safety. **(T-2)**

11.42.1.5. **(Added-AETC)** While this policy provides wide latitude, caution must be taken to avoid disregard of program management responsibilities for the sake of simplicity that could hinder effective program management and decrement the "train as we fight" methodology employed in technical training. For example, while TCTOs must be reviewed for applicability, accomplished and managed, it's not reasonable to mandate all TCTO management requirements applicable to operational aircraft be applied to permanently grounded GITA to the same degree. Delayed discrepancy program management is another example of an area that may need local modification to execute efficiently and appropriately for permanently grounded GITA.

11.42.2. **(Added-AETC)** Trainer Maintenance Responsibilities. Trainer maintenance managers are responsible for managing the maintenance function. They will **(T-2)**:

11.42.2.1. **(Added-AETC)** Ensure support for the maintenance mission is included in plans, programs, and host tenant agreements.

11.42.2.2. **(Added-AETC)** Ensure training equipment is operational to training requirements.

11.42.2.3. **(Added-AETC)** Coordinate on the monthly training schedule (when it is published separately from the maintenance plan).

11.42.2.4. **(Added-AETC)** Coordinate items of equipment exempt from annual inspection requirements with the MRD prior to approval.

11.42.2.5. **(Added-AETC)** Ensure applicable AETC trainer maintenance goals and standards are met.

11.42.2.6. **(Added-AETC)** Develop an instruction, if not already included in the instruction required by **paragraph 11.40.1**, to address the following functions/programs **(T-2)**:

11.42.2.6.1. **(Added-AETC)** Programs and policies contained in **Chapter 1**.

11.42.2.6.2. **(Added-AETC)** MOC.

11.42.2.6.3. **(Added-AETC)** Quality assurance or control.

11.42.2.6.4. **(Added-AETC)** Supply support.

11.42.2.6.5. **(Added-AETC)** Maintenance scheduling to include TCTO and TCI procedures.

11.42.2.6.6. **(Added-AETC)** CANN program.

11.42.2.6.7. **(Added-AETC)** Product improvement.

11.42.2.6.8. **(Added-AETC)** Training and certification requirements.

11.42.2.6.9. **(Added-AETC)** FOD.

11.42.2.6.10. **(Added-AETC)** Tools and equipment.

11.42.2.6.11. **(Added-AETC)** Documentation.

11.42.2.6.12. **(Added-AETC)** Logistics support for training devices designed or manufactured by AETC.

11.42.2.6.12.1. **(Added-AETC)** Training equipment developed by AETC (or other command trainer development activities) will be maintained according to the technical manuals supplied by the trainer development activity.

11.42.2.6.12.2. **(Added-AETC)** Inspect trainers with no established inspection requirements annually unless specifically exempted by the commander. Maintain a master listing of items exempt from inspection requirements and review annually. The QA function will maintain source documents for exempt items.

11.42.3. **(Added-AETC)** Training School. Training equipment will normally be assigned to the training school. Training school personnel will perform required operator or user inspections per applicable technical data and Air Force and AETC directives. **(T-2)** Training school personnel may also perform minor maintenance (such as replacing fuses and lamps, tightening nuts and bolts, and cleaning) within the limitations of available tools and technical data.

11.43. (Added-AETC) Aircraft Vibration Signature/Trend Analysis:

11.43.1. **(Added-AETC)** General. The aircraft vibration signature/trend analysis program improves both aircraft performance and reliability. The AETC Vibration Program Management Office (VPMO) provides vibration signature/trend analysis, familiarization and orientation training for track and balance, vibration signature acquisition/analysis, and fleet-wide data base management. This section applies to all AETC helicopters, CV-22 and C-130E/H aircraft. VPMO address is: 4279 Hangar Road, Building 1018, Room 103, Kirtland AFB NM 87117. The VPMO can be reached at DSN 246-8760, FAX DSN: 246-9872, or via email: **58MXG.C-130VibrationProgram@us.af.mil**.

11.43.2. **(Added-AETC)** Procedures. AMUs will **(T-2)**:

11.43.2.1. **(Added-AETC)** Accomplish an initial vibration signature on all newly assigned/possessed aircraft before releasing an aircraft for normal operations. This only

applies to aircraft that will be flown for 100 flight hours or more while assigned/possessed. The AMU vibration program manager may defer this requirement for up to 25 flight hours, if availability of aircraft will hinder mission accomplishment (excluding C-130J and aircraft modified with an operational HUMS/IVHMS system).

11.43.2.2. **(Added-AETC)** AMUs will accomplish a vibration signature on all aircraft before input for PDM, Depot-Level Maintenance (DLM), or any scheduled modification that will affect structural or dynamic components. This requirement may be accomplished within 2 weeks or 25 flight hours of the scheduled depot input. The AMU vibration program manager, with the OIC or equivalent approval, will request a waiver from the AETC VPMO if the aircraft is NMC for this period (excluding C-130J and aircraft modified with an operational HUMS/IVHMS system).

11.43.2.3. **(Added-AETC)** If a post PDM/depot vibration check was not accomplished at the depot, AMUs will accomplish a vibration signature on all aircraft after return from PDM, DLM, or any scheduled structural modification that affect dynamic components, or modifications to dynamic components, prior to the aircraft being released for normal flying operations. The AMU vibration program manager may defer this requirement for up to 25 flight hours, if availability of aircraft will hinder mission accomplishment (excluding C-130J and aircraft modified with an operational HUMS/IVHMS system).

11.43.2.4. **(Added-AETC)** Prior to PH/ISO inspection, accomplish vibration signatures on all helicopter and C-130E/H aircraft. Download and review vibration structural life and engine diagnostics data for CV-22 aircraft. This requirement may be accomplished within 2 weeks for scheduled ISO or 25 hours of the Phase input. The AMU vibration program manager, with AMU OIC or equivalent approval, will request a waiver from the AETC VPMO if the aircraft is NMC for this period.

11.43.2.5. **(Added-AETC)** Accomplish vibration signatures on all helicopters and C-130 aircraft upon completion of the PH/ISO inspection, after all balancing has been accomplished, and before aircraft are released for normal operations (excluding C-130J and aircraft modified with an operational HUMS/IVHMS system). The AMU vibration program manager may defer this requirement for up to 25 flight hours, if availability of aircraft will hinder mission accomplishment or if the aircraft is NMC for this period.

11.43.2.6. **(Added-AETC)** Accomplish a vibration signature within 25 flight hours after any major rotating component replacement. See paragraphs **11.43.3** through **11.43.6.5** for specific component listings by aircraft type (excluding C-130J and aircraft modified with an operational HUMS/IVHMS system).

11.43.2.7. **(Added-AETC)** For HH-60G aircraft modified with a permanent vibration system hardwire (such as VXP hardwire), perform a full vibration signature at the mid-phase point (e.g., 300 hours of a 600 hour cycle) +/- 10%, to include verification of engine drive shaft, tail rotor, main rotor balance and absorber tuning; excluding aircraft modified with an operational HUMS/IVHMS system or where existing vibration monitoring data can be used (such as the on-board VXP continuous vibration monitoring system).

11.43.2.8. **(Added-AETC)** For UH-1N aircraft modified with a permanent vibration system hardwire (such as TCTO 1H-1(U)N-664, *Installation of Vibration Monitoring*

System Equipment, UH-1N Helicopters) perform a full vibration signature every 100 flight hours (+/- 10%); excluding aircraft modified with an operational HUMS/IVHMS system.

11.43.2.9. **(Added-AETC)** For TH-1H aircraft, perform the Drive-Train/Hanger Bearing Ground Signature in conjunction with any post-phase or post-depot vibration signature if not already complied with by the depot.

11.43.2.10. **(Added-AETC)** For TH-1H aircraft modified with a permanent vibration system hardwire (such as TCTO-529), perform a full vibration signature every mid-phase (e.g., 150 hours of a 300-hour cycle) +/- 10%; excluding aircraft modified with an operational HUMS/IVHMS system.

11.43.2.11. **(Added-AETC)** When a vibration signature is waived (not accomplished) or deferred (postponed), the responsible party/AMU (Aircraft Maintenance Unit) requesting a waiver for VPMO concurrence is responsible for the safe conduct and operation of the aircraft. Military operations requesting a waiver will be generated by production level staff, or equivalent. Service providers, such as contracting elements, will ensure a courtesy copy to the QAE or COR is provided at the time of the request. Submit justification for waiver request such as (example): Not Mission Capable NMC, manning shortfalls, parts exception for repair, etc. Also, when submitting a waiver organizational representative shall ensure airframe hours, reference to AETC Sup 21-101 or DAFI 21-101, and make/model of aircraft is present with waiver request. The unit is responsible for maintaining and/or documenting records or other information required to demonstrate compliance with the special provisions in the waiver.

11.43.3. **(Added-AETC)** UH-1N/TH-1H Aircraft Components. Components that are specific to a type of H-1 aircraft, or have a special signature requirement, will be identified by the type of aircraft before the component listed (*such as UH-1N: Combining Gearbox*). If there is no specific type listed, then it applies to all H-1 aircraft. The major rotating components and type of signature required for the H-1 aircraft are as follows **(T-2)**:

11.43.3.1. **(Added-AETC)** UH-1N: Combining Gearbox (Full Signature).

11.43.3.2. **(Added-AETC)** Tail Drive Shaft (Drive-Train/Hanger Bearing Signature).

11.43.3.3. **(Added-AETC)** Hanger Bearing (Drive-Train/Hanger Bearing Signature).

11.43.3.4. **(Added-AETC)** Tail Boom (Drive-Train/Hanger Bearing and Ground Signature).

11.43.3.5. **(Added-AETC)** 42° Gearbox (Drive-Train/Hanger Bearing and Ground Signature).

11.43.3.6. **(Added-AETC)** Main Drive Shaft (Ground Signature).

11.43.3.7. **(Added-AETC)** Main Transmission/Gearbox (Full Signature).

11.43.3.8. **(Added-AETC)** Main Rotor Head (Full Signature).

11.43.3.9. **(Added-AETC)** 90°/Tail Rotor Gearbox (Ground signature).

11.43.3.10. **(Added-AETC)** Tail Rotor Head (Ground Signature).

11.43.4. **(Added-AETC)** The major rotating components and type of signature required for the HH-60G aircraft are as follows **(T-2)**:

11.43.4.1. **(Added-AETC)** Tail Drive shaft (Ground Signature).

11.43.4.2. **(Added-AETC)** Input Module (Full Signature).

11.43.4.3. **(Added-AETC)** Accessory Module (Full Signature).

11.43.4.4. **(Added-AETC)** Intermediate gearbox (Ground Signature).

11.43.4.5. **(Added-AETC)** Main Transmission/Gearbox (Full Signature).

11.43.4.6. **(Added-AETC)** Main Rotor Head (Full Signature).

11.43.4.7. **(Added-AETC)** Tail Rotor Gearbox (Ground Signature).

11.43.5. **(Added-AETC)** CV-22 aircraft rotating components will be called out in the applicable Technical Orders: 1V-22(C)B-6 and 1V-22-(C)B-2-DB-1.

11.43.6. **(Added-AETC)** C-130E/H Aircraft Components. In addition to the vibration signature a propeller balance will also be performed within 25 flight hours after a major rotating component is changed. **(T-2)** For C-130J there is no vibration signature requirement. The major rotating components for the C-130E/H aircraft are as follows:

11.43.6.1. **(Added-AETC)** Engine power package.

11.43.6.2. **(Added-AETC)**

11.43.6.3. **(Added-AETC)** Reduction gearbox.

11.43.6.4. **(Added-AETC)** Torque meter.

11.43.6.5. **(Added-AETC)** Propeller.

11.43.7. **(Added-AETC)** Responsibilities: AMU's will **(T-2)**:

11.43.7.1. **(Added-AETC)** Coordinate with PS&D to schedule the vibration signature to be accomplished before and after PH/ISO inspections, PDM or DLM as defined in paragraphs **11.43.2.2** through **11.43.2.5**.

11.43.7.2. **(Added-AETC)** AMU's will appoint a minimum of one primary and one alternate vibration program manager who have attended or are scheduled to attend the 58 SOW vibration course for their MDS and provide a memorandum of appointment from the commander to the VPMO.

11.43.7.3. **(Added-AETC)** The AMU vibration program manager or alternate will:

11.43.7.3.1. **(Added-AETC)** Ensure a fully qualified individual performs the entire signature/vibration analysis procedure and operates the vibration measuring equipment on all assigned aircraft.

11.43.7.3.2. **(Added-AETC)** Forward all signature check data to the VPMO. The data must contain specifics for vibration data collection; unit, full aircraft tail number, aircraft hours, engine(s) position number, minimum of 3 unit POCs and contact phone number, reason for balance/signature "I.E Pre/Post HSC, Isochronal inspection, hourly or calendar based inspection, conditional maintenance for component replacement".

11.43.7.3.3. **(Added-AETC)** Respond to all vibration signature report recommendations to the VPMO within 20 duty days of the report date with

discrepancies found and corrective actions taken, or with no actions taken, if the aircraft will not be worked during this time frame.

11.43.7.4. **(Added-AETC)** The debrief section will **(T-2)**:

11.43.7.4.1. **(Added-AETC)** Ensure each aircraft vibration discrepancy is annotated on a vibration debrief checklist (VDCL) (see **Attachment 9**, For C-130 aircraft use checklist contained in 1C-130H-2-71JG-00-3, 71-00-52). Enter one copy of this checklist into the aircraft AFTO Forms 781 series; and forward one copy to the VPMO (Email: **58MXG.C-130VibrationProgram@us.af.mil**). Maintain the VDCL in the aircraft AFTO Forms 781 series until the vibration discrepancy is cleared.

11.43.7.4.2. **(Added-AETC)** Request the aircrew completes the VDCL form and turns it over to the debrief section if the vibration is discovered in flight (Email: **58MXG.C-130VibrationProgram@us.af.mil**).

11.43.7.5. **(Added-AETC)** The AETC VPMO will **(T-2)**:

11.43.7.5.1. **(Added-AETC)** Review all signature check data and provide recommendations when necessary with-in three hours of receiving and analyzing data, when during normal day-shift work hours. Any after-hours VPMO support must be coordinated with the VPMO at least 3 hours prior to the end of normal day-shift work hours.

11.43.7.5.2. **(Added-AETC)** Produce a quarterly report of all vibration discrepancies with corrective actions by the tenth working day following the close of the quarter.

11.43.7.5.3. **(Added-AETC)** Send the quarterly report to all AMU vibration program managers and 19 AF/A4D.

11.43.7.5.4. **(Added-AETC)** Provide all necessary training to fulfill the requirements of this supplement.

11.44. (Added-AETC) Deferred Discrepancy Management:

11.44.1. **(Added-AETC)** A deferred discrepancy is a minor discrepancy on an aircraft or item of aircraft equipment that cannot be corrected within 5 duty days. TCIs, TCTOs and SIs are not normally considered deferred discrepancies when computing the deferred discrepancy rate; however, non-life sustaining TCIs past their due date and overdue -6 TO inspections to include washes are charged as deferred discrepancies. Units may develop local defer codes to specifically identify TCIs, TCTOs, and SIs to easily remove those jobs from deferred discrepancy rates.

11.44.2. **(Added-AETC)** Deferred discrepancies are separated into three distinct categories: AWM, AWP, and awaiting depot (AWD), as follows:

11.44.2.1. **(Added-AETC)** AWM Discrepancy Management. AWM discrepancies are deferred discrepancies awaiting funds, manpower, facilities, or equipment. Schedule and correct AWM deferred discrepancies as soon as possible, but NLT the next PE, ISO, PH, or HSC (C-17 aircraft only) inspections, unless an extension is approved by the AMXS and MXS Director of Operations or CO for contract maintenance units. If further clarification is required to specify discrepancies that are AWM, make an entry in the discrepancy block in the MIS.

11.44.2.1.1. **(Added-AETC)** The owning flight or section will ensure all deferred discrepancies are input in the MIS and updated, completed, or scheduled through PS&D. If scheduled maintenance actions are not completed prior to the next scheduled flight or by the end of the 24-hour forecast period, the owning flight or section will reschedule the event.

11.44.2.1.2. **(Added-AETC)** During aircraft document reviews (ADRs), the owning flight or section will resolve any differences between the aircraft forms and the deferred listing.

11.44.2.2. **(Added-AETC)** AWP Discrepancy Management. AWP discrepancies are discrepancies deferred due to non-availability of assets. Establish a valid due-out date for all AWP discrepancies. The performing flight or section will:

11.44.2.2.1. **(Added-AETC)** Ensure a demand is made on supply for all assets needed to complete AWP deferred discrepancies and discrepancy data is input in the MIS.

11.44.2.2.2. **(Added-AETC)** Ensure the supply data is loaded into the MIS by the DMS, forward asset support training, or authorized maintenance function.

11.44.2.2.3. **(Added-AETC)** Ensure assets ordered have the same EID as the original maintenance discrepancy.

11.44.2.3. **(Added-AETC)** AWD discrepancies are beyond unit capability and are deferred AWD input. Develop an AWD work center code in the MIS so AWD discrepancies are separated from AWM and AWP write ups, and are not counted in AWM and AWP rates.

11.45. (Added-AETC) Corrosion Control Program.

11.45.1. **(Added-AETC)** 19 AF Responsibilities. 19 AF/A4 is responsible for corrosion prevention and control programs throughout the command. 19 AF/A4 will appoint a Fabrication Functional Manager IAW DAFI 63-140, *Aircraft Structural Integrity Program and Air and Space Equipment Structural Management*, to monitor the command's programs and serve as a point of contact for corrosion control activities. The Command Fabrication Functional Manager will:

11.45.1.1. **(Added-AETC)** Develop and coordinate command policy and procedures for Corrosion Control functions.

11.45.1.2. **(Added-AETC)** Approve all intra-command temporary duty manning assistance requests.

11.45.1.3. **(Added-AETC)** Coordinate inter/intra-command equipment transfers.

11.45.1.4. **(Added-AETC)** Coordinate and approve on applicable TO Change Requests.

11.45.1.5. **(Added-AETC)** Represent command at assigned weapon systems CPAB, AF/DoD corrosion conferences, and field surveys.

11.45.1.6. **(Added-AETC)** Advocate for maintenance unit attendance and active participation at weapon system-specific CPABs.

11.45.1.7. **(Added-AETC)** Support Air Force Corrosion Control Prevention Executive by participating in working groups and advisory boards and by providing corrosion data for the annual corrosion report.

11.45.1.8. **(Added-AETC)** Support AFCPCO by participating in equipment evaluations, corrosion program managers meetings, advisory boards, executive council meetings, and field surveys.

11.45.1.9. **(Added-AETC)** Coordinate with the AFCPCO in selection and accomplishment of command Corrosion Survey at a minimum of every 5 years.

11.45.1.10. **(Added-AETC)** Ensure adequate corrosion control training is available and current for all aircraft and AGE maintenance personnel.

11.45.2. **(Added-AETC)** Wing Corrosion Program Manager Responsibilities.

11.45.2.1. **(Added-AETC)** The Wing Corrosion Program Manager serves as the Wing focal point for all aircraft and SE cleaning, corrosion and organic coatings related information and taskings. They will be trained in accordance with the most current AFCPCO recommendation. The Wing Corrosion Program Manager shall organize, direct, and manage the wing's corrosion management program IAW DAFI 21-101, DAFI 63-140, TO 1-1-691, TO 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-aerospace Equipment*, TO 1-1-689-3, *Cleaning and Corrosion Control Volume III Avionics and Electronics*, TO 35-1-3, and the applicable weapon system specific –3 and -23 manuals. **(T-2)**

11.45.2.2. **(Added-AETC)** Before reassignment or retirement the Wing Corrosion Manager will ensure their successor is appointed early enough to provide an effective turnover of the corrosion program. The outgoing corrosion manager must confer with the Fabrication Flight Chief and ASM/LOASM supervisors to identify a replacement. A copy of the new appointment memo will be sent to Command Fabrication Functional Manager, within 60 days of the appointment. **(T-2)**

11.45.2.3. **(Added-AETC)** Ensure corrosion inspections are accomplished during each phase/periodic/isochronal inspection for assigned aircraft and equipment.

11.45.2.4. **(Added-AETC)** Ensure corrosion prevention and treatment procedures are performed within technical order requirements. In the event there are no weapons system specific post-wash corrosion inspection requirements, the Wing Corrosion Manager will coordinate with units to establish local requirements. **(T-2)**

11.45.2.5. **(Added-AETC)** Provide a current copy of the QPL for Mil-Spec approved cleaners for assigned aircraft and equipment every 6 months to unit supervision, aircraft/SE wash racks, support sections, and EMS, CMS, MXS, AMXS Flight Chiefs. The QPLs/QPDs identifies qualified products within a particular Mil-Spec and are the only approved materials for use on Air Force aircraft, subsystems and support equipment. Products not listed on the QPL or in the QPD are unauthorized and will not be used unless specific guidance is given in weapon system specific technical data. **(T-2)** QPLs/QPDs located at the Air Force Corrosion Prevention and Control Office website: **https://qpldocs.dla.mil/**.

11.45.2.6. **(Added-AETC)** Ensure all spot cleaners, wash agents and sealants are on the QPL or in the QPD. Use of unapproved commercial or household/janitorial cleaners is strictly prohibited.

11.45.2.7. **(Added-AETC)** Ensure only products from QPLs/QPDs approved for aircraft/aerospace equipment are being used.

11.45.2.8. **(Added-AETC)** Develop and submit comments or recommendations for improvement of the corrosion control program to the Command Corrosion Functional Manager.

11.45.2.9. **(Added-AETC)** Establish and chair a local corrosion prevention working group to formalize the wing corrosion management program. Working groups may meet as frequently as necessary to maintain an effective program, but will meet at least annually. This working group should meet approximately 90 days prior to the next scheduled applicable weapons system CPAB to formalize action items. Minutes will be published and are recommended to be maintained at least 3 calendar years for continuity purposes. **(T-2)**

11.45.2.9.1. **(Added-AETC)** As a minimum, membership will include the Unit Corrosion Manager, flight line (owning unit) maintenance supervisors, PS&D personnel, ASM/LOASM or civilian equivalent supervisors, AGE supervisors, and appropriate QA representatives. **(T-2)**

11.45.2.9.2. **(Added-AETC)** Submit CPAB action items to the Command Corrosion Functional Manager. Action items may be submitted throughout the year and must focus on structural integrity, extended service life, and improved repair techniques for the weapon system. **(T-2)**

11.45.2.9.3. **(Added-AETC)** Forecast funding to attend or send a qualified representative to the assigned weapon system CPAB.

11.45.2.10. **(Added-AETC)** Serve as the Corrosion POC for all outside agencies.

11.45.2.11. **(Added-AETC)** Forecast or Program Objective Memoranda for funding requirements in order to attend training, DoD, Air Force and AETC Corrosion Manager meetings and workshops.

11.45.2.12. **(Added-AETC)** Ensure unit's corrosion related training courses are administered. An initial interactive course with location specific supplemental training and annual refresher training is the minimum. See **paragraph 5.3.5**.

11.45.2.13. **(Added-AETC)** Determine the adequacy of corrosion control work cards for assigned equipment based on mission and location.

11.45.2.14. **(Added-AETC)** At units utilizing wash contractors, the Wing Corrosion Manager must be thoroughly familiar with contract specifications, applicable technical orders, and inspection/acceptance criteria. The wing corrosion manager will be included in the coordination process of all new/updated wash contracts. **(T-2)**

11.45.2.15. **(Added-AETC)** Maintain records of all approved nose art, tail flash, paint and wash waivers, paint score sheets, (Quarterly per 11.45.6.4), and wing corrosion manager appointment letter, corrosion facility updates, and administered unit related training. Maintain full length color photographs of all approved request and approval

documentation. Coordinate all aircraft wash waiver request and ensure PS&D has a copy of the approved waiver. All documents will be uploaded to the 19 AF/A4MS Fabrication SharePoint site at: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**.

11.45.3. **(Added-AETC)** Wash Rack Facility Manager Responsibilities.

11.45.3.1. **(Added-AETC)** Ensure fall protection equipment is available, used and maintained in accordance with AFMAN 91-203, to allow coverage of all surface areas of aircraft during washing operations.

11.45.3.2. **(Added-AETC)** Ensure aircraft wash rack has qualified cleaners on hand as identified in weapon system specific technical data.

11.45.3.3. **(Added-AETC)** Ensure wash rack facility and surrounding area is kept clean and properly maintained.

11.45.3.4. **(Added-AETC)** Procure PPE used during wash process. Maintain wash rack facilities and equipment in serviceable condition (i.e., water hoses, pumps, air hoses, powered wash equipment, SE, PPE, etc.). This may not apply to units utilizing wash contracts.

11.45.3.5. **(Added-AETC)** Ensure all incoming/outgoing aircraft are coordinated through MOC and the owning MXS Production Superintendent.

11.45.4. **(Added-AETC)** Wash Crew Supervisor Responsibilities.

11.45.4.1. **(Added-AETC)** Provide daily safety briefings explaining hazards associated with wash rack operations.

11.45.4.2. **(Added-AETC)** Ensure aircraft wash crews are thoroughly trained and qualified by reviewing the Aircraft Washing Procedures located in MyLearning under the 367 TRSS The Griffin Catalog, and the Landing Gear Care video on AFCPCO website in the training folder along with hands on training in accordance with TO 1-1-691 and weapon system TOs. All training and qualifications must be documented in personnel training records. **(T-2)**

11.45.4.3. **(Added-AETC)** Ensure proper safety equipment, PPE and cleaning materials are serviceable and properly used in accordance with AFMAN 91-203.

11.45.4.4. **(Added-AETC)** Enter the requirement for wash, sign the wash completion and enter the lubrication requirement in the aircraft forms and MIS.

11.45.4.5. **(Added-AETC)** Ensure that fall protection is serviceable and inspected prior to use in accordance with DAFMAN 91- 203.

11.45.4.6. **(Added-AETC)** Ensure aircraft are properly grounded as required in accordance with TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, and weapon system-specific technical data.

11.45.4.7. **(Added-AETC)** Inspect all wash rack equipment for serviceability (i.e. water hoses, pumps, air hoses, powered wash equipment, SE, etc.) prior to use.

11.45.4.8. **(Added-AETC)** Ensure wash rack facility, surrounding area and equipment are clean and equipment is properly stored before and after use.

11.45.5. **(Added-AETC)** Aircraft Cleaning.

11.45.5.1. **(Added-AETC)** A complete exterior and interior cleaning will be accomplished on all aircraft in accordance with TO 1-1-691 and weapon system-specific technical data. This will be accomplished during scheduled wash cycles, before full paints, isochronal or phase inspections, and prior to refurbishments. **(T-2)**

11.45.5.1.1. **(Added-AETC)** The following forms entries, as a minimum, are required for an aircraft wash:

11.45.5.1.1.1. **(Added-AETC)** "Aircraft wash required." Enter this in the forms on a red dash. It is cleared by the aircraft wash supervisor.

11.45.5.1.1.2. **(Added-AETC)** "Aircraft taped and prepped for wash." Enter this in the forms on a red X prior to the wash. It is cleared by the appropriate inspector after the aircraft has been de-taped, all associated equipment (such as wheel covers) is removed and associated tasks are accomplished, and the cleanliness inspection has been completed and signed-off.

11.45.5.1.1.3. **(Added-AETC)** "Aircraft post-wash cleanliness inspection due." Enter this in the forms on a red dash prior to the wash. It is cleared by the owning unit maintenance supervisor, production supervisor, or authorized contractor after completion of the cleanliness inspection.

11.45.5.1.1.3.1. **(Added-AETC)** Surfaces shall be deemed "clean" after satisfactory completion of the following method: Accomplish a close visual inspection to determine if all residue, oily film, and streaking has been removed. **(T-2)**

11.45.5.1.1.3.2. **(Added-AETC)** If cleanliness is questionable, a dry, lint free, white towel is wiped firmly across the various surfaces. If excessive soiling of the towel occurs, the surface is not clean. Wheel wells, flap wells, and exterior surfaces shall be inspected using this method. **(T-2)**

11.45.5.1.1.4. **(Added-AETC)** "Aircraft post-wash lubrication due." Enter this in the forms on a red dash. It is cleared by the appropriate maintenance person responsible for ensuring task completion.

11.45.5.1.1.4.1. **(Added-AETC)** Proper post-wash lubrication is vital in prevention of corrosion. Lubrication prevents water intrusion in bearing cavities and subsequent corrosion damage.

11.45.5.1.1.4.2. **(Added-AETC)** If technicians wash components between normal cleaning cycles (flight line or "spot" washes), re-lubrication of the affected components is required.

11.45.5.1.2. **(Added-AETC)** If organizations know in advance that an aircraft or SE is scheduled to fly off station, ensure aircraft and equipment washes are considered prior to mission. If a wash was recently accomplished, the owning organization

maintenance supervision will determine whether another wash is necessary prior to off station operations. **(T-2)**

11.45.5.1.2.1. **(Added-AETC)** When an aircraft flies over salt water below 3,000 feet, the aircrew debriefing record and AFTO Form 781A will be annotated with a "NOTE". See T.O. 1-1-691 for complete guidance.

11.45.5.1.2.2. **(Added-AETC)** Aircraft properly rinsed in taxi-through, or "bird bath" type facilities, need not comply with this requirement. **(T-2)**

11.45.5.2. **(Added-AETC)** Aircraft latrine/urinal areas must be cleaned thoroughly to avoid corrosion damage due to effluent contamination. **(T-2)**

11.45.5.3. **(Added-AETC)** Interior areas will be dried after washing. Any method, such as low-pressure air, low temperature heat, or sponging/mopping, may be used. Standing water in any interior area of the aircraft must be removed. **(T-2)**

11.45.5.4. **(Added-AETC)** Pressurized water washing equipment, if authorized by the applicable system program office, may be used for aircraft washing in accordance with TO 1- 1-691 and manufacturer's instructions; however, all surfaces must be agitated with an authorized pad or other article. Pressure washing alone will not adequately remove contaminants from painted surfaces. **(T-2)**

11.45.5.4.1. **(Added-AETC)** Lubrication must be accomplished after all pressure washes in accordance with applicable technical data. **(T-2)**

11.45.5.4.2. **(Added-AETC)** All landing gear components will be hand washed and rinsed with low-pressure water. Refer to applicable landing gear technical orders for washing instructions. **(T-2)**

11.45.6. **(Added-AETC)** Aerospace Vehicle Coating and Marking Requirements.

11.45.6.1. **(Added-AETC)** Coating System Scoring and Maintenance. All units will score aircraft coating systems utilizing qualified 2A7X3 or 2A7X5 personnel to determine frequency of topcoat application.

11.45.6.2. **(Added-AETC)** The exterior of aircraft must be clean prior to paint scoring.

11.45.6.3. **(Added-AETC)** Use score sheet from applicable technical data to document paint score. If the SPO has not provided a score sheet use a locally develop score sheet to document paint scores. Score sheet must detail what area requires paint, type of paint deterioration (oxidized, discolored, stained, chipped, scratched, or peeled from the primer and the primer remains adhered to the aircraft surface) and severity. See categories in **paragraph 11.45.6.5**.

11.45.6.4. **(Added-AETC)** Provide quarterly paint score updates on the MAJCOM provided paint score tracker, corrosion facility updates, and administered unit related training. Download the tracker from the AETC Fabrication SharePoint Page **https://usaf.dps.mil/sites/aetc-19af/LG/LGMS_Fabrication/default.aspx**. Upload the tracker before the last duty day in March, June, September and December at **https://usaf.dps.mil/sites/aetc-19af/LG/LGMS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e&id=%2Fsites%2Faetc%2D**

19af%2FLG%2FLGMS%5FFabrication%2FCPAB%20Documents%2FAircraft%20Paint%20Score%20Sheets.

11.45.6.5. **(Added-AETC)** Score paint/coating systems semiannually not to exceed six months. Paint scoring should be performed post aircraft wash to ensure a clean surface for inspection. Measure the degree of paint degradation using applicable technical data, if the SPO has not provided tech data use the categories from 1 to 5. **Exception:** The F-35 does not require paint scoring due to the nature of the Low Observable coating system.

11.45.6.5.1. **(Added-AETC)** Category 1 indicates like new paint system up to 15% degradation. Touchup as required.

11.45.6.5.2. **(Added-AETC)** Category 2 indicates up to 35% degradation. Schedule minor touchup to prolong service life.

11.45.6.5.3. **(Added-AETC)** Category 3 indicates up to 55% degradation. Schedule minor or major touchup to prolong service life.

11.45.6.5.4. **(Added-AETC)** Category 4 indicates up to 69% degradation. Schedule minor or major touchup to prolong service life.

11.45.6.5.5. **(Added-AETC)** Category 5 indicates that the time or man-hour requirements for surface preparation (mask, sand, or clean) exceed 70 % of the time or man-hours for a complete strip/repaint. Schedule full paint to restore service life. To prevent further degradation, perform minor or major touchups every 6 months until aircraft receives a full paint. Aircraft scored at Category 5 must receive a full paint within 18 months.

11.45.6.6. **(Added-AETC)** Supervisors will use ratings to determine corrosion treatment/paint scheduling priority. Supervisor will participate in weekly MXG Shared Resources meeting to facilitate scheduling.

11.45.6.7. **(Added-AETC)** All aircraft painting will be scheduled on a “worst is first” basis to maintain coating system integrity.

11.45.6.8. **(Added-AETC)** Units are required to adopt maintenance-painting techniques (i.e., spot painting and sectionalized painting as stated in TO 1-1-8) to maintain aircraft corrosion protection and appearance between overcoats.

11.45.6.9. **(Added-AETC)** Fully over coated aircraft will be documented in applicable MIS and the individual aircraft AFTO Form 95 for tracking purposes. Add the following in IMDS and to the Aircraft Paint Block:

11.45.6.9.1. **(Added-AETC)** The date the final application of Organic Coatings was applied to the aircraft.

11.45.6.9.2. **(Added-AETC)** The location and by whom the final application of Organic Coatings was applied to the aircraft.

11.45.6.9.3. **(Added-AETC)** The name & MIL-SPEC (to include any grade, type, class, etc., of the MIL-SPEC that is used) of the Surface Treatment Materials for Aluminum that are used such as PreKote.

11.45.6.9.4. **(Added-AETC)** The Primer that is used including the MIL-SPEC (to include any grade, type, class, etc., of the MIL-SPEC).

11.45.6.9.5. **(Added-AETC)** The Topcoat that is used, including the MIL-SPEC (include any grade, type, class, etc., of the MIL-SPEC).

11.45.6.10. **(Added-AETC)** Large aircraft units shall rely on spot maintenance painting and sectionalized painting between depot cycles to maintain the coating system integrity.

11.45.7. **(Added-AETC)** Aerospace Generation Equipment (AGE) Painting.

11.45.7.1. **(Added-AETC)** Discontinue use of Chromium-Based Primers and legacy topcoat Type I/II Topcoats during AGE paint operations.

11.45.7.2. **(Added-AETC)** Over aluminum or a combination of aluminum and steel use non-chrome MIL-DTL-53022 or its alternate MIL-PRF-23377 Type I, Class N.

11.45.7.3. **(Added-AETC)** Use MIL-PRF-85285 Type IV Advance Performance Coating. It is a new formulation that provides an extended service life. MIL-PRF-85285 Type I/II will be deleted from TO 1-1-8 and TO 35-1-3 by January 2022.

11.45.7.4. **(Added-AETC)** If unable to procure non-chrome primers or extended service life topcoats, use paints authorized in T.O. 35-1-3.

11.46. (Added-AETC) Painting and Marking of Aerospace Vehicles. The following implements the guidance in DAFI 63-140, provides guidance for applying and maintaining aircraft topcoats and applying command-approved non-USAF standard aircraft markings as authorized in TO 1-1-8, applicable to Air Force aircraft, applicable aircraft-specific TOs and operational and ground trainer aircraft assigned to AETC. **Note:** Not applicable to static display aircraft which are governed by the owning unit's historical property custodian.

11.46.1. **(Added-AETC)** 19 AF/A4MS is the point of contact for all aircraft painting and markings as specified in this instruction. Process waiver requests IAW **paragraph 11.46.24**.

11.46.2. **(Added-AETC)** Appearance Standards.

11.46.2.1. **(Added-AETC)** All aircraft markings and basic paint schemes must be maintained intact, legible, distinct in color, and present a professional appearance. Standardization of paint schemes and markings by MDS are of primary concern.

11.46.2.2. **(Added-AETC)** Units must evaluate and document (score) the condition of aircraft topcoats every 6 months to determine soundness, corrosion protection and appearance standards. See **paragraph 11.45.6** for more information.

11.46.2.3. **(Added-AETC)** Use touchup (sectional) painting to the maximum extent possible to maintain proper corrosion protection and appearance standards as opposed to full aircraft/GITA overcoats.

11.46.2.4. **(Added-AETC)** Each unit must establish and manage an aircraft touchup program with the aim of maintaining a sound and serviceable topcoat. All command aircraft and helicopter units shall plan to scuff, sand, and topcoat aircraft at least twice before considering a complete strip and repaint. Aircraft with predetermined paint cycles such as PDM, weapon-specific TO directives can base the paint cycle requirements according to those directives. Units shall rely on touchup painting between scheduled PDM

paint cycles for large aircraft, such as C-17, C-130, KC-46 and KC-135. Only authorized coatings identified in TO 1-1-8 and/or weapon system specific directives will be used to touch up paint. Under no circumstances will spray paint in aerosol cans be used to topcoat aircraft or support equipment exteriors, unless authorized by specific directives.

11.46.2.4.1. **(Added-AETC)** Maintain GITA according to this instruction, excluding the requirement to strip aircraft and the mandatory use of coating systems specified in TO 1-1-8 or weapons system specific corrosion directives.

11.46.2.4.2. **(Added-AETC)** The primary concern of GITA painting is to prevent corrosion and the maintenance of the current paint system to ensure they remain useful and safe for the training environment. See **paragraph 11.15**, for additional details on maintenance of GITA.

11.46.2.4.3. **(Added-AETC)** Units that can maintain aircraft with current polyurethane paint are encouraged to do so to the fullest extent possible or until the paint score warrants a full scuff and over coat.

11.46.2.4.4. **(Added-AETC)** A unit option is to topcoat or touch up GITA with a commercial direct-to-metal paint. Direct-to-metal paint is an acrylic latex or water based polyurethane type paint that is easy to apply and environmentally friendly. Direct-to-metal paint has a shorter service life and will require frequent touch ups and/or repaints.

11.46.2.5. **(Added-AETC)** Use polyurethane protective tapes for AETC aircraft when authorized as an option in the applicable aircraft -23 series TOs.

11.46.2.6. **(Added-AETC)** Do not base the decision to strip aircraft coatings on timeframe alone. Base the decision to strip on the following criteria.

11.46.2.6.1. **(Added-AETC)** Aircraft shall be top-coated no more than three times prior to being stripped; this includes the original paint or initial paint following last full strip. Any deviations from this must receive MAJCOM approval. (**Exception:** T-6 aircraft will not be fully scuff-sanded and over coated without being completely stripped.)

11.46.2.6.2. **(Added-AETC)** Strip aircraft coatings as necessary to meet weight and balance requirements.

11.46.2.6.3. **(Added-AETC)** Aircraft that have undergone or are scheduled for extensive structural modification and/or maintenance may be stripped at the discretion of the owning unit.

11.46.2.6.3.1. **(Added-AETC)** Thoroughly inspect aircraft for structural defects at home station. Make every attempt to repair and/or document all structural defects before the aircraft departs home station.

11.46.2.6.3.2. **(Added-AETC)** After coatings have been stripped, regional facility personnel must accomplish minor structural repairs that can be accomplished within contract limitations. Aircraft found to have significant structural damage must be repaired at the expense of the owning unit, or sent back to home station for repair.

11.46.2.6.4. **(Added-AETC)** Do not strip aircraft within 3 years of programmed deactivation unless approved by 19 AF/A4MS.

11.46.3. **(Added-AETC)** The responsibility for determining acceptable paint condition rests with Wing Commanders and the Fabrication Flight Chiefs ensuring the guidance set forth in TO 1-1-691, TO 1-1-8, applicable -23 series TOs, and this instruction is not violated.

11.46.4. **(Added-AETC)** Document on AFTO 95 each time a major paint touchup (painting of more than 40 percent of an aircraft), complete scuff sand, overcoat, overspray and/or complete stripping and repainting of an aircraft is accomplished. Refer to TO 1-1-8 for additional information. (**Exception:** T-6 aircraft have a Square Foot maximum limitation based on Weight & Balance requirements. All Touch-Up painting shall be recorded on AFTO 95 to capture a running accumulation to prevent exceeding the maximum square footage threshold.)

11.46.5. **(Added-AETC)** Paint Identification Block. The paint identification block is mandatory for all aircraft assigned to AETC. (**Exception:** The F-35 does not require full topcoats due to the nature of the Low Observable coating system.) Apply as specified in TO 1-1-8, including the last strip date, pretreatment, MIL-SPEC Type and class of Primer and Topcoat. The block may be of a unique design such as an eagle head, state outline, etc.; however, it must not exceed 6 inches by 6 inches in size and must match the color of other markings on the aircraft. 19 AF/A4 is the approval authority for all unique designs.

11.46.6. **(Added-AETC)** Marking Application Methods. The following are approved methods for applying aircraft markings to all AETC aircraft. (refer to TO 1-1-8 for more information):

11.46.6.1. **(Added-AETC)** Silk Screen Printing. Do not use this method on aircraft surfaces that are contoured or have protruding Fasteners (screws, rivets, or bolts) that will result in markings that are illegible and/or give an unprofessional image. When used, procure silk screen printing kits using local purchase procedures with organizational and maintenance funds. Local contracting offices can identify vendors.

11.46.6.2. **(Added-AETC)** Decals. Units are responsible for procuring their own organizational decals.

11.46.6.3. **(Added-AETC)** Stenciling. Apply markings using stencils. All colors must conform to applicable technical data.

11.46.6.4. **(Added-AETC)** Vinyl. Apply markings using vinyl decals generated on computerized stencil machines instead of stenciling with paint. **Note:** Vinyl markings tend to peel when applied to porous paints such as camouflage or on supersonic aircraft. Ensure materials are properly adhered to and colors conform to those prescribed in applicable weapon system technical data.

11.46.7. **(Added-AETC)** Command Insignia. Application of command insignia on USAF aircraft is mandatory. F-16 and trainer aircraft must apply full color insignias. Helicopters, low observable, and cargo aircraft must apply subdued insignias, unless otherwise authorized. Specific application for each MDS is located at 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9**

bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e. **Note:** Not applicable to special operations aircraft.

11.46.8. **(Added-AETC)** Organizational Insignia. Application of organizational insignias is optional; however, if used, standardize insignias throughout the wing. Apply organizational insignias to both sides of the aircraft. If squadron insignias are not used, apply wing or group insignias to both sides of the aircraft. Apply squadron insignias to the left side of the aircraft with the wing or group insignia on the right side. Units not having organizational insignias may apply the next higher organizational insignia. Specific application for each MDS is located at 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** All new designs must be routed through 19 AF/A4 for approval before being applied to aircraft.

11.46.9. **(Added-AETC)** Tail Numbers. Aircraft tail numbers are mandatory. The tail numbers must be located below the unit designator on the vertical stabilizer, and or tail-boom pylon. Specific placement for each MDS is located at the 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**.

11.46.10. **(Added-AETC)** Distinctive Unit Identifier Marking. Distinctive unit identifier markings are mandatory for all AETC aircraft. 19 AF/A4 is the office of primary responsibility for the assignment of distinctive unit identifier markings. Submit all requests for approval of unit designators through 19 AF/A4MS to 19 AF/A4. Specific placement for each MDS is located at the 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** Not applicable to special operations aircraft.

11.46.11. **(Added-AETC)** Tail Flashes (Tail Stripe). Tail flashes are used to identify a specific wing, group, squadron, or flight. WG/CCs may develop a tail flash design and request 19 AF/A4 approval for application. The WG/CC may choose a single wing tail stripe design or distinctive tail stripes for each squadron or flight. Submit AF Form 679 to 19 AF/A4MS for 19 AF/A4 approval. Apply the tail stripe to the vertical stabilizer and or tail-boom pylon. It must be in the form of a straight stripe. The height must not exceed 15 inches for trainer, fighter aircraft, and helicopters, or 24 inches for cargo and refuel aircraft. In addition, the tail stripe must not contain more than four distinct colors. Variations in length, width, font size, font type, and colors added to a previously approved tail stripe are not authorized. Specific placement for each MDS is located at the 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**. **Note:** All other aircraft paint scheme alterations, markings, and nose art; to include tail flash (not authorized in applicable TO or this instruction) require approval by 19 AF/A4.

11.46.12. **(Added-AETC)** Aircrew and Crew Chief Names. Unit options are to apply aircrew, crew chief, and assistant crew chief names to aircraft. Aviator names are permitted for aircrew. Crew chief and assistant crew chief names must consist of rank and name (first, last) only. Operations group commanders (OG/CC) must approve or disapprove tasteful aviator

names ensuring no discredit is brought upon AETC, the Air Force, or the Department of Defense. Acceptable examples include Captain William A. “Smitty” Smith and Major Wayne “Jonesy” Jones. **Note:** Tactical call signs are prohibited.

11.46.12.1. **(Added-AETC)** Lettering styles are unit options, but must not exceed 3 inches in height. All aircraft in the wing must be standardized by MDS with the exception of designated commander's aircraft, which may have different lettering that does not exceed 3 inches in height.

11.46.12.2. **(Added-AETC)** A background block for the names may be used to encompass the names. The block must be in contrasting colors to the section applied and may be preceded by an eagle head, falcon head, tiger head, etc.

11.46.13. **(Added-AETC)** Commander’s Flagships. Commander’s flagships referred to in this instruction are those aircraft selected to represent the commander’s position. Only Major Command (MAJCOM), wing, operations group, and flying squadron commanders are authorized designated flagships. (**Note:** “Flying squadron commander” refers to a commander of a squadron with a flying mission.) If a flagship is selected, only one aircraft is authorized per flying commander. Bases and units with more than one type MDS assigned must select only one type aircraft for the wing and operations group flagships. Flying squadron commanders may select one aircraft for designation as a flagship. After selection, submit an AF Form 679 to 19 AF/A4MS for review. 19 AF/A4 is the final approval for all flagship selections. Apply flagship markings as follows: **Note:** Any flagship design not authorized by this instruction will require approval by 19 AF/A4.

11.46.13.1. **(Added-AETC)** MAJCOM Flagship. When approved by 19 AF/A4, a MAJCOM commander's flagship may be authorized at the base where the commander is assigned. The aircraft tail number may be replaced by the command designator but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible.

11.46.13.2. **(Added-AETC)** Wing (FTW) Flagship. When approved by 19 AF/A4, the tail number of the wing commander’s flagship number may be replaced by the organization alphanumeric designator (such as, 12 FTW), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left side of the aircraft in place of a single squadron emblem.

11.46.13.3. **(Added-AETC)** Operations Group (OG) Flagship. When approved by 19 AF/A4, the tail number of the OG/CC flagship may be replaced by the group alphanumeric designator (such as, 12 OG), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias may be applied to the left forward area of the fuselage instead of a single squadron emblem.

11.46.13.4. **(Added-AETC)** Flying Training Squadron (FTS) Flagship. When approved by 19 AF/A4, the tail number of a flying squadron commander's flagship may be replaced by the squadron alphanumeric designator (for example, 560 FTS), but must remain the same size as the original tail number. Move the tail number to another location on the aircraft, in a smaller size, on or as close to the vertical stabilizer as possible. Organizations may apply unit insignias to the aircraft. When used, place wing insignias on the right side of the aircraft with the owning squadron's insignia on the left side. A collage of assigned flying squadron insignias is not authorized on these aircraft.

11.46.13.5. **(Added-AETC)** Shadowing. Shadowing of unit designators and tail numbers or organizational alphanumeric designators is authorized for all aircraft designated as flagships, at the wing commander's discretion. Apply shadowing in a conservative color that complements the overall paint scheme of the aircraft (normally black, white, or gray).

11.46.13.6. **(Added-AETC)** Commander's Unique Tail Flash (Tail Stripe). Tail flash design must be approved by 19 AF/A4 prior to application. The tail flash must meet the specifications outlined in **paragraph 11.46.24**.

11.46.14. **(Added-AETC)** Nose Art. Do not apply nose art to AETC assigned aircraft without approval of the AETC/CC. If approved, the wing commander must select a candidate aircraft for application of the approved nose art. All nose art must be in good taste, be representative of the local community and be gender neutral. AETC assigned active aircraft shall not be used for memorialization purposes. **Note:** Be aware of potential copyright infringement when selecting nose art. It is highly recommended that nose art be applied to only one of the flagships authorized in **paragraph 11.46.24**.

11.46.15. **(Added-AETC)** Aircraft Travel Pods. Paint travel pods the same color as the associated aircraft. For ease of cleaning and appearances, units with aircraft painted in camouflage paint schemes may apply gloss paint to travel pods, but it must match the color and paint design of the aircraft. Units with multicolor aircraft must select one primary color for the travel pod. Travel pods designated for commander flagships may be any color, but must complement the overall paint scheme of the aircraft and present a professional appearance. These travel pods may contain the name, position, and appropriate rank insignia of the pilot. Lettering must not exceed 4 inches in height and may be any color and font style. Submit an AF Form 679, plus photographs to 19 AF/A4MS for review and 19 AF/A4 approval.

11.46.16. **(Added-AETC)** Aircraft Nose Numbers. Aircraft nose numbers are authorized as a unit option. Numbers must be in block or Helvetica style letters, not exceed four digits and be applied to the nose of the aircraft. Specific location for each MDS is located at the 19 AF/A4MS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/A4MS_Fabrication/CPAB%20Documents/Forms/AllItems.aspx?viewid=092f9bac%2D5e3f%2D437f%2D8f4b%2Dd6195a94551e**.

11.46.17. **(Added-AETC)** Bird of Prey Silhouette. Bird of prey silhouettes are authorized on F-16 aircraft as a unit option, standardized within a wing by MDS. Place the silhouette on both sides of the aircraft aft canopy on the forward area of the backbone in a contrasting shade of gray to the area being applied. The silhouette must not exceed 18 inches in height. See **Attachment 24** for specific placement.

11.46.18. **(Added-AETC)** Gun Ports. Gun ports may be painted flat black as a unit option. MDS standardization in a wing is required. Do not polish gun ports on any aircraft due to corrosion considerations.

11.46.19. **(Added-AETC)** Aerial Victory Markings. AETC aircraft may include a 4-inch star to represent an aerial victory. Position the star just below and forward of the canopy assembly. The credited pilot's name must appear as the pilot of the aircraft. Identify Desert Storm victories with a green star. Aircraft that have flown combat missions and are credited with bona fide hits or kills may be identified with a uniquely designed marking. This marking must be conservative in nature and not exceed 4 inches by 4 inches. If multiple hits or kills are credited, a numerical indicator may be added to the marking.

11.46.20. **(Added-AETC)** Special Award Markings. Units having local competitions for best flying aircraft, best looking aircraft, etc., may apply a uniquely designed marking to the aircraft to denote winners. Criteria for application must be the same as in **paragraph 11.46.24**.

11.46.21. **(Added-AETC)** Competition Aircraft. Units participating in competitions such as William Tell, Gunsmoke, etc., must follow the guidelines established in the competition rules for aircraft appearance. **Note:** Excessive painting is detrimental to an effective corrosion program; therefore, complete overspray of selected competition aircraft is discouraged. Approach competitions with a "come as you are" management perspective. The wing and operations group commanders are responsible for ensuring the intent of this instruction is not violated. **Note:** 19 AF/A4 will not approve waivers for special paint schemes or markings for these aircraft.

11.46.22. **(Added-AETC)** Helicopter Rotor Markings. All helicopter rotor markings are mandatory.

11.46.23. **(Added-AETC)** Aircraft Transfer. The following markings must be removed prior to formal transfer of aircraft to other units or MAJCOMs (aircraft retiring to Aerospace Maintenance and Regeneration Group need not have any markings removed).

11.46.23.1. **(Added-AETC)** Organizational insignias.

11.46.23.2. **(Added-AETC)** Unit identifier.

11.46.23.3. **(Added-AETC)** Tail stripe.

11.46.23.4. **(Added-AETC)** Aircrew and crew chief names.

11.46.23.5. **(Added-AETC)** Unit unique markings.

11.46.24. **(Added-AETC)** Requests. Wing commanders must submit all paint scheme/marking waiver requests according to policies established in this instruction on AF Form 679, through 19 AF/A4MS for review, concurrence, and routing to 19 AF/CC for final approval. **Note:** Requests violating published technical data will not be accepted. Changes to technical orders must be processed according to T.O. 00-5-1. Requests will be sent to **19AF.LGMS.All1@us.af.mil** and must include the following:

11.46.24.1. **(Added-AETC)** A locally-generated Electronic Staff Summary Sheet approved by wing commander or designated representative.

11.46.24.2. **(Added-AETC)** A clear statement of present procedure and the marking at issue.

11.46.24.3. **(Added-AETC)** A clear statement of proposed changes.

11.46.24.4. **(Added-AETC)** A clear and detailed cost comparison between the current and requested paint scheme/marking waiver.

11.46.24.5. **(Added-AETC)** Justification.

11.46.24.6. **(Added-AETC)** Two high quality digital photographs; one of the aircraft with the present marking configuration and another of an aircraft with the requested change. Accomplish this by temporarily affixing the marking to the aircraft using double-back tape or by some similar method that does not require the marking to be applied permanently. Digital photographs can be e-mailed to **19AF.LGMS.All1@us.af.mil**. The request must come from the unit's wing commander or deputy's e-mail address.

11.46.25. **(Added-AETC)** Aircraft Photo Requirements. Each assigned unit must submit a full-length photograph of their selected flagship aircraft to 19 AF/A4MS. Digital photographs are acceptable and can be e-mailed to **19AF.LGMS.All1@us.af.mil**. When design changes to these paint schemes are submitted and subsequently approved, new photos must be submitted for file within 30 days after approval.

Chapter 12

MAINTAINING COMMERCIAL DERIVATIVE AIRCRAFT (CDA).

12.1. Background Information, Objective and Roles and Responsibilities. The USAF procures CDA for various missions. These aircraft are originally type certificated to Federal Aviation Administration (FAA) regulations/orders and have FAA-approved aircraft maintenance manuals. If the aircraft are civil registered (N number displayed) in lieu of military registration and military tail number, it may carry an FAA standard airworthiness certificate if operated and maintained in full compliance with civil regulations.

12.1.1. Civil registered aircraft owned and operated by the USAF IAW Title 10 U.S. Code are public use aircraft. When these aircraft are engaged in civil aircraft operations, such operations must be conducted IAW FAA and civil. When these aircraft are engaged in public aircraft operations, they are exempt from civil regulations and FAA oversight. Civil registered aircraft owned and operated by the USAF may be declared public use at any time and are then exempt from civil regulations and FAA oversight. If the aircraft are civil registered but do not have a civil airworthiness certificate or are operated by the USAF under a military registration and tail number, the aircraft are for public use and operate entirely under the authority of the USAF military technical airworthiness authority.

12.1.2. The FAA defines a Commercial Derivative Aircraft (CDA) as a commercial aircraft with an FAA type certificate (TC) and produced under an FAA Production Certificate (PC). Air Force Policy Directive (AFPD) 62-6, *USAF Airworthiness*, establishes policies for CDA to ensure that any USAF operated aircraft are airworthy over their entire life cycle and maintain high levels of safety. The directive also instructs the USAF to Meet the Intent (MTI) of applicable FAA regulations to the maximum extent practical.

12.1.3. All USAF-managed aircraft, and associated modifications, must meet the requirements of DAFI 62-601, *Airworthiness*, and AFI 63-101/20-101. **(T-2)** PMs are ultimately responsible for maintaining configuration control and ensuring flight safety of systems within their portfolio. When a military mission is compatible with a certified civil usage, the USAF will utilize FAA-type certified CDA to the maximum extent practicable. **(T-2)** To ensure safety and support, all modifications performed on CDA type certificated components or systems will be FAA certified (example, supplemental type certificate). Modifications to CDA military type certificated components or systems require approval of AF chief engineer, or delegated authority.

12.1.4. For maintenance and operations of CDA the AF will use AF-managed TOs or FAA-approved aircraft and component maintenance manuals and FAA regulations called out in Title 14 Code of Federal Regulation Parts 43, 91, 121, and 145 as a guide. **(T-0)** FAA Advisory Circulars, Notices to Airmen, and other FAA information sources may also be used to satisfy all requirements of Title 14 Code of Federal Regulations Parts 43, 91, 121, and 145.

12.2. AF/A4L will:

12.2.1. Coordinate relevant policies and procedures with SAF/AQ and the FAA.

12.3. The Program Manager (PM) will:

12.3.1. Be responsible for all elements of life cycle management IAW AFI 63-101/20-101. **(T-2)**

12.3.1.1. Evaluate acquisition and sustainment strategies and determine requirements for Contractor Logistics Support (CLS) structure, Organically Managed support structure, and/or hybrid support structure.

12.3.2. When FAA manuals are used, issue technical data for configuration items and inspection requirements that are not approved by the FAA or supplied by the Original Equipment Manufacturer. **(T-2)**

12.3.3. Review evaluations from the Lead Commands concerning Airworthiness Directives (AD), Service Bulletins (SB), Customer Bulletins (CB), All Operator Letters, and Aircraft Service Changes (ASC) and will determine extensions for each, if required. **(T-2)**

12.3.4. For CDA which maintain an FAA Type Certified, ensure that the MAJCOM performs overhauls, rebuilding, major repairs, major alterations, minor repairs, and minor alterations in FAA-authorized repair facilities with appropriate ratings and authorizations or an AF-approved AFSC Military Repair Station depot facility, as directed by the PM. **(T-2)**

12.3.5. Establish a maintenance plan and Service Action Review process with the Lead Command for aircraft originally Type Certified by the FAA. **(T-2)**

12.3.6. Follow AFI 63-101/20-101 for modification requests and approvals. **(T-2)**

12.3.7. Obtain airworthiness approvals IAW DAFI 62-601. **(T-2)**

12.3.8. Coordinate with the FAA Military Certification Office for approval of modifications that affect commercial derivative aircraft configuration IAW USDOT/FAA Order 8110.101, *Type Certification Procedures for Military Commercial Derivative Aircraft*. **(T-0)**

12.3.9. Ensure FAA ADs and SBs are utilized in place of TCTOs, and commercial maintenance manuals are utilized in lieu of AF TOs to the greatest extent possible. **(T-2)**

12.3.10. For units possessing CDA that strictly utilize commercial manuals, may issue original FAA SBs, ADs or other FAA-approved modifications in-place of TCTOs. **(T-2)**

12.3.11. For units possessing CDA that strictly utilize USAF managed TOs, in order to implement ADs, SBs or other FAA-approved modifications, issue TCTOs IAW TO 00-5-1 and TO 00-5-15. Reference one of the following in each TCTO:

12.3.11.1. The AD and/or SB involved.

12.3.11.2. The Supplemental Type Certificate number.

12.3.11.3. Other FAA approval.

12.3.12. Develop a Maintenance Management Program Plan and ensure maintenance planning data is supplied to MAJCOMs, units, and/or contractors in order to operate and maintain airworthiness for the weapon system lifecycle. The program plan meets the intent of the guidance in FAA Advisory Circular 120-16, *Continuous Airworthiness Maintenance Program (CAMP)*.

12.3.12.1. The Maintenance Management Program Plan will outline the requirements to maintain the lifecycle of continued airworthiness of a weapon system in compliance with the intent of Title 14 Code of Federal Regulations (CFR) Parts 43, 65, 121 and 145 throughout its post-production, post-modification DD Form 250, *Material Inspection and Receiving Report* in-service lifecycle. The Maintenance Management Program Plan should include as a minimum:

12.3.12.1.1. Airworthiness Responsibility

12.3.12.1.2. Air Carrier Maintenance Manual

12.3.12.1.3. Maintenance Organization Structure and Function

12.3.12.1.4. Accomplishment and Approval of Maintenance and Alterations

12.3.12.1.5. Maintenance Schedule

12.3.12.1.6. Required Inspection Items

12.3.12.1.7. Maintenance Record Keeping

12.3.12.1.8. Contract Maintenance

12.3.12.1.9. Personnel Training

12.3.12.1.10. Maintenance Program Development

12.3.12.1.11. Configuration Management and Tracking

12.3.12.1.12. Engineering Services

12.3.12.1.13. Continuing Analysis and Surveillance System (CASS)

12.3.12.1.14. Depot Support Plan (if required)

12.4. Lead Commands will:

12.4.1. Ensure any new or modified configurations or maintenance conditions are coordinated with, and approved by, the designated Lead Command IAW AFPD 10-9 and the PM or equivalent responsible for the reliability, maintainability and availability of the systems and end-items prior to implementation. **(T-2)**

12.4.2. Assist ALC in determining additional inspection and component time-change requirements, intervals, documentation and publication update requirements. **(T-2)**

12.4.3. Review evaluations from their field units on ADs, SBs, CBs, All Operator Letters, or ASCs and make recommendations to the aircraft's PM. **(T-2)**

12.4.4. Ensure depot and contractor maintenance providers are furnished with lead command maintenance program and they meet AF approved FAA equivalent requirements or are a FAA approved repair station, as applicable. **(T-2)**

12.5. Units will:

12.5.1. Participate in the Service Action review process established by the PM. **(T-2)**

12.5.2. Assist Lead Commands and the PM to determine additional inspection intervals and requirements. **(T-2)**

12.5.3. Comply with FAA ADs as directed by the Chief Engineer or delegated authority. **(T-2)**

12.6. Maintenance Personnel Requirements. For AF-managed aircraft that maintain an FAA TC and airworthiness, maintenance personnel will meet the Lead Command and PM established requirements and procedures to maintain airworthiness. **(T-2)** AF maintenance technicians performing organic depot maintenance follow Air Force Sustainment Center Instruction (AFSCI) 62-603, Military Repair Station Program, Air Force Sustainment Center Manual (AFSCMAN) 62-602, Military Repair Station Manual.

12.6.1. For CDA that do and do not maintain a civil airworthiness certificate, maintenance is not required to be completed by an FAA-certificated mechanic. However, a Maintenance Management Program Plan detailing the maintenance personnel requirements will be established between the PM and the Lead Command. **(T-2)**

12.6.1.1. The plan will address as a minimum the training requirements, the level of effort allowed (such as, specific maintenance tasks as identified in the Original Equipment Manufacturer maintenance manuals), and tasks that will be performed by FAA-certified mechanics, repair stations, AFSC Military Repair Stations, or the Original Equipment Manufacturer. **(T-2)**

12.6.1.1.1. CDA Training courseware, as applicable, for unique CDA platform requirements, such as but not limited to; Extended Operations (ETOPS and Polar Operations), Materiel Management, Continuing Analysis Surveillance System (CASS), Maintenance Provider Program, Required Inspection Item (RII), Major/Minor Repair) will be addressed in lead command program training development and remain standardized across the entire weapon system. Individual Main Operating Base (MOB) units and depots may augment training as required.

12.6.1.2. The maintenance plan will be approved by the PM with coordination by the FAA Military Certification Office or Military Repair Station/Flight Standards Management Office as appropriate. **(T-2)**

12.7. Deviations/Changes to Inspection Requirements, Time Change Intervals, and Component/Aircraft Overhaul. Commercial derivative aircraft inspection requirements, time change, component and aircraft overhaul intervals are established and controlled by the Original Equipment Manufacturer and approved by the FAA. When deviation from the Original Equipment Manufacturer established maintenance standards/configuration is needed to meet AF mission requirements, units will send proposed changes to the PM through MAJCOM and for evaluation. **(T-2)**

12.8. Air Force Modifications to CDA and Components. AF modifications to CDA and components are developed following procedures outlined in AFI 63-101/20-101. All AF modification requests require coordination with the Chief Engineer or delegated authority who will provide assistance in determining applicable requirements, forms and coordination necessary to correctly disposition aircraft and component modification requests. **(T-2)**

12.9. Certification Basis for CDA. Elements of the certification basis for any CDA which are not met via FAA certification are satisfied by compliance with approved military airworthiness requirements derived from MIL-HDBK-516C, *DoD Handbook, Airworthiness Certification Criteria*. CDA whose primary mission is the transport of passengers are FAA Type Certified; FAA certification of these CDA passenger carrying aircraft is maintained for the life of the air system.

Chapter 13

CENTRALIZED REPAIR FACILITIES (CRF).

13.1. Introduction. CRFs consolidate off-equipment intermediate-level, and in some instances, depot-level tasks for commodities such as aircraft engines, electronic warfare pods, avionics line replaceable units, wheel and tire assemblies, and other aircraft components. CRFs focus on efficiently providing maintenance, repair, and/or overhaul capabilities, support RN efficiencies and will be fully integrated into the AF Supply Chain. CRFs are considered part of the repair network and exist to ensure responsiveness to MGN requirements to sustain operations both at home station and/or when deployed. Management and control procedures are outlined in AFI 20-117.

13.2. Organization. CRFs will be established within existing maintenance organizations (EMS, CMS, MXS), minimizing requirements for overhead and support. **(T-2)** Production oversight and monitoring of repair operations is the responsibility of the owning maintenance organization in which the CRF is established. Commanders with CRFs will manage the personnel, facilities, and processes for the CRF following the policies and procedures in this DAFI and DAFI 20-117. **(T-2)**

13.3. CRF Production Requirements. Maintenance Squadron (EMS, CMS, MXS) Director of Operations/MX SUPT will:

13.3.1. Ensure the Node Manager (NM) executes enterprise production duties as outlined in AFI 20-117. **(T-2)**

13.3.2. Ensure the NM identifies and up-channels repair constraints that affect CRF repair/RN CAP2 to the MFM and RNM as prescribed in DAFI 20-117.

13.3.3. Ensure the NM utilizes information management systems and participates in RNM collaboration calls to provide timely status reports, resolve repair constraints, and receive revised repair requirements/RN changes. **(T-2)**

13.3.4. Identify systemic distribution, transportation, and supply difficulties and coordinate with base LRS leadership and/or up-channel concerns to the RNM and MFM for resolution. **(T-2)**

13.3.4. **(AETC)** AETC Centralized Repair Facilities POC is 19 AF/A4M.

13.3.5. Follow established procedures to ensure the rapid movement of retrograde and sustainment assets to support enterprise requirements.

13.4. MGN Support. Units supported by CRFs will maintain the level of intermediate-level repair capability necessary to sustain MGN operations. MAJCOMs must identify intermediate-level tasks and resources required to perform MGN maintenance tasks for assigned weapon systems (for example, repair of XF3 assets, hose/tube testing, functional checks, NRTS screening).

13.4. (AETC) MGN Support. This applies to units that have applicable retained task/intermediate-level repair capability for the XB3/XF3 part in question. Units that no longer have this capability will identify critical XF3/XB3 parts that require CRF intermediate-level testing to determine/validate serviceability and ensure these parts are routed to their supporting CRF for testing/repair. Additionally, units will ensure all XD2 parts tested/repaired by their

supporting CRF are properly coded/routed in their local supply system to ensure the CRF is not bypassed (sent directly to depot).

13.4.1. Rotable Pools. Customer Wait Time and transportation constraints may drive the establishment of a Centralized Rotable Pool for Class VII end items such as engines and pods to meet established weapons system availability goals. Use of a Centralized Rotable Pool can enhance mission capability by placing serviceable assets closer to the user when the repair capability is off installation. Centralized Rotable Pool size, compared to support unit spare levels, will be determined during deliberate planning between the appropriate RNM and MAJCOMs.

13.4.2. Cannibalization at supported units. When commodity LRU local retail stocks fall below mission requirements, retention of CRF-repaired end items as "CANN assets" may be necessary. However, this will be by exception and must be approved by the appropriate RNM in coordination with the supporting MAJCOM CRF Manager. **(T-2)** CRFs will document their cannibalization process and notify supporting unit of approval to retain CANN assets. **(T-2)**

13.4.3. Provide CRF node performance, CAP2, and commodity status reports and metrics as defined in DAFI 20-117. **(T-2)**

13.4.4. Ensure the NM utilizes information management systems to provide timely status reports and receive workload requirements/ changes for commodity group repairs supported by the CRF IAW with AFI 20-117. **(T-2)**

13.4.5. **(Added-AETC)** Accomplish T-38/J85 retained task requirements IAW TO 1T-38C-2-6, TO 2J-J85-111-1, and the 2J-J85-116 series TOs on installed and removed engines. **(T-2)** The following is a list of T-38/J85 retained tasks that are to be accomplished by the RTSCs. The tasks include, but are not limited to install/inspect/replace engine wiring harnesses, external plumbing and tubing, all externally mounted components/line replaceable units to include the replacement of the gearbox in its entirety and its accessories, exhaust nozzle and exhaust nozzle sub components, all spray bars, unison ring, AB case and liners and flameholder, top half of compressor casing for FOD assessments, and blade blending.

13.4.5.1. **(Added-AETC)** RTSCs will also repair and/or replace minor parts, hardware and soft goods. In addition, remove, inspect, replace and install engine oil and fuel filters and rig engines as necessary.

13.4.5.2. **(Added-AETC)** RTSCs are not authorized to perform field maintenance when the engine is required to be placed in the vertical position for repairs. **(T-2)**

13.4.5.3. **(Added-AETC)** Perform preventative maintenance to include safety of flight items, reliability centered maintenance.

13.4.5.4. **(Added-AETC)** Perform condition inspections on all removed engine parts IAW applicable technical orders.

13.4.5.5. **(Added-AETC)** Process all reparable components removed as a result of a retained task IAW TO 00-20-3.

13.5. CRF Enterprise Information Management. Managers require accurate, timely, and enterprise repair data to make CRF command and control and production decisions. To facilitate this requirement, NMs will utilize systems, processes, and business rules prescribed by AFI 20-117 to provide repair data and ensure enterprise visibility. **(T-2)**

13.6. Documentation. The CRF and supported units will maintain all required status, inventory, and historical record documentation on CRF-repaired assets, IAW TO 00-20-1 and DAFI 21-103.

13.7. Metrics. CRFs will report performance against metrics IAW DAFI 20-117.

Chapter 14

MAINTENANCE PLANS, SCHEDULING AND DOCUMENTATION (PS&D).

14.1. Responsibilities:

14.1.1. and 14.1.1.1. DELETED.

14.1.2. MAJCOMs will:

14.1.2.1. Supplement this instruction to establish minimum requirements for the following:

14.1.2.1.1. TCTO folders and monthly/weekly utilization and maintenance schedules.

14.1.2.1.2. Publish MAJCOM procedures for verification of configuration items.

14.1.2.1.3. Determine whether to ship removed engines to depot or induct into CRF repair.

14.1.2.1.4. Determine routing and approval for AF Form 2407.

14.1.3. PS&D will:

14.1.3.1. Maintain historical documents and maintenance data essential for the development of wing plans, schedules, and analysis of historical maintenance events. **(T-2)**

14.1.3.2. Maintain historical maintenance data within the MIS. **(T-2)**

14.1.3.3. Develop wing maintenance plans using MIS aircraft/system historical data input by all maintenance personnel. **(T-2)**

14.1.3.4. **(Added-AETC)** Manage the FHP reporting IAW DAFI 21-103 Section 2E. **(T-2)**

14.1.4. The PS&D Section NCOIC/Chief (or equivalent) will:

14.1.4.1. DELETED.

14.1.4.2. Establish and coordinate plans for rotating 2R1XX personnel through various duty positions to increase field knowledge and experience every 24 months, not to exceed 36 months. **(T-2)**

14.1.4.2. **(AETC)** [DEV] Contract/civilian units are exempt from establishing a rotation plan.

14.1.4.2.1. This rotation plan applies to TSgts and below as well as 3- or 5-skill level personnel of any rank. **(T-3)**

14.1.4.3. Evaluate quarterly the performance of workcenters performing scheduling functions to include TCTO, SI, and Job Standard Master Listing (JML) management (such as, AGE, Armament, Egress, Fuels, MXO, PS&D). **(T-2)**

14.1.4.3.1. During the visit, ensure historical documents are properly maintained and review and discuss the 2R1X1 training and rotation plan with each section NCOIC that have 2R1s assigned. **(T-2)**

14.1.4.3.2. Provide formal written reports of deficiencies found during the visits to the MXO DO/SUPT and applicable section NCOIC. **(T-2)**

14.1.4.3.2.1. Deficiencies will not be closed until validated by the MXO DO/SUPT. **(T-2)**

14.1.4.4. - 14.1.4.4.2. DELETED.

14.1.4.4.3. **(Added-AETC)** Ensure personnel performing scheduling functions in sections where 2R1X1 personnel are not assigned either permanently or temporarily (e.g., armament, munitions, AGE) are trained in day-to-day scheduling tasks. Ensure a WJQS for each required area is developed, and ensure training is provided and documented. The unit 2R1 functional will establish training procedures and ensure coordination is accomplished within the maintenance complex. **(T-2)**

14.1.4.5. Provide SME on all maintenance scheduling issues and equipment historical document AFTO Form 95 management to QA during inspection/evaluations. **(T-2)**

14.1.4.6. Designate the MSM administrator from within PS&D (for units utilizing IMDS only). **(T-2)**

14.1.4.7. **(Added-AETC)** Combine aircraft capability provided by analysis with availability factors to support operational requirements for the development of annual, quarterly, monthly, and weekly plans. **(T-2)**

14.1.4.8. **(Added-AETC)** Integrate maintenance and operational requirements into realistic plans and schedules, maintaining a balance of UTE rate accomplishment, student training timeline, fleet time standards, and scheduled maintenance requirements. **(T-2)** These plans will include the annual projection capability, quarterly maintenance plans, and monthly and weekly schedules.

14.1.4.9. **(Added-AETC)** Load weekly operational schedules into the MIS once approved in order to make status and deviation reporting easier, more accurate, and nearer to real time. **(T-2)** During MIS system failure, complete the first five blocks on AETC Form 206C and distribute it to the MOC. See **Attachment 10** for instructions on completing AETC Form 206C. **(T-2)**

14.1.4.10. **(Added-AETC)** In conjunction with MMA, provide maintenance capability computations to operations prior to the programmed flying training (PFT) conference (not applicable to "T" designated aircraft).

14.1.4.11. **(Added-AETC)** Inspection Management. PS&D will identify, monitor, project, and schedule aircraft inspection requirements into maintenance plans. **(T-2)** EM will identify, monitor, project, and schedule engine life limited component inspection requirements into maintenance plans. **(T-2)** Solid long-range plans with accurate inspection forecasting, limits aircraft downtime and minimizes out-of-commission time.

14.1.4.12. **(Added-AETC)** Participate in all wing scheduling meetings representing PS&D responsibilities. **(T-2)** For contract and civil service units, the DOM will determine appropriate representation at wing scheduling meetings.

14.1.4.13. **(Added-AETC)** In coordination with the OG, develop written guidance that standardizes scheduling practices including standardized flying windows, specific surge

rules, quiet hour policies, cross-country (XC) takeoffs and returns, minimum turn times, crew-ready times, and daily verification of the previous day's flying hours between maintenance and operations. An example can be found in AFTTP 3-4.21V1 Tables 4.10 and 4.14. **(T-2)**

14.1.4.14. **(Added-AETC)** Ensure frequency-of-cleaning/wash cycles are established for assigned aircraft to maximize corrosion prevention. Monitor aircraft wash schedules to eliminate overdue washes. Unit wash cycles will not exceed the maximum wash cycles listed in TO 1-1-691, unless coordinated and approved by SPD. **(T-2)**

14.1.4.14.1. **(Added-AETC)** When unique operational requirements, contingencies, droughts, or facility limitations severely impact a unit's ability to wash as prescribed in TO 1-1-691, request a temporary wash waiver from the SPO via 107, technical assistance request, etc. prior to aircraft wash going overdue. **Exception:** Submit requests for CV-22 wash waivers to 19 AF/A4MS for approval by 19 AF/A4.

14.1.4.14.2. **(Added-AETC)** Notify Command Corrosion Functional Manager and AFCPCO of all approved waivers with 10 duty days. Notification shall include mission design series, aircraft tail number(s), date of last wash, reason for overdue condition, and corrective action taken to prevent further occurrences. **(T-2)**

14.1.5. The Wing AVDO will:

14.1.5.1. Complete AVDO duties IAW DAFI 21-103 and maintain the inventory and utilization portion of the MIS Inventory, status, and utilization subsystem. **(T-2)**

14.1.5.2. Maintain a PDM schedule by tail/serial number for all assigned aircraft and equipment in support of AFMC and Lead Command plans and requirements. **(T-2)**

14.1.6. Unit Dedicated Scheduler will:

14.1.6.1. Provide dedicated support to AMXS/AMU. **(T-2)**

14.1.6.2. Attend and actively participate in daily, weekly, and monthly scheduling, and quarterly and yearly planning programs and meetings. **(T-2)**

14.1.6.2.1. Inform Unit supervision of maintenance capabilities or limiting factors that could affect maintenance production. **(T-2)**

14.1.6.2.2. **(Added-AETC)** Review the MIS before each daily scheduling meeting to ensure scheduled maintenance actions have been completed and updated, to include verifying new inspection and TCI due times. **(T-2)**

14.1.6.3. Coordinate with Unit supervision and Operational Squadron (OS) operations schedulers when scheduling Unit aircraft to meet flying requirements. **(T-2)**

14.1.6.4. Provide a listing of JCNs for following week's scheduled maintenance. **(T-2)**

14.1.6.4.1. This list will be used to track Maintenance Scheduling Effectiveness (MSE). **(T-2)**

14.1.6.4.2. PS&D will determine causes of missed maintenance for reporting MSE. **(T-2)**

14.1.6.5. Manage TCTOs, TCIs, and Sis (including installed engine inspections) for aircraft assigned to their appointed AMXS/AMU. **(T-2)**

14.1.6.6. Generate AFTO Form 103, *Aircraft/Missile Condition Data*, to record certified maintenance needs for aircraft requiring depot maintenance IAW TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment*, coordinate it with PS&D, QA, and AMXS maintenance supervision. **(T-2)**

14.1.7. **(Added-AETC)** Operations Group Commander (OG/CC). The OG/CC is responsible for student training. He or she will ensure realistic schedules are developed and executed to meet student training objectives. The OG/CC will recommend approval of squadron flying plans and schedules for presentation to the WG/CC. **(T-2)**

14.1.8. **(Added-AETC)** Operations Squadron (OS). For CSO, UPT, PIT and IFF units, the OS will ensure aircrew members debrief sorties flown, using the correct sortie sequence number IAW **paragraph 14.5.6.3.1.3**. **(T-2)**

14.1.8.1. **(Added-AETC)** The OS commander will ensure realistic schedules are developed and meet training objectives without jeopardizing fleet health.

14.1.8.2. **(Added-AETC)** Operations capability may be a limiting factor when computing scheduling requirements. Operations capability is the maximum number of sorties or missions that can be generated with available aircrew instructors (AIs), students, and other qualified crew members in the number of hours for a given daily flying window, consistent with syllabus constraints.

14.1.8.3. **(Added-AETC)** Individual flights and OSs will determine their maximum capabilities, which are then compared to current and desired event line positions and converted into a UTE rate. **(T-2)** If maintenance limitations exist in achieving sorties, missions, UTE rates, or hourly requirements, but a resolution is not possible at the squadron level, the group commander will be consulted for resolution. When operational limitations exist, individual flights and OSs will consider management actions such as increasing the number of daily sorties or missions for each aircrew member, flying on weekends, delaying support flying, and/or increasing the number of prime fliers. **(T-2)** However, they will ensure these actions stay within the capability of maintenance.

14.1.8.4. **(Added-AETC)** The syllabus of instruction provides course/lesson guidance and places sortie/mission requirements on each student. When computing a realistic student capability limitation, factors such as phase of training, simulator training, duty not involving flying (DNIF) periods, and duration of maximum effort will be carefully considered.

14.1.8.5. **(Added-AETC)** Individual OSs will determine their maximum AI capability by considering simulator missions, flight duties, DNIF periods, leaves, required meetings, training, training review boards, student continuity, etc. Attached AIs will be considered when estimating maximum AI capability.

14.1.9. **(Added-AETC)** Operations Support Squadron (OSS) Operations Scheduling. OSS Operations Scheduling will: **(T-2)**

14.1.9.1. **(Added-AETC)** Obtain range, airspace, tanker support, and/or flying commitments.

14.1.9.2. **(Added-AETC)** Coordinate (to include confirmation) on all military training routes. (A locally designated representative may be outside this function.)

14.1.9.3. **(Added-AETC)** Manage air refueling tracks and finalize air refueling requirements per AFI 11-221, *Air Refueling Management (KC-10, KC-46, and KC-135)*.

14.1.9.4. **(Added-AETC)** Receive intercommand and intracommand tasking (airlift channel missions) and disseminate the tasking to OSs.

14.1.9.5. **(Added-AETC)** Monitor (by MDS) the wing's progress toward planned monthly and annual UTE rates and FHP accomplishment.

14.1.9.6. **(Added-AETC)** Ensure the wing's annual FHP is developed with assistance from maintenance scheduling.

14.1.10. **(Added-AETC)** Flying Squadron Operations Officer. The squadron operations officer will: **(T-2)**

14.1.10.1. **(Added-AETC)** Consolidate OSS operations scheduling of student and instructor flying requirements into flying plans and schedules to include annual projections, monthly plans, and weekly schedules. Negotiate and coordinate flying requirements with the appropriate maintenance PS&D section.

14.1.10.2. **(Added-AETC)** Notify PS&D once the PFT conference date is known (not required for "T" designated aircraft).

14.1.10.3. **(Added-AETC)** Monitor the flying schedule and ensure sorties or missions that did not meet operational objectives (for example, incomplete checkrides) are scheduled to be reflown.

14.1.10.4. **(Added-AETC)** Compute operations attrition factors used to develop the PFT plan.

14.1.10.5. **(Added-AETC)** Assess the suitability of a PMC or restricted aircraft to complete sortie or mission objectives.

14.2. Data Documentation.

14.2.1. Maintenance Historical Documentation.

14.2.1.1. Maintenance historical documentation will be accomplished IAW TO 00-20-1 which outlines the requirements to capture and record the significant maintenance actions on aerospace vehicles and equipment. **(T-2)**

14.2.1.2. Historical documentation will be entered and tracked in the authorized MDS MIS. **(T-2)** When the MIS is not available, historical documentation will be documented and tracked on the AFTO Form 95, or equivalent. **(T-2)**

14.2.1.3. MAJCOMs should develop supplements to this instruction to identify aerospace vehicle and support equipment historical file content and retention requirements needed beyond the minimum requirements outlined in this instruction and TO 00-20-1.

14.2.2. Aircraft jacket files. Units will develop and maintain a standardized master aircraft jacket file for use throughout the wing following the requirements listed in this instruction, TO 00-20-1 and AFI 33-322.

14.2.2.1. MAJCOMs will standardize MDS-specific requirements not captured in this instruction in supplements and addendums to this instruction.

14.2.2.2. Aircraft jacket files will be maintained in PS&D and standardized IAW the master aircraft historical file developed by the PS&D NCOIC. **(T-2)**

14.2.2.2.1. Off-equipment maintenance documents may be decentralized to sections maintaining installed-on equipment assets (examples include fuel cell records at fuel systems section, landing gear strut records at hydraulics section).

14.2.2.2.1.1. Decentralized records are filed by and are the responsibility of the owning work center.

14.2.2.2.2. PS&D will list all historical records, in their file plan or office of record. **(T-2)**

14.2.2.2.2.1. The DD Form 2861, *Cross-Reference*, will be used to cross-reference documents decentralized from PS&D to other sections and will be filed to cross reference AFTO Form 95 records that are maintained in the MIS. **(T-2)**

14.2.2.2.3. Wing-assigned aircraft jacket files may be maintained electronically; however, they must mirror the standardized master aircraft jacket file in organization and appearance. **(T-2) Note:** Slight variations in composition are allowed between different MDS weapons systems located within the same wing.

14.2.2.3. MXG/CC may identify additional local items for inclusion in aircraft jacket files. Aircraft jacket files as a minimum will include:

14.2.2.3.1. Packages for one complete inspection cycle. **(T-2)** Units may download paperless inspections to automated storage media from MIS for filing in aircraft jacket files.

14.2.2.3.2. Last FCF documentation (such as, FCF certification letter/FCF checklist). **(T-2)**

14.2.2.3.3. Last depot package. **(T-2)**

14.2.2.3.4. Transfer packages. **(T-2)**

14.2.2.3.5. Applicable weapon system -6 TO AFTO Form 95s. **(T-2)**

14.2.2.3.6. W&B records. **(T-2)**

14.2.2.3.7. Engine Records. **(T-2)**

14.2.2.3.8. Document review records/checklists. **(T-2)**

14.2.2.3.9. NDI records. **(T-2)**

14.2.2.3.10. AF Form 2411, Inspection Document (or equivalent). **(T-2)**

14.2.2.3.11. Annual aircraft jacket file review checklist. **(T-2)**

14.2.2.3.12. Authorized TO variances. **(T-2)**

14.2.2.3.13. Requests for assistance meeting the requirements for retention as historical records IAW TO 00-25-107, or equivalent/like MDS specific requirements for retention of documents as historical records. **(T-2) Note:** Contact the Lead

Command as identified in AFPD 10-9 for guidance for meeting retention as historical records requirements outside the scope of TO 00-25-107.

14.2.2.3.14. Pulled AFTO Form 781-series aircraft forms. **(T-2)**

14.2.2.3.14.1. Pulled paper forms retained as part of the jacket file will be destroyed after 3 months if they do not contain historical information IAW AFRIMS. **(T-2)**

14.2.2.3.14.2. Fusing fully automated forms will maintain the last 7 copies of the pulled aircraft forms and destroy the earliest record when the 8th report is received IAW AFRIMS. **(T-2)**

14.2.2.3.14.3. Units not required to use a MIS will use aircraft forms and maintain the current and the last 3 months' worth of pulled aircraft forms. **(T-2)**

14.2.2.3.14.4. Pulled 781 forms will be filed in order by sets identified by the "From and To" date at the top of each 781-series form (see TO 00-20-1). **(T-2)**

14.2.2.3.14.5. Sets of forms may or may not include an AFTO Form 781J, *Aerospace Vehicle – Engine Flight Document* and AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*. AFTO Forms 781J and K will be included in the set of forms they were pulled with and retained for the same period of time. **(T-2)**

14.2.2.3.14.6. When PS&D discovers the AFTO Form 781-series missing during a jacket file inspection, a missing-forms letter will be sent to the appropriate Maintenance Supervision of the maintenance unit responsible for pulling the forms with a 5 duty-day suspense. **(T-2)**

14.2.2.3.14.6.1. If a response is not returned within 5 duty days, notify the applicable maintenance unit supervision. **(T-2)**

14.2.2.3.14.6.2. If the forms cannot be located, file the missing forms letter, endorsed by the Maintenance Supervision in place of the missing forms. **(T-2)** See TO 00-20-1 for missing form procedures and AFI 33-322 for records management and disposition instructions.

14.2.2.4. Annual jacket file review. Review aircraft jacket files annually using a locally-developed PS&D checklist. **(T-2)**

14.2.2.4.1. The last completed checklist will be kept on file in each aircraft jacket file. **(T-2)**

14.2.2.4.1. **(AETC)** Units may attach an AF Form 2411 to each historical jacket file to record the completion of each jacket file review. If AF Form 2411 is not used, completion of jacket file review will be documented on the AFTO Form 95.

14.2.2.4.2. **(Added-AETC)** P&S will accomplish the following minimum requirements: **(T-2)**

14.2.2.4.2.1. **(Added-AETC)** Ensure all items requiring an AFTO Form 95 (or automated version) according to the applicable -6 TO are complete, accurate and filed appropriately.

14.2.2.4.2.2. **(Added-AETC)** Ensure the PRA on file is current, accurate, and contains a signature from egress. When TCIs are changed between inspections, PS&D will update the aircraft PRA on file with the information taken from the suspense using red ink. This updated PRA may remain on file until replaced by an updated, verified, and signed PRA or until the next completed CAD/PAD verification.

14.2.2.4.2.3. **(Added-AETC)** Ensure there is a copy of the last records check and copies of the last inspection packages.

14.2.3. Aircraft Document Reviews (ADR). ADRs validate and correct any errors on airframe and engine operating times and cycles, TCTO documentation, TCI component operating times, time remaining to the next inspection, backordered supply document numbers and open deferred discrepancies. The aircraft AFTO Form 781-series for possessed aircraft are reviewed by aircraft crew chiefs, flightline maintenance functions, PS&D, Engine Management (EM) and LRS personnel to ensure the accuracy and validity of entries.

14.2.3.1. MAJCOMs will standardize the MIS/on-line products used to perform ADR on like-MDS weapons systems.

14.2.3.1. **(AETC)** IMDS units will use the Automated Records Check (screen 417/418 or bang option) for the ADR. FMxC2 units will use the online ADR tool. The link for this tool is located under the Plans and Scheduling section of the Global Reach Logistics/A4 Information home page at **https://amclg.csd.disa.mil**.

14.2.3.1.1. Units using MDS-specific laptop forms (for example Integrated Maintenance Information System (IMIS), Autonomic Logistics Information System (ALIS)) must develop procedures to ensure intent of ADRs is implemented. **(T-2)**

14.2.3.2. An ADR will be accomplished at least every 60 days for units using the fully automated AFTO Form 781-series (AFTO Form 781A, AFTO Form 781J, *Aerospace Vehicle – Engine Flight Document*, AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection, and Delayed Discrepancy Document*. **(T-2)**

14.2.3.2.1. Units without access to a MIS and authorized to use manual AFTO Form 781-series, must accomplish an ADR at least every 30 days. **(T-2)**

14.2.3.2.2. ADRs will also be accomplished when an aircraft is transferred, before and after scheduled inspections (PH or ISO), before and after storage and after fatigue tests. **(T-2)**

14.2.3.2.3. For CANN aircraft, conduct ADRs at least every 30 days. **(T-2)**

14.2.3.2.3. **(AETC)** Accomplish an ADR upon removal from CANN status. **(T-2)**

14.2.3.3. Units will develop and publish an ADR checklist for use by home station and deployed units. **(T-2)**

14.2.3.3.1. This checklist will identify who initiates the ADR, reviewing agencies (to include the OAP lab), AFTO Form 781-series entry requirements, agency responsible for completing the AFTO Form 781-series/MIS entry, and outline any configuration verification requirements. **(T-2)**

14.2.3.4. ADR Procedures.

14.2.3.4.1. PS&D will create a JST for ADRs on a red dash symbol and ensure it is loaded against all assigned aircraft. **(T-3)**

14.2.3.4.2. ADRs will be scheduled and added to the appropriate maintenance plan. **(T-2)** An ADR is a scheduled maintenance action and will be included in MSE computations. **(T-2)**

14.2.3.4.2. **(AETC)** The crew chief or alternate will transcribe forms IAW TO 00-20-1 and print a new set of automated AFTO Form 781-series forms prior to starting the ADR process. **Note:** Aircraft undergoing heavy maintenance, e.g., CANN, engine change, may be exempt from transcribing forms. **(T-2)** ADR procedures will assign responsibilities to ensure discrepancies not started or scheduled within 5 days after the date of discovery are deferred, all TCTOs are entered on the AFTO Form 781K IAW TO 00-20-1, aircraft hours and engine times match data in the MIS, modular engine flying hours and manual cycles are verified with EM section, and entries on the front of the AFTO Form 781K are made IAW TO 00-20-1. **(T-2)**

14.2.3.4.3. PS&D and EM will validate applicable inspection, TCI, TCTO data for correct due dates/time or expiration dates, airframe, and engine operating times (or flight times if applicable) and appropriate symbol entry IAW TO 00-20-1. **(T-2)**

14.2.3.4.4. Units will coordinate with /LRS to run a tail number inquiry to validate backorders and correct any discrepancies discovered. **(T-2)**

14.2.3.4.4. **(AETC)** In units where the supply function has been contracted and/or isn't available within the maintenance unit, the supporting supply function is required to provide the necessary supply information.

14.2.3.4.5. Maintenance personnel will correct all discrepancies discovered during the ADR, prior to signing off the ADR JCN. **(T-2)**

14.2.3.4.5.1. If an ADR discrepancy cannot be corrected immediately, document the ADR discrepancy in the AFTO Form 781A with a JCN and applicable symbol and retain it in the AFTO Form 781-series forms until corrected and signed off. **(T-2)** Once all the uncorrected discrepancies are documented in the AFTO Form 781- series the ADR can be signed off as complete.

14.2.3.4.5.1. **(AETC)** The maintenance technician will clear the ADR JCN in the AFTO Form 781A and in the MIS. **(T-2)** PS&D will ensure the next due date is correct before clearing the suspense. **(T-2)**

14.2.4. Pre-Dock Meetings. PS&D personnel will:

14.2.4.1. Review planned aircraft inspection schedules and initiate an AF Form 2410, *Inspection/TCTO Planning Checklist*, or locally developed product for each aircraft prior to the pre-inspection meeting. **(T-2)**

14.2.4.1.1. MAJCOMs may determine if the pre/post dock requirement for inspections with less than a 200-hourly or 200-calendar day cycle is required. If it is determined that a pre/post dock meeting is not required, initiation of an AF Form 2410 is not necessary.

14.2.4.1.1. **(AETC)** AETC units will determine locally if pre- and post-dock meetings are required for inspections with less than a 200-hourly or 200-calendar day cycle.

14.2.4.2. Host meetings and notify the appropriate Maintenance Supervision and flight supervisors of any recurring problems with attendance. **(T-2)** Prior to the pre-dock meeting, PS&D will:

14.2.4.2.1. Determine pre-dock meeting attendees. **(T-2)**

14.2.4.2.1.1. The following personnel will attend the meeting as a minimum: PS&D, Pro Super, Inspection Dock NCOIC, aircraft crew chief, DMS/Supply representative, and EM representative. **(T-2)**

14.2.4.2.1.1. **(AETC)** The egress function will attend the pre-dock meeting when CAD/PAD TCIs or TCI verifications are scheduled. **(T-2)**

14.2.4.2.1.2. Include other agencies as required for performance of the work package.

14.2.4.2.2. Review and list all known aircraft and equipment TCTOs, TCIs, SIs, and other major requirements to be accomplished during the inspection on the AF Form 2410, or locally developed product. **(T-2)**

14.2.4.2.2. **(AETC)** PS&D will forward the AF Form 2410 to EM. EM will:

14.2.4.2.2.1. **(Added-AETC)** Annotate all engine-related TCTOs, TCIs, inspections, or any major or minor maintenance action required during the aircraft's scheduled downtime.

14.2.4.2.2.2. **(Added-AETC)** Return the AF Form 2410 to PS&D after completion.

14.2.4.2.3. Identify requirements for kits or parts. **(T-2)**

14.2.4.2.4. List all Delayed Discrepancies to be accomplished during the inspection on the AF Form 2410 keeping the original JCN. **(T-2)**

14.2.4.2.5. Incorporate all requirements against the aircraft into a work package. **(T-2)**

14.2.4.2.6. List specialist tasks required in addition to normal inspection needs. **(T-2)**

14.2.4.2.7. Develop a list of items identified as out-of-configuration for verification/correction during the inspection. **(T-2)**

14.2.4.2.7.1. For non-configuration tracked aircraft, compile a list of missing serially controlled items and coordinate/forward them to Inspection Dock NCOIC for verification. **(T-2)**

14.2.4.3. At the pre-dock meeting, PS&D will brief representatives of the inspection schedule and scope, including TCTOs, TCIs, SIs, DDs, and special requirements to be accomplished. **(T-2)**

14.2.4.3.1. Agency representatives will inform PS&D of limiting factors that might affect the schedule. **(T-2)**

14.2.4.3.1. **(AETC)** Identify known availability of parts and/or kits required to complete scheduled actions on AF Form 2410.

14.2.4.3.2. PS&D will discuss aircraft configuration during all aircraft pre-dock meetings. **(T-2)**

14.2.4.3.3. Wings will use the AF Form 2410, or locally developed product to record additional information discussed during the pre-dock meeting. **(T-2)**

14.2.4.3.3.1. Maintain the original AF Form 2410, or locally developed product on file in the aircraft jacket file for use as a guide when conducting the post-dock meeting. **(T-2)**

14.2.4.3.3.2. Provide a copy to the Inspection Dock NCOIC or equivalent for use during the post-dock meeting. **(T-2)**

14.2.4.3.4. PS&D will provide a copy of the applicable "out of configuration" MIS products (such as, IMDS screen 810 and 990; FMxC2, screen 8110; serial number checklists) to Inspection Dock NCOIC in pre-dock package for verification/correction. **(T-2)**

14.2.4.3.4. **(AETC)** For configuration tracked aircraft, PS&D will request the IMDS DBM process screen 942, Actual Configuration Set-up, using the ID number of the aircraft prior to using screen 990. For non-configuration tracked aircraft, compile a list of missing serially controlled items and coordinate/forward them to dock chief for verification.

14.2.4.3.4.1. The responsible work center will correct verified erroneous data and "out of configurations" in the MIS prior to post-dock. **(T-2)**

14.2.4.3.5. As a minimum, the following will also be discussed at the pre-dock meeting:

14.2.4.3.5.1. The type and number (if applicable) of the inspection to be performed. **(T-2)**

14.2.4.3.5.2. Validation of current aircraft and engine operating times. **(T-2)**

14.2.4.3.5.3. Parts in the TNB that require aircraft installation. **(T-2)**

14.2.4.3.5.4. Any known post inspection fuel cell work required. **(T-2)**

14.2.4.3.5.5. Date the aircraft is to be ready for the flightline to accept back. **(T-2)**

14.2.4.3.5.6. All known engines requiring replacement. **(T-2)**

14.2.4.3.5.7. Review of the aircraft forms open discrepancies including Delayed Discrepancies and develop a joint plan to work as many discrepancies as feasible/applicable. **(T-2)**

14.2.4.3.5.8. Any inspections that will require maintenance personnel to stop work (such as, NDI shop requirements) and when the maintenance dock needs to be clear of personnel to perform the inspections. **(T-2)**

14.2.4.3.5.9. All meeting attendees will sign the AF Form 2410. **(T-2)**

14.2.4.3.5.10. **(Added-AETC)** Following the meeting, schedule all actions listed on the AF Form 2410 in the MIS.

14.2.5. Post-Dock Meetings. Units will hold a post-dock meeting as soon as possible after the inspection but no later than before the FCF or first flight. **(T-2)** PS&D will:

14.2.5.1. Lead a post-dock meeting for all inspections that required a pre-dock meeting. **(T-2)** As a minimum, discuss and validate the following information at the post-dock meeting:

14.2.5.1.1. PS&D, Pro Super, Inspection Dock NCOIC, Aircraft Section representative/crew chief and other locally determined attendees will discuss open discrepancies, review any significant inspection events, and identify any problems that may adversely affect future scheduling. **(T-2)**

14.2.5.1.1. **(AETC)** Newly printed or transcribed AFTO 781 series forms will be used to accomplish the post-dock. **(T-2)** Prior to the post-dock, the inspection function manager will: **(T-2)**

14.2.5.1.1.1. **(Added-AETC)** Ensure all discrepancies discovered during the look phase of the inspection have been entered into the MIS IAW TO 00-20-1.

14.2.5.1.1.2. **(Added-AETC)** Review the MIS to ensure corrected discrepancies and inspection card items are properly documented.

14.2.5.1.1.3. **(Added-AETC)** Ensure scheduled actions listed on AF Form 2410 are properly documented.

14.2.5.1.1.4. **(Added-AETC)** Change the delivery destination for parts ordered, but not yet received during the inspection.

14.2.5.1.2. The Inspection Dock NCOIC will provide the completed inspection work package to PS&D for filing until it is replaced by the next similar inspection work package. **(T-2)** For example, an HPO1 will be replaced by the next HPO1 and the HPO2 will be replaced with the next HPO2.

14.2.5.1.3. The Inspection Dock NCOIC will return the completed serial number verification sheet to the PS&D representative. **(T-2**

14.2.5.1.4. The Inspection Dock NCOIC or designated representative and the aircraft crew chief or equivalent will perform an aircraft documents review. **(T-2)**

14.2.5.1.5. PS&D personnel will validate TCTOs, TCIs, and SIs scheduled during the inspection were completed and signed off in the MIS prior to the post dock meeting. **(T-2)**

14.2.4.1.5.1. DELETED.

14.2.5.1.5.2. Validate that any TCTO/TCI/SI not complied with will not ground the aircraft before releasing the aircraft back to flightline maintenance personnel. **(T-2)**

14.2.5.1.5.3. **(Added-AETC)** In coordination with the EM section, review or process all suspense's and verify TCTO status, TCIs, and inspection due dates for accuracy. **(T-2)** Correct errors immediately and update historical records as required. **(T-2)**

14.2.5.1.6. Verify all parts placed on order during the inspection but not received have valid document numbers.

14.2.5.1.7. If maintenance actions previously identified for completion at the pre-dock meeting were not accomplished, establish agreements as to how these inspection requirements will be completed and documented on the AF Form 2410 or locally developed product with the reason why it was not performed. **(T-2)**

14.2.5.1.7.1. The Inspection Dock NCOIC and flightline maintenance supervisor (Pro Super or above) agree that all inspection requirements are completed and the flightline supervisor agrees to accept or "buy back" the aircraft. **(T-2)**

14.2.5.1.7.1. **(AETC)** After a complete validation of all records, make the final entries on AF Form 2410. **(T-2)**

14.2.5.1.8. PS&D will file the completed AF Form 2410, or locally developed product, and completed/verified copies of the output products in the aircraft jacket file (PS&D retains completed package until the next scheduled PH/ISO inspection for that aircraft). **(T-2)** Electronic versions may be saved to digital media.

14.2.6. MIS (FMxC2/IMDS) extended downtime (more than 48 hours).

14.2.6.1. If the MIS is not available for more than 48 hours, maintenance organizations will use the most current data contained in MSM for IMDS units and "Global Reach" system products for FMxC2 units. The MSM database will be refreshed with new MIS products daily. **(T-2)**

14.2.6.1.1. MSM usage may continue in a digital format as long as updates can be made and retained.

14.2.6.2. Units will develop guidance to establish procedures to accurately manage Time Change Items, Special Inspections, and Time Compliance Technical Orders during Maintenance Information System (MIS) extended downtime, outage, or intermittent operability. These procedures are to ensure health of fleet and aircraft safety of flight. **(T-2)**

14.2.6.2.1. For PS&D and workcenters performing maintenance scheduling functions local guidance will address procedures to validate operating times (i.e., hours, cycles, starts, landings, rounds, due dates...etc.) affecting the accurate management of Time Change Items, Special Inspections, and Time Compliance Technical Orders weekly during extended or intermittent MIS outage or faulty operability. **(T-2)** Document completion on AF Form 2411, *Inspection Documentation*. **(T-2)**

14.2.6.2.2. MSM, Global Reach system products, or local tracking products may be used until the MIS is restored and backlog data has been loaded and verified in the system. If debriefed sorties are unable to be loaded into the MIS, the debrief section will provide a cumulative breakdown of sorties and hours completed daily to PS&D and MMA to ensure operating times reflect accordingly on locally tracked products and use to forecast scheduled maintenance actions. **(T-2)**

14.2.6.2.3. Munitions, Engine Management, AGE, and workcenters performing scheduling functions will provide operating times (i.e., hours, cycles, starts, rounds, due dates...etc.) as required by PS&D. **(T-2)**

14.2.6.3. If data cannot be retained by MSM or Global Reach, the use of AFTO Form 349, *Maintenance Data Collection Record*, or local developed form, will be initiated for use in data collection/completion. **(T-2)**

14.2.6.3.1. The most current paper or electronic version of MIS products will be used once AFTO Form 349 or electronic equivalent usage is initiated. **(T-2)**

14.2.6.3.2. The AFTO Form 349 or electronic equivalent, will be used to update applicable MIS products once brought back online. **(T-2)**

14.2.6.3.3. The AFTO Form 349 or electronic equivalent, will be maintained until the data listed on it has been verified as captured/loaded in the MIS. **(T-2)**

14.2.6.3.4. After all changes have been verified in the MIS, destroy the AFTO Form 349 or electronic equivalent.

14.2.6.4. If an aircraft is temporarily moved to an operating location away from the unit of assignment and connectivity to the MIS is unavailable, units will send only those documents necessary to ensure safety of flight and current aircraft status. **(T-2)**

14.2.7. Aerospace Vehicle and Equipment Mishap Response Procedures:

14.2.7.1. PS&D will coordinate with MMA or equivalent to ensure MIS lock out procedures to prevent further manipulation of data concerning the aerospace vehicle and/or equipment used during maintenance prior to the mishap event are completed IAW **Chapter 5**. **(T-2)**

14.2.7.2. At a minimum, produce, consolidate, and impound the following products: aircraft jacket file, aircraft AFTO Form 95s, TCTO history, debriefing records, pulled AFTO Form 781-series forms, SI/TCI data, maintenance history, automated records check. **(T-2)** Include any additional significant historical data, and other decentralized records. **(T-2)**

14.2.7.3. EM will download and impound engine records from the applicable MIS and CEMS. **(T-2)**

14.3. Configuration, TCTO, SI and TCI Management.

14.3.1. Responsibilities. MAJCOMs will establish PS&D requirements and responsibilities to support work centers whose duties require scheduling functions for the equipment they maintain (such as, Egress, Armament, Aerospace Ground Equipment, and Fuels) in a supplement to this instruction.

14.3.1.1. PS&D will provide work centers whose duties require scheduling functions (such as, Egress, Armament, and Aerospace Ground Equipment, Fuels) SME training support and oversight of scheduling products necessary to ensure configuration data integrity is maintained. **(T-2)** PS&D will:

14.3.1.1.1. Outline procedures for ordering hazardous materials for TCIs and TCTOs (such as, batteries). **(T-2)**

14.3.1.1.2. Units using a MIS will not delegate suspense validation processing for TCIs installed on aircraft to the performing work center unless the written procedures include the following: a list of work centers and specific technicians authorized to

process suspenses; a list of the specific suspenses authorized to be cleared; and the method for notifying PS&D of the work completed (an audit trail) (IMDS units only). **(T-2)**

14.3.1.1.2.1. Ensure EM processes all IMDS suspense validations for engines and engine components. **(T-2)**

14.3.1.1.3. Validate that data errors are corrected with appropriate personnel and updated in the MIS weekly. **(T-2)**

14.3.1.1.4. Submit MSM trouble tickets at **https://midtier.gunter.af.mil/**, call the Field Assistance Branch at DSN 596-5771, or e-mail **team4@gunter.af.mil** to correct program deficiencies. **(T-2)**

14.3.2. Configuration Management. Configuration management provides unit managers the capability to determine the actual versus approved configuration of an aircraft or equipment. The intent of configuration management is to ensure selected serially controlled and/or TCIs are properly loaded to the MIS database with accurate, approved part numbers, Quantity per Assembly and Next Higher Assembly items by WUC/LCN. PS&D has overall responsibility for the Equipment Configuration Management or Aircraft Configuration Management subsystem of the MIS and will provide assistance to maintenance personnel. **(T-2)** The performing work center supervisor and PS&D will validate configuration change, TCTO, SI and TCI events using MIS on-line capabilities. **(T-2)** Individual work centers accomplishing TCIs are responsible for changing configuration information in MIS. Unless otherwise specified in local procedures, schedulers will process all removal, installation, TCI, SI and TCTO compliance updates for aircraft and equipment in the applicable MIS and EM will process engines and engine components in applicable engine information system. **(T-2)**

14.3.2.1. Lead Commands will ensure procedures exist and are executed to provide system configuration tables which are updated, validated, and provided to field maintenance personnel as configurations change. **(T-2)**

14.3.2.1.1. Items not accessed or visible during field-level maintenance will be identified to Lead Command and AFSC managers for disposition. **(T-2)**

14.3.2.2. Maintenance personnel discovering an item with a missing data plate, or one which does not have a serial number, will contact PS&D who will coordinate with the Lead Command system functional manager and/or AFSC item manager for disposition. **(T-2)**

14.3.2.3. For those aircraft that do not currently have an established configuration table, the Lead Command will develop procedures to identify, track and validate installed configuration managed items against the data in the MIS.

14.3.2.3. **(AETC)** PS&D will, at a minimum, use applicable aircraft -6 AFTO Form 95 requirements, -06 serially controlled items, CBM+ eRCM components, and TCI requirements to build a serial number checklist for configuration management. **(T-2)**

14.3.2.4. PS&D will coordinate the daily resolution of IMDS configuration management notices with the appropriate maintenance section utilizing the applicable MIS screen. **(T-2)**

14.3.2.4.1. Uncorrected discrepancies will be briefed weekly at the daily production/scheduling meeting and forwarded to the appropriate maintenance supervision for corrective action. **(T-2)**

14.3.2.5. When out of configuration items or mismatched serially tracked items are discovered, establish a single DD for the "out-of-configuration" condition. **(T-2)**

14.3.2.5.1. Additionally, add a MIS WCE for each WUC/LCN and part/serial number item requiring verification to the single DD. **(T-2)**

14.3.2.5.1. **(AETC)** Accomplish configuration verification during PE/PH/ISO inspections on those installed part number and serial number items identified in the aircraft specific -6 TO that are accessible or visible during inspection. **(T-2)** Do not remove components or open panels for the sole purpose of verifying part/serial number data during PE/PH/ISO inspections.

14.3.3. TCTO Management. TCTOs are AF, MAJCOM/Lead Command or Numbered Air Force (NAF) directed modifications and inspections that provide units with instructions for doing a one-time change, modification, or inspection of equipment, (includes applicable FAA Airworthiness Directives, original equipment manufacturer service bulletins and service instructions, after concurrence by Lead Command). Lead Command, NAF and local inspections are considered OTIs. Use the MIS to process Lead Command and NAF OTIs or modifications in the same manner as TCTOs with compliance periods, remove from service dates and rescission dates IAW TO 00-5-15. TCTOs, with the exception of immediate and urgent action, are considered scheduled maintenance and integrated into maintenance planning cycles. **(T-2)** Consider concurrent accomplishment of TCTO work with other unscheduled or scheduled maintenance (such as, PH, ISO, HSC, HPO). Manage TCTOs using the MIS, TO 00-5-15 and specific MAJCOM instructions. **Note:** Communication of a grounding, or potential grounding event (TCTO, OTI, PM event) to weapon systems operating in a deployed environment and/or under the authority of an operational command must follow the grounding procedures outlined in DAFMAN 11-401 and 63-101/20-101. Units must not directly communicate home station requirements to its deployed forces but provide communication through their respective MAJCOM. **(T-2)**

14.3.3.1. PS&D is responsible for managing all assigned weapon system TCTO programs and will monitor/provide oversight of all AF owned aircraft, weapon system, AGE, and commodity TCTOs to ensure all compliance requirements are met. **(T-2)**

14.3.3.1.1. Munitions-related TCTOs will be managed by the munition's scheduler (if assigned) and engine-related TCTOs will be managed by EM schedulers. **(T-2)**

14.3.3.1.2. PMEL TCTOs will be managed by the owning agency with PS&D oversight. **(T-2)**

14.3.3.1.3. The parent technical training center manages and schedules all TCTOs for training equipment assigned to a TD or Mobile Training Team.

14.3.3.2. PS&D will review MIS products weekly to ensure proper documentation and management by owning and managing TCTO agencies. **(T-2)**

14.3.3.2. **(AETC)** IMDS units will also use screen 690 to correct REMIS errors.

14.3.3.2.1. When an error is detected, PS&D will inform affected work centers and provide assistance to correct the discrepancy IAW TO 00-20-2.

14.3.3.2.2. Units will complete an annual TCTO status review between MIS and REMIS or equivalent systems. **(T-2)**

14.3.3.2.2.1. Units will reconcile rescinded TCTOs using a REMIS Master TCTO report or equivalent annually (NLT 30 Sep) and before deleting/retiring TCTO records from the appropriate MIS. **(T-2)**

14.3.3.2.2.2. If REMIS or equivalent access is not available, request a REMIS Master TCTO report or equivalent from the MAJCOM MDS Weapon Systems Team/Program Office identified in the subject TCTO. If TCTO status conflicts are identified, units will contact the applicable Lead Command to establish the process for resolving conflicts and facilitating status correction in REMIS or equivalent system. **(T-2)**

14.3.3.2.2.3. Once all status errors are corrected, and reconciliation is complete and verified, IMDS units can delete the TCTO from the MIS. FMxC2 automatically retires TCTOs 60 days after rescission, and all equipment shows as complete.

14.3.3.2.2.3.1. Document completion on AF Form 2411. **(T-2)**

14.3.3.2.3. PS&D will brief the MXG/CC (or equivalent) weekly on unaccomplished TCTOs that are within 60 days of grounding. **(T-2)**

14.3.3.2.3.1. Significant problems or potential delays in TCTO accomplishment will be brought to the immediate attention of the MXO DO/SUPT and MXG/CC (or equivalent). **(T-2)**

14.3.3.2.4. PS&D will chair a TCTO review meeting attended by all TCTO owning and managing agencies after the monthly supply TCTO reconciliation meeting. **(T-2)** These meetings may be combined.

14.3.3.2.4.1. PS&D will discuss the supply reconciliation, supply status, scheduling factors, current TCTO status and anticipated problems for all active TCTOs. **(T-2)**

14.3.3.2.4.2. PS&D will produce meeting minutes on the AF Form 2410 and distribute to all affected agencies. **(T-3)**

14.3.3.2.5. Depot-level TCTOs, excluding commodities, will be loaded, and tracked in the MIS for auditing compliance and applicability. **(T-2)**

14.3.3.2.5.1. Depot-level engine TCTOs will be loaded in CEMS only. **(T-2)**

14.3.3.2.5.2. Units will ensure dual reporting of completed depot-level TCTOs is prevented. **(T-2)**

14.3.3.2.5.3. All field-level companion TCTOs for commodities must be loaded in the MIS. **(T-2)**

14.3.3.2.6. PS&D will monitor, track, and administer all applicable CPINS as commodity TCTOs for configuration management purposes IAW TO 00-5-15 and TO 00-5-16.

14.3.3.2.6.1. PS&D will coordinate reprogramming of all passive/active aircraft internal and external electronic warfare systems and equipment with the wing Electronic Warfare Officer or equivalent before implementing any CPIN changes. **(T-2)**

14.3.3.2.6.2. PS&D will coordinate with EM before issuing NSS/ETS CPINS. **(T-2)**

14.3.3.2.7. When TCTOs are directed for items without serial numbers, assign permanent serial numbers IAW TO 00-20-2 and AFI 23-101. **(T-2)**

14.3.3.2.7.1. For serial numbers that cannot be created IAW TO 00-20-2 or AFI 23-101, use the associated equipment serial number the item is assigned to (for example, an aircraft chock serial number would be 0000AXXXC1).

14.3.3.2.8. Control and Transfer of TCTO Kits. Units will transfer aircraft or equipment, with any TCTOs still pending completion, with their applicable TCTO kits. **(T-2)**

14.3.3.2.8.1. Retain engine TCTO kits for engines installed on aircraft at depot locations if the aircraft is returning to that unit for TCTO compliance. **(T-2)**

14.3.3.2.8.2. Transfer TCTO kits IAW AFI 23-101, TO 00-5-15 and TO 00-5-1.

14.3.3.3. Specific TCTO Responsibilities.

14.3.3.3.1. QA personnel will:

14.3.3.3.1.1. Review all new and revised technical data and TCTO's for completeness, accuracy, and applicability. **(T-2)** Inform applicable work centers of changes and up channel any problems discovered during this review. **(T-2)**

14.3.3.3.1.1. **(AETC)** Performing work centers assist QA in accomplishing an initial review of the TCTO.

14.3.3.3.1.2. Determine if the TCTO impacts W&B. **(T-2)**

14.3.3.3.1.3. Distribute copies of TCTOs to the managing agency, performing work centers, and LRS. **(T-2)**

14.3.3.3.1.4. Provide a supply cover letter requesting the number of items in supply (including WRM) affected by the TCTO. **(T-2)**

14.3.3.3.1.5. Report all deficiencies in technical instructions and kit-proofing to the appropriate TCTO Manager IAW TOs 00-5-1 and 00-5-15. **(T-2)**

14.3.3.3.1.6. Attend TCTO planning meetings. **(T-2)**

14.3.3.3.1.7. Provide technical support to performing work centers. **(T-3)**

14.3.3.3.2. PS&D personnel will:

14.3.3.3.2.1. Determine the total number of end items applicable to the TCTO. **(T-2)**

14.3.3.3.2.1.1. Items that are assigned with the same Mission Design Series, WUC, Part Number, but are not applicable to the TCTO will be loaded in "22" status. **(T-2)** This ensures accurate accountability that all equipment has been verified as being affected or not applicable to TCTO.

14.3.3.3.2.2. Chair a TCTO planning meeting with attendees from QA, owning and performing work centers and Flight Service Center/LRS IAW AFI 23-101, Chapter

4. **(T-2)**

14.3.3.3.2.2.1. Record meeting minutes on AF Form 2410, or locally developed product and provide an overall plan to implement the TCTO. **(T-2)**

14.3.3.3.2.2.2. Minutes will include TCTO applicability by ID number (or applicable part number or serial number for commodity TCTOs), purpose of the inspection/modification and clearly identify and document the performing work centers, training requirements, scheduling parameters, remove from service date, a review of the TCTO procedures, form entries and supply requirements prior to scheduling the TCTO for completion. **(T-2)**

14.3.3.3.2.2.3. All attendees sign the AF Form 2410, or locally developed product, at the conclusion of the planning meeting indicating agreement with the conditions. **(T-2)**

14.3.3.3.2.3. Establish and maintain a TCTO folder for each active TCTO. **(T-2)**

14.3.3.3.2.3.1. TCTO folders will be standardized and include the basic TCTO and any supplements, completed AF Form 2410, or locally developed product, AF Form 2001, *Notification of TCTO Kit Requirements* (if required), messages and the supply cover letter from QA (if required). **(T-2)**

14.3.3.3.2.3.1. **(AETC)** COMBS contracts do not require compliance with DAFI 21-101; therefore, they are not required to complete the AF Form 2001.

14.3.3.3.2.3.2. Once the TCTO has reached its rescission date, print a MIS product showing the current status of equipment and place it in the TCTO folder. **(T-2)**

14.3.3.3.2.3.2.1. Move the folder to an inactive TCTO file. **(T-2)**

14.3.3.3.2.3.2.2. The TCTO managing agency will maintain the folder until the TCTO is rescinded in the applicable MIS IAW TO 00-5-15. MIS TCTO records will be deleted (scheduled to retire for FMxC2 users) at that time. **(T- 2)**

14.3.3.3.2.3.3. TCTOs will not be deleted from the MIS prior to the rescission date. **(T-2)**

14.3.3.3.2.3.4. Validate in REMIS that no additional requirements have been submitted or extensions applied. **(T-2)**

14.3.3.3.2.4. If an initial TCTO load is not received from REMIS or equivalent, notify the single manager and/or equipment specialist IAW TO 00-5-15. **(T-2)**

14.3.3.3.2.4. **(AETC)** PS&D will load TCTO supplements that require additional work, change existing maintenance procedures, or place additional demands on supply.

14.3.3.3.2.5. Use the ILS-S to order required kits/parts/tools IAW MIS manuals. **(T-2)** Kits, parts, tools, and software will be ordered within 24 hours of the TCTO meeting and document numbers input on the AF Form 2001. **(T-2)** Locally manufactured and obtained parts will be documented on the AF 2001. **(T-2)**

14.3.3.3.2.5.1. When ILS-S is not available, initiate three copies of the AF Form 2001 and forward two copies of the Form with a copy of the TCTO to the supply TCTO monitor. **(T-2)**

14.3.3.3.2.5.2. For locally obtained parts, prepare an AF Form 2001 listing each item by NSN, noun and quantity required. **(T-2)**

14.3.3.3.2.6. Assign ID numbers to kits as they are received. **(T-2)**

14.3.3.3.2.6.1. Use Part II of the AF Form 2001 to manage kit/part assignment and track individual end items, date issued, document numbers and the number of kits remaining. **(T-2)**

14.3.3.3.2.6.2. The LRS/Flight Service Center TCTO monitor will ensure kits and/or parts are assembled prior to release. **(T-2)**

14.3.3.3.2.7. Control and release TCTO kits from LRS. **(T-2)**

14.3.3.3.2.8. Notify appropriate MAJCOM, by message, when local managers anticipate a problem with TCTO compliance within prescribed time limits. **(T-2)**

14.3.3.3.2.8. **(AETC)** Send messages to 19AF/A4PP and the appropriate weapon system MFM.

14.3.3.3.2.8.1. The message should include the TCTO number and narrative, total units affected, total units complete, kits on hand, kits on order, estimated delivery date, requisition number and a narrative of the problem.

14.3.3.3.2.8.2. The message will be endorsed by MXG/CC (or equivalent) prior to submission to MAJCOM. **(T-2)**

14.3.3.3.2.9. Report status of TCTOs that cannot be reported under "HOW MAL" codes 793, 797, 798, 801, 802, or 911 IAW the MIS, and 00-20 series TOs. **(T-2)**

14.3.3.3.2.10. Schedule, track and monitor TCTO accomplishment. **(T-2)**

14.3.3.3.2.10.1. Prepare a work order in the MIS for each affected end-item, including spares. Agencies owning installed on-equipment TCTOs will coordinate with PS&D prior to scheduling on-aircraft TCTOs. **(T-3)**

14.3.3.3.2.11. Review suspense validation or equivalent inputs prior to processing TCTO suspenses and updating the MIS. **(T-2)**

14.3.3.3.2.12. Annotate back-up MIS products as changes occur. **(T-2)**

14.3.3.3.2.13. Ensure TCTOs are scheduled for completion prior to expiration or grounding date whichever comes first. **(T-2)**

14.3.3.3.2.14. Schedule all workable TCTOs for accomplishment prior to permanent equipment transfer or storage input. **(T-2)**

14.3.3.3.2.15. For TCTOs with compliance periods calculated in operating time (hours, cycles, starts, landings, or rounds) create a local JST and load the JST to the equipment, schedule for completion prior to expiration of the compliance period operating time. **(T-2) Note:** Once compliance period operating time has been reached remove equipment from service until the TCTO has been completed. **(T-2)**

14.3.3.3.2.15.1. Document the JST number in the TCTO notes.

14.3.4. SI and TCI Management:

14.3.4.1. Job Standard Master Listing (JML) Management.

14.3.4.1.1. PS&D will maintain (load, change, and delete) the JML for all inspections and time changes listed in the applicable aircraft/system -6 TO and commodity TOs. **(T-2)**

14.3.4.1.1. **(AETC)** Include CBM+ eRCM components.

14.3.4.2. Develop a matrix/chart depicting the total number of SIs and TCIs to be loaded in the MIS for each assigned aircraft/system. **(T-2)**

14.3.4.2.1. Maintain JMLs for off-equipment items in the OWC. PS&D will provide written guidance and training for JML management of off-equipment JSTs when PS&D authorizes OWCs to maintain it. **(T-3)**

14.3.4.2.1. **(AETC)** AGE and armament schedulers will maintain their appropriate JML and send a copy to PS&D. PS&D will review and file AGE and armament JMLs.

14.3.4.2.2. For units using FMxC2, Lead Commands must maintain master inspection and time change requirements.

14.3.4.2.3. Once Master Job Standard Numbers are fielded for a weapon system, local PS&D will review TO 00-20-2 for Master Job Standard Numbers procedures. **(T-2)**

14.3.4.2.4. PS&D will load, change, and delete JSTs in the MIS as soon as possible after receipt of any -6 TOs, or other TO, TCI or inspection change and will promptly notify all affected PS&D sections for action. **(T-2)** PS&D will:

14.3.4.2.4.1. Load separate JSTs for all aircraft/systems -6 TOs special/scheduled inspections with frequencies greater than 30 days or 50 hours in the MIS. **(T-2)**

14.3.4.2.4.1.1. Load PE, PH, engine changes and other event type inspections (such as, hard landing) as a JST in the MIS as they occur. **(T-2)**

14.3.4.2.4.1.2. Provide training for maintaining JSTs as necessary. **(T-2)**

14.3.4.2.4.2. Perform a semi-annual review of the JML and all JSTs for accuracy and currency to include off-equipment and decentralized activities. **(T-2)**

14.3.4.2.4.2.1. Review matrix/chart depicting the total number of SIs and TCI requirements to be loaded in the MIS for each assigned aircraft/system. **(T-2)**

14.3.4.2.4.2.2. Reconcile TCI and SI JSTs with the aircraft/systems -6 TOs and applicable commodity TOs and document the semi-annual review on AF Form 2411. **(T-2)**

14.3.4.2.4.2.3. Units may create JSTs in the MIS to automate required documentation of repetitive or complex tasks (such as engine change, tire change, phase inspection, flight control maintenance).

14.3.4.2.4.2.3. **(AETC)** The MXG/CC may approve locally developed job flow packages, forms or lists, or SE forms to record recurring maintenance tasks for aircraft and trainers. Job flow packages created in the MIS will provide fully

integrated and annotated electronic preprints to these recurring tasks. If used: **(T-2)**

14.3.4.2.4.2.4. **(Added-AETC)** Locally developed maintenance packages or job flow packages will be developed in the MIS for recurring maintenance tasks where the requirements of the action are normally constant. Examples of such tasks include, but are not limited to, PE, PH, and ISO inspections; engine removal and reinstallation; aircraft wash and lubrication; aircraft complete strip and paint; and wing removal and reinstallation. These automated job flow packages will be scheduled in the MIS and new AFTO Forms 781A will be printed as needed.

14.3.4.2.4.2.5. **(Added-AETC)** Locally approved forms or lists may be used to record removal of access panels from aircraft or SE undergoing scheduled inspection or extensive recurring maintenance; for example, wing removal and replacement, flight control rigging, TCTO compliance, etc. Locally approved forms or lists will have a date on each page so previous versions can be easily identified and purged.

14.3.4.2.4.2.6. **(Added-AETC)** QA will publish guidance in an instruction to ensure proper use, control, and documentation of locally developed profile job flow packages, forms, and lists. As a minimum, QA will review all profile job flow packages before they are used and before PS&D inputs them into the MIS. QA will maintain an inventory of forms and lists used within maintenance.

14.3.4.2.4.3. Monitor the inspection and time change subsystems in the MIS. **(T-2)**

14.3.4.2.4.3.1. Perform a monthly review of all inspections, SIs, and TCI JSTs for each assigned aircraft. **(T-2)**

14.3.4.2.4.3.2. Look for missing and/or excess inspections and TCIs loaded to the aircraft and ensure the accuracy of all due dates/times for TCIs and verify the Date of Manufacture (DOM) and Date of Installation (DOI). **(T-2)**

14.3.4.2.4.3.2.1. TCIs will be loaded in the MIS with a part number and serial number. **(T-2)**

14.3.4.2.4.3.3. Document the review and ensure corrections are made to the MIS. **(T-2)**

14.3.4.2.4.3.4. Maintain the report on file with corrective actions until the next review. **(T-2)** The use of automated verification tools is encouraged provided MIS data is the source for verification.

14.3.4.3. PS&D will manage the assigned weapon systems TCI program. **(T-2)** PS&D Personnel will:

14.3.4.3.1. At least annually, meet with Egress and Aircrew Flight Equipment activities to verify each aircraft's egress data. **(T-2) Note:** MAJCOM/Units may direct more frequent verification of Egress and Aircrew Flight Equipment as required to maintain system integrity.

14.3.4.3.1.1. Document all verification of aircraft's egress data on the AF Form

2411 maintained in the aircraft jacket file. **(T-2)**

14.3.4.3.1.2. **(Added-AETC)** At least Semi-Annually, meet with Egress and Aircrew Flight Equipment to verify each aircraft's egress and survival equipment data. **(T-2)**

14.3.4.3.2. Identify, monitor, forecast and schedule only those selected items specifically identified in TO 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time Change Items*; applicable commodity TOs; the aircraft -6 TO, DAFMAN 21-201 or identified as Federal Supply Group 13 and Materiel Management Code AQ Items. **(T-2)**

14.3.4.3.2. **(AETC)** Aircrew Flight Equipment will forward, via email, DPAS AFERMS report of Parachute and Survival Kit repacks to the wing scheduling office and the Egress section for review and filing immediately upon completion. **(T-2)** PS&D will update MIS data and Egress will file in the aircrafts Tail Number Binder. **(T-2)**

14.3.4.3.2.1. TCIs will be loaded in the MIS with a part number and serial number. **(T-2)**

14.3.4.3.3. Establish a JST for both the DOM and DOI for Cartridge-Actuated Devices (CAD), Propellant Actuated Devices (PAD), life sustaining, and other TCI items listed in the aircraft -6 TO and applicable commodity TOs. **(T-2)**

14.3.4.3.3.1. Load only the DOI or DOM JST that comes due first, in the MIS against a specific part or serial number. **(T-2)**

14.3.4.3.3.2. As a minimum, when the DOI and DOM frequencies are identical, maintain the JST for the DOM. **(T-2)** (N/A for FMxC2 units).

14.3.4.3.3.3. Ensure component background information is provided by Egress to include a list of all components having multiple part numbers with a different service life. **(T-2)**

14.3.4.3.3.3.1. Forecasting of CAD/PAD items for long-term CAD/PAD spare requirements will be accomplished by Ogden Air Logistics Complex through use of the Requirements Determination Module to extract installation and due dates from REMIS. **(T-2)**

14.3.4.3.3.3.2. When CAD/PAD items or forecast requirements are not visible within the maintenance data system (for example, Contract Logistics Support managed components), units will forecast for TCIs IAW TO 00-20-9 and DAFMAN 21-201.

14.3.4.3.3.3.3. Validate and consolidate TCI forecasts for items listed in TO 00-20-9, commodity TOs, and aircraft specific -6 TOs. **(T-2)**

14.3.4.3.3.3.3. **(AETC)** Validation will include, as a minimum, ensuring all items are accounted for and quantities needed are correct. **(T-2)**

14.3.4.3.3.3.4. Submit consolidated forecasts to the appropriate Lead Command representative with an info copy to munitions operations. **(T-2)**

14.3.4.3.3.3.4. **(AETC)** Submit a copy of annual consolidated forecasts to

19AF/A4M. **(T-2)**

14.3.4.3.3.3.5. Forward any quarterly updated forecasts to munitions operations. **(T-2)**

14.3.4.3.4. Initiate, validate, and submit TCI extension requests to the Air Force Sustainment Center item manager with an info copy to munitions operations. **(T-2)**

14.3.4.3.4.1. Ensure a copy of approved extension are placed in the affected aircraft's forms and removed when no longer required. **(T-2)**

14.3.4.3.4.2. Maintain and monitor a suspense copy of the extension request and follow up prior to the grounding date of the TCI. **(T-2)**

14.3.4.3.4.2. **(AETC)** Identify the item in the MIS as "extended." For example, IMDS-CDB units may establish a new JST with the part number and serial number of the extended item reflecting the new due date. The intent is for the unit to maintain the original due date and the approved extended due date. The extension period becomes the new due time. If TCI extension request has not been answered, notify applicable 19 AF/A4D functional manager as early as 10 calendar days, but NLT 7 calendar days prior to grounding. **(T-2)** 19 AF/A4D functional manager will engage the appropriate engineering authority and notify the applicable weapon system functional manager.

14.3.4.3.4.3. Refer to TO 00-20-1 and 00-20-9 for additional guidance on TCI extensions and maintain a copy of the Air Force Sustainment Center/System Program Director approved message until the item is replaced. **(T-2)**

14.3.4.3.4.4. EM will generate engine TCI extension requests and coordinate through the Command Engine Manager to the appropriate Engine Program Office in AFLCMC. **(T-2)**

14.3.4.3.5. Perform monthly reconciliation of all TCIs with LRS. **(T-2)**

14.3.4.3.5.1. The reconciliation will consist of 100 percent validation of existing due outs. **(T-2)**

14.3.4.3.5.1. **(AETC)** Units supplied by COMBS are not required to accomplish a complete physical inventory.

14.3.4.3.5.2. Inform FSC of any "mark for" changes or items no longer required. **(T-2)**

14.3.4.3.6. Monitor and requisition TCI requirements based on projected equipment utilization. **(T-2)**

14.3.4.3.6.1. Order parts using MIS or coordinate with LRS/DMS to order parts using AF Form 2005, unless otherwise specified in -11, -14 and -6 TOs. **(T-2)**

14.3.4.3.6.2. Schedule TCIs for replacement to minimize aircraft downtime at the next applicable inspection IAW TO 00-20-1 (i.e., schedule a TCI at the next inspection interval, HPO, PH, PE, HSC, 60-month, letter check). **(T-2) Note:** Life sustaining, or CAD/PAD TCIs cannot exceed replacement interval in applicable -6 and commodity TOs without an approved extension/waiver from the Program

Office/appropriate item manager.

14.3.4.3.6.3. Notify the Munitions Flight of the need to order munitions items IAW TO 00-20-9 and DAFMAN 21-201. **(T-2)**

14.3.4.3.6.3.1. Serviceable CAD/PAD TCIs components will not be turned into munitions operations until the remaining service life reaches 9-months or less. **(T-2)** Serviceable CAD/PAD TCIs components with less than 9-months service life remaining will not be reissued. **(T-2)**

14.3.4.3.6.3.2. Maintenance plans must reflect replacement dates to coincide within the 9-month parameter. **(T-2)**

14.3.4.3.6.4. Order non-CAD/PAD or engine TCIs IAW AFI 23-101.

14.3.4.3.6.4. **(AETC)** Ensure TCI requirements are backordered and/or submitted to LRS up to 60 days in advance of the scheduled replacement. If not received within 10 days prior to the expected need date, requests may be upgraded to a MICAP-reportable condition (not applicable to COMBS-provided parts). **(T-2)** Upgrade for this purpose is a management tool and does not affect aircraft mission capable status.

14.3.4.3.6.5. **(Added-AETC)** TCI DIFM components exceeding 90 issue days require approval from the Logistics Readiness Division (19 AF/A4R).

14.3.4.3.7. Schedule the time change in the MIS and incorporate it in the monthly/weekly/ quarterly maintenance schedule. **(T-2)**

14.3.4.3.8. Review the data (DOM, DOI, LOT number, JST, and Due Date) entered by the performing work center. Ensure the suspense validation is updated in the MIS when the time change is completed (Suspense validation N/A for FMxC2). **(T-2)**

14.3.4.3.9. Coordinate management of respective TCIs with applicable maintenance and operation work centers. **(T-2)**

14.3.4.3.9. **(AETC)** Each performing work center supervisor will ensure every TCI component is input into the MIS by part number, serial number (if applicable), lot number, date of manufacture and /or installation, and position installed. **(T-2)** In those cases where the lot number and the date of manufacture do not match, refer to TO 11A-1-10, *Air Force Munitions Surveillance Program and Serviceability Procedures*, for guidance. Delete items replaced from the data base after the NRTS action has been documented or XB3-coded TCIs are replaced. When replacing components, ensure each new item is properly identified. **(T-2)** Pay particular attention to CAD/PAD items and engine modules where replacement frequency or type make series modification may vary for different part numbers or for designated -6 TO components for which historical documents are maintained.

14.3.4.3.10. Schedule drogue chute TCIs, except chute harnesses, for replacement during the drogue chute repack before the expiration of the component service or shelf life. **(T-2)**

14.3.4.3.10.1. These components will not be over flown without an approved extension from the appropriate item manager. **(T-2)**

14.3.4.3.10.1.1. A copy of approved extensions must be maintained in the affected aircraft's forms and removed when no longer required. **(T-2)**

14.3.4.3.11. Prepare TCI forecasts IAW TO 00-20-9.

14.3.4.3.11.1. Provide squadron Maintenance Supervision a forecast for non-munitions items for their supply section. **(T-2)**

14.3.4.3.12. To facilitate quarterly requisitioning, P&S will submit the quarterly validated time-change AFTO Form 223, Spreadsheet, or IMDS/FMxC2 generated forecast to the Munitions Accountable System Officer. **(T-2)** This must be submitted between 45 and 60 calendar days Continental United States (CONUS) or between 90 and 120 calendar days Outside Continental United States (OCONUS) before the next calendar year quarter IAW DAFMAN 21-201 Table 7.3, OCONUS and CONUS Time Change Requisitioning Schedule. **(T-2)** If aircraft is scheduled to be in depot when time change will be required, home station P&S will coordinate with depot P&S to facilitate requisition of required assets by the depot munition's function IAW DAFMAN 21-201 Table 7.3 time frames. **(T-2)**

14.3.4.3.12. **(AETC)** PS&D will verify the availability of TCIs with the MASO according to AFMAN 21-201. **(T-2)** Once notified the part is available, incorporate the replacement in the weekly schedule. **(T-2)** Update AF Form 68, *Munitions Authorization Record*, for the MASO according to AFMAN 21-201. **(T-2)**

14.3.4.3.12.1. Validate current requirements against the annual forecast and make corrections based on aircraft utilization. **(T-2)**

14.3.5. Major Maintenance Work Processing. PS&D will:

14.3.5.1. Coordinate on all TO 00-25-107 requests for DAFI 21-103 reporting. **(T-2)**

14.3.5.1.1. The work center discovering the discrepancy is responsible for drafting the TO 00-25-107 request and forwarding the request to QA for coordination and release.

14.3.5.1.2. PS&D will make the appropriate PIC changes in the MIS when the 00-25-107 request has been submitted and/or received. **(T-2)**

14.3.5.1.3. Depot-level assistance provided by contractor support will be accomplished IAW contract specifications. **(T-2)**

14.3.5.2. Develop procedures in conjunction with QA for routing all major maintenance requests to ensure all affected parties are informed. **(T-2)**

14.3.5.3. Conduct an initial meeting upon arrival of a DFT to validate maintenance support requirements are in place. **(T-2)**

14.3.5.3.1. The meeting will be documented on an AF Form 2410, or locally-developed product. **(T-2)**

14.3.5.3.2. PS&D will initiate/accomplish all PIC changes in the MIS. **(T-2)**

14.3.5.3.3. Once work is completed, PS&D will ensure appropriate PIC are changed and a completed copy of the work package is placed in the aircraft jacket file. **(T-2)**

14.3.5.3.3.1. PS&D will document significant historical data on the appropriate

AFTO Form 95 IAW 00-20 series TOs. **(T-2)**

14.3.6. Transfer Inspections.

14.3.6.1. Units will perform gaining/losing transfer inspections IAW TO 00-20-1, MAJCOM guidance and this instruction. **(T-2)**

14.3.6.1.1. In conjunction with QA, develop a local JST for both gaining and losing aircraft and equipment transfer. **(T-2)**

14.3.6.1.1.1. This JST must meet all TO 00-20-1, 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, applicable aircraft -6 and -21 TOs, as well as DAFI 21-103 and MAJCOM specific transfer requirements. **(T-2)**

14.3.6.1.1.2. Include all historical records (example, NDI records, Egress records, W&B records, OAP records, strut records) and other applicable items. **(T-2)**

14.3.6.1.2. Losing PS&D ensures all actions are completed in the MIS prior to permanently transferring an aircraft to another unit. **(T-2)**

14.3.6.1.3. Losing PS&D conducts a transfer pre-dock meeting one duty day prior to start of the aircraft transfer inspection. **(T-2)**

14.3.6.1.4. All items to be accomplished during the transfer inspection will be documented on an AF Form 2410, or locally developed product, and scheduled in the MIS. **(T-2)**

14.3.6.2. Losing PS&D will complete a total verification of all TCIs installed on the transferring aircraft. **(T-2)**

14.3.6.2.1. Verify the correct computation of all due dates/hour/cycles based on DOM, DOI, installed times, or equivalent factors. **(T-2)**

14.3.6.2.2. For IMDS units only:

14.3.6.2.2.1. Ensure the IMDS-REMIS synchronization programs are processed, and errors are corrected prior to transfer. **(T-2)**

14.3.6.2.2.2. Ensure an up-to-date Transfer of Equipment report and an AFTO Form 95 with current engine trend and performance data are placed in the aircraft jacket file. **(T-2)**

14.3.6.2.2.3. Ensure a backup copy is maintained until receipt is verified by the gaining unit. **(T-2)**

14.3.6.3. Losing PS&D will ensure an ADR is performed and conduct a transfer post dock meeting to ensure all required actions have been completed, all forms are current/accurate, and the MXG/CC (or equivalent) has certified each aircraft ready to transfer aircraft IAW TO 00-20-1, AFI 16-402, and DAFI 21-103.

14.3.7. Acceptance Inspections. Units perform acceptance inspections IAW TO 00-20-1, MAJCOM guidance and this instruction.

14.3.8. **(Added-AETC)** Inspection Requirements. Due to the type, variety, and frequency of SIs, PS&D or EM must monitor, project, and schedule accomplishment while paying particular attention to aircraft returning from PDM. **(T-2)** PS&D is the focal point for scheduled

maintenance actions and is responsible for developing unit schedules that merge operational requirements and maintenance capabilities. Accurate schedules assist units in meeting UTE rates and maintaining MC rates.

14.3.9. **(Added-AETC)** Forecasting and Preplanning Scheduled Inspections. At least 30 days before the start month of an aircraft inspection and on a cycle equal to or greater than the HPO or HSC, PS&D will initiate an AF Form 2410, completing blocks 1 through 13 and 15 through 17 **Exception:** KC-135 HSC. **(T-2)**

14.4. ENGINE MANAGEMENT (EM).

14.4.1. Engine Management (EM). EM manages unit efforts to maintain adequate engine support for mission requirements. EM monitors engine removals and replacements, component tracking, engine TCTOs and TCIs, engine records in the MIS and CEMS and performs engine manager duties.

14.4.1.1. - 14.4.1.1.2. DELETED.

14.4.1.2. EM will:

14.4.1.2.1. Manage the MIS and CEMS by referencing applicable information in this instruction, AFI 23-101, TO 00-25-254-1, TO 00-20-5-1-3, *Instructions for Jet Engine Parts Tracking of OC-ALC/LPA Managed Engines*. Reference AFCSM 21-558, *Comprehensive Engine Management System* and applicable aircraft -6 TOs.

14.4.1.2.2. Coordinate with Propulsion Flight CC/SUPT and organization leadership to support WRE requirements. **(T-2)**

14.4.1.2.2. **(AETC)** Units will compute requirements using TSR IAW AFMAN 20-116. **(T-2)**

14.4.1.2.3. Ensure plans, schedules, and maintenance actions are documented on assigned engines. **(T-2)**

14.4.1.2.4. Perform quarterly inventory IAW TO 00-25-254-1. Coordinate with the PS&D AVDO or equivalent to ensure accurate aircraft accountability in support of engine quarterly inventory completion.

14.4.1.2.5. Review Engine Managers Data List and reconcile after review IAW 00-25-254-1.

14.4.1.2.6. Ensure IMDS suspense validations/FMxC2 Engine Managers Data List transactions are accomplished no later than the close of business of the next business day following the date/time of occurrence. All transactions must be reported and entered in the order of occurrence. **(T-2)** Note**:** **Paragraph 14.4.1.3.4.2** provides unit level procedures requirements to support EM execution of duties for **Paragraph 14.4.1.2.6**.

14.4.1.2.7. Perform a monthly reconciliation of total assigned assets between the local MIS and CEMS, document the completed reconciliation on AF Form 2411 and develop a file plan for historical purposes. (**T-2)** At a minimum the reconciliation will include SRAN location, total engines assigned (to include serial numbers), engine condition/status, installed engines, uninstalled engines.

14.4.1.2.7.1. Engine managers will take immediate action to correct all reporting errors along with the competed AF Form 2411. **(T-2)** Contact MAJCOM engine manager or CEMS PMO Help Desk, **cems.pmo.helpdesk@us.af.mil** to solve reporting problems requiring clarification for completion of monthly reconciliation

14.4.1.2.7.2. **Command e** ngine managers will develop a standard procedure to extract monthly reconciliation data from engines located at a contractor repair facility whom contractors' sites do not have access to CEMS or the MIS. **(T-2)** At a minimum, reconciliation data must include SRAN location, total engines assigned (to include serial numbers), engine condition/status, installed engines, and uninstalled engines.

14.4.1.2.8. Provide TCI information (cycles remaining, EOT) on serially controlled items to the Propulsion Flight and AMXS/AMU for engine and engine component CANN actions. **(T-2)**

14.4.1.2.9. Ensure all engine SIs are loaded in MIS against the engine, not against the aircraft. **(T-2)**

14.4.1.2.10. Ensure all engine/module inspections/TCIs tracked by EOT, Calculated Cycles (CCY), Total Accumulated Cycles (TAC), are loaded/tracked in the MIS and CEMS databases. **(T-2)**

14.4.1.2.11. Ensure serial numbers erroneously input into CEMS are followed by a Possessor Change (6D) Transaction Condition Code (TCC). **(T-2)**

14.4.1.2.11.1. After the TCC has successfully processed, notify the CEMS Program Management Office help desk stipulating the serial number was erroneously input and will be deleted from CEMS, **cems.pmo.helpdesk@us.af.mil**. **(T-2)**

14.4.1.2.11.2. Create a JCN for engine, module or component data plate changes, modifications, re-identifications and new etchings and document changes in CEMS automated history. **(T-2)**

14.4.1.2.11.3. A matrix by engine type will be developed to depict specific inspection and TCI quantities for each TMS. Inspections tracked by flight hours must be loaded in the MIS. **(T-2)**

14.4.1.2.12. Items that are assigned with the same TMS, WUC, Part Number, but are not applicable to the TCTO will be loaded in "22" status (refer to TO 00-20-2). **(T-2)** This ensures accurate accountability that all equipment has been verified as being affected or not applicable to TCTO.

14.4.1.2.12.1. Comply with TCTO duties and responsibilities for engine items IAW this **Chapter**. **(T-2)**

14.4.1.2.13. Manage TCTOs on all assigned engines and engine components, installed and uninstalled, as well as manage TCTOs for support equipment to include engine trailers. **(T-2)**

14.4.1.2.13. **(AETC)** EM will schedule non-installed engine-related TCTOs and coordinate with PS&D on installed engine TCTOs to ensure compliance before remove-from-service dates. **(T-2)**

14.4.1.2.14. Accomplish quarterly TCTO status reviews and reconciliations IAW TO 00-25-254-1. **(T-2)**

14.4.1.2.15. Maintain records on TCTO kits and status for all engines installed on aircraft sent to depot. **(T-2)**

14.4.1.2.16. Manage time changes on all engines and engine components. **(T-2)**

14.4.1.2.16.1. EM will forecast parts requests and ensure requests are submitted to LRS up to 60 days (but not less than 10 days) prior to the need date of the scheduled time change or JEIM/CRF induction (see sections 14.2. and 14.3.). **(T-2)**

14.4.1.2.17. Reconcile all TCIs during the monthly TCI meeting with PS&D and LRS. **(T-2)**

14.4.1.2.17.1. Reconciliation will consist of 100 percent validation of existing due-outs and a complete physical inventory of all issued TCIs. **(T-2)**

14.4.1.2.17.2. Inform FSC of any "mark for" changes or items no longer required. **(T-2)**

14.4.1.2.18. Maintain and update historical documents for all assigned engines, modules, and major assemblies that are not managed by a Performance Based Logistics or contractually by a Contract Logistics Support contract. **(T-2)**

14.4.1.2.19. Check life-limited components forecast for additional component changes, TCTOs and SIs on all removed engines. **(T-2)**

14.4.1.2.20. Coordinate with the propulsion Flight CC/SUPT to develop a detailed 6-month engine and module TCI removal forecast and publish the forecast in the monthly flying and maintenance schedule. **(T-2)**

14.4.1.2.20.1. This 6-month forecast must be accomplished monthly using CEMS product E373/MIS products and the projected unscheduled removals based on the Unscheduled Removal Rate. **(T-2)**

14.4.1.2.20.1. **(AETC)** The ERRC facility may use the E102 and E407 CEMS reports for forecast purposes instead of the E373. The E102 is more appropriate for the ERRC because it presents command-wide data in one product.

14.4.1.2.20.2. Removal rate formula (total number of unscheduled removals divided by flying hours, multiplied by 1000). Provide a copy of the forecast to maintenance leaders, PS&D, unit, and the MAJCOM engine manager. **(T-2)**

14.4.1.2.21. Publish scheduled engine changes in the weekly and monthly maintenance schedule. **(T-2)**

14.4.1.2.22. Verify engine total time versus aircraft total time, flying hours and manual cycles with PS&D during aircraft document reviews. **(T-2)**

14.4.1.2.23. Maintain the portion of the JML for engine inspections and time changes. **(T-2)**

14.4.1.2.23.1. Maintain (load, delete, and change) and conduct a semi-annual review of the JML for engine inspections and time changes listed in the aircraft -6 TO. **(T-2)**

14.4.1.2.24. Establish a CEMS and MIS contingency plan for when either or both systems are down for more than 48 hours. **(T-2)**

14.4.1.2.24.1. The plan will include procedures for retaining data in date-time order for input when MIS/CEMS operation resumes. **(T-2)** The plan will also address both home station and deployed procedures. **(T-2)**

14.4.1.2.25. Develop local engine tracking procedures and documentation methods to be used at deployed locations. **(T-2)**

14.4.1.2.25.1. Procedures must include the method of communication (message, e-mail or FAX), documentation and shipping responsibilities with SRAN addresses, and reporting procedures for CANNs and engine removals. **(T-2)**

14.4.1.2.25.2. Procedures will ensure units take immediate action to correct all reporting errors between the base MIS and CEMS using the engine manager's data list. **(T-2)**

14.4.1.2.26. Update CEMS to reflect the four letter GEOLOC for uninstalled engines in a deployed location and the Organization Code is showing "1" per TO 00-25-254-1.

14.4.1.2.27. Accomplish UEM duties IAW, AFI 23-101, AFPAM 63-129, TOs 00-25-254-1, 00-20-5-1-3, AFCSM 21-558, applicable aircraft -6 TOs and this instruction.

14.4.1.2.27.1. Act as liaison to the SRAN engine manager when part of a tenant unit is supported by the host base engine manager. **(T-2)**

14.4.1.2.27.2. Provide the primary SRAN engine manager all quarterly reporting information required for submission to higher headquarters. **(T-2)**

14.4.1.3. The SRAN engine manager will:

14.4.1.3. **(AETC)** Contractors appoint an engine manager and alternate to perform the primary duties for the engines assigned to the SRAN under the maintenance contract to ensure base engine manager and UEM duties outlined in current directives and technical orders are accomplished. **(T-2)**

14.4.1.3.1. Be selected from AFSC 2A or 2R, minimum 7-skill level (or civilian equivalent). **(T-2)**

14.4.1.3.1.1. The assistant will be a minimum 5-skill level from the same AFSCs or civilian equivalent. **(T-2)**

14.4.1.3.1.2. Both individuals will be aligned under EM. **(T-2)**

14.4.1.3.2. Advise CMS or MXS/CC and MXG/CC (or equivalent), on administration of the base EM Program, engine maintenance concepts, principles, policies, procedures, and techniques. **(T-2)**

14.4.1.3.3. Act as the single point of contact between the unit, MAJCOM, and MMA for EM questions. **(T-2)**

14.4.1.3.4. Establish written procedures to support EM responsibilities IAW TO 00-25-254-1 and this instruction. Unit procedures must:

14.4.1.3.4.1. Specify responsibilities of affected work centers for accurate and timely MIS/CEMS reporting of TCTO, SI, TCI, and other documentation requirements (such as, borescope inspections, blade blending, CANN actions). **(T-2)**

14.4.1.3.4.2. Ensure engine, module, and component operation and maintenance data is reported to EM no later than close of business the first duty day after the event (for example, part removal, installation, time update, TCTO status change, and EMS operational/performance data where applicable). **(T-2)**

14.4.1.3.4.2.1. Ensure Engine Monitoring System (EMS) operational/performance data is transferred to CEMS where applicable. **(T-2)**

14.4.1.3.4.3. Address tenant, transportation, maintenance, aircraft distribution, supply, and support personnel requirements and be coordinated with the MAJCOM EM prior to publication. **(T-2)**

14.4.1.3.5. Request Initialization Decks (I-Deck) for engines and major modules (cores, High Pressure Turbine (HPT), Low Pressure Turbine (LPT), fans), to include embedded parts, part number, serial number, EOT, inspections, active TCTOs and TCIs, from CEMS Central Database (CDB) and ensure data in the MIS matches the CEMS CDB. **(T-2)**

14.4.1.3.6. Ensure deployed engine monitors are identified and trained to perform duties while deployed. **(T-2)**

14.4.1.3.6.1. Designated engine monitors will ensure all deployed spare engines have a copy (paper or electronic) of CEMS product E407, option 1 and 4, included in the deployment package. **(T-2)**

14.4.1.3.7. Perform engine manager duties for shipment and receipt of all assigned engines. **(T-2)**

14.4.1.3.8. Perform periodic quality audits to monitor accuracy and timeliness of reporting. **(T-2)**

14.4.1.3.9. Perform annual EM training for all affected personnel (back shop, test cell, flightline, aircraft maintenance scheduler) who report engine status or are responsible for engine documentation and scheduling IAW AFCSM 21-558, TOs 00-25-254-1 and 00-20-1/-2.

14.4.1.3.10. Maintain a jacket file of engine shipping documents and receipts. **(T-2)**

14.4.1.3.10.1. Obtain MAJCOM EM approval prior to returning engines to CRF/depot. **(T-2)**

14.4.1.3.11. Perform duties and requirements for engine shipments IAW TOs 00-25-254-1, 00-85-20, 2J-1-18, and 2-1-18.

14.4.1.3.11.1. Engines requiring off-base shipment must be delivered to transportation within 24 hours of notification/decision to ship the engine and/or the engine change is complete. **(T-2)** Notify MAJCOM EM and the owning SRAN EM if this time frame cannot be met.

14.4.1.3.12. The work folder will transfer with the engine. **(T-2)**

14.4.1.3.12.1. A copy will be maintained by the losing organization until verification of receipt by gaining unit. **(T-2)**

14.4.1.3.12.2. Gaining units will maintain the work folders and ship the documents with the engine to depot when appropriate. **(T-2)**

14.4.1.3.12.2.1. Gaining units will retrieve a copy of the previous EAWP from the Data Repository Center or equivalent data in the applicable MIS upon receipt of the engine. **(T-2)**

14.4.1.3.12.2.2. EAWP users are required to send completed EAWP files to the Data Repository Center or MIS equivalent within 3 duty days of EAWP close-out. **(T-2)**

14.4.1.3.13. The SRAN EM will report the following in CEMS:

14.4.1.3.13.1. Receipt transactions for engines as of the date and time engines are delivered from the transportation hold area and accepted at the JEIM facility. **(T-2)**

14.4.1.3.13.2. Shipment transactions with the "as of" date and time the engine(s) physically leave the base. **(T-2)**

14.4.1.3.13.2.1. Once engine is received at gaining unit, ensure trailer and adapter are transferred in MIS. **(T-2)**

14.4.1.3.13.3. All engine and tracked item removals, installations, and engine status changes. **(T-2)**

14.4.1.3.13.4. All engine status transaction removals, installations, gains, Engine-Not-Mission Capable for Supply (ENMCS), work completed, test cell rejects, work stopped, work started, change in level of maintenance, awaiting disposition, intra-AF receipt and intra-AF shipments, transfer, and HOW MAL codes IAW TO 00-25-254-1.

14.4.1.3.13.4. **(AETC)** As applicable, use the Integrated Base Engine Management System to process inputs from IMDS-CDB to CEMS, such as removals, installs, updates, status changes, etc**.**

14.4.1.3.14. Verify all update transactions (such as, times, TCTO, part removal and installations) are input before reporting an engine removal or installation. **(T-2)**

14.5. Maintenance and FHP Planning Cycle.

14.5.1. Responsibilities. MAJCOMs will develop procedures to ensure the intent of the maintenance and FHP planning cycle is met. The objective of the planning cycle is to execute the wing FHP consistent with operational requirements and maintenance capabilities. The maintenance and FHP planning cycle begins with the annual allocation of flying hours. Maintenance and operations schedulers propose an annual flying plan that balances both

operational requirements and maintenance capabilities. Units should commit the fewest number of aircraft possible to meet programmed Utilization (UTE) rate standards and goals.

14.5.1. **(AETC)** When developing plans, building schedules, and reporting monthly totals, Kirtland, Little Rock, Altus and Fairchild AFBs will report missions. All other AETC bases will develop plans, build schedules and report sorties.

14.5.1.1. If applicable, MAJCOMs will develop scheduling procedures for units involved in Operational Test and Evaluation, Developmental Test and Evaluation, or Initial Operational Test and Evaluation to ensure the intent of the maintenance and FHP planning cycle is met.

14.5.1.2. AMC units tasked by the 618th Air and Space Operations Center will adhere to Commander, Air Force Forces (COMAFFOR) Apportionment and Allocation Process (CAAP) policies and procedures.

14.5.1.3. The annual plan, detailed by month, will evaluate the capability of maintenance to support the annual FHP.

14.5.1.4. When developing the annual plan, units will utilize the MDS specific sortie production model, or equivalent, if available.

14.5.1.5. Maintenance PS&D. PS&D builds, coordinates, publishes, and distributes an integrated aircraft/system annual and quarterly plan & monthly and weekly schedule to support maintenance and operational requirements.

14.5.1.5. **(AETC)** Schedules will be standardized among the same MDS, but may vary slightly between MDSs.

14.5.1.5.1. Plans will be developed, coordinated, and consolidated jointly by the OSS's Current Operations Flight Scheduling, and PS&D. **(T-2)**

14.5.1.5.2. The printed wing plan will include an assessment of the wing's ability to execute the FHP and will be coordinated with the OG/CC and MXG/CC. **(T-2)**

14.5.1.5.2. **(AETC)** The OG/CC may approve the wing plan for the 336 TRG, 306 FTG and 80 FTW.

14.5.1.5.3. Plans and schedules may be published via electronic means (such as, web pages, SharePoint®, or e-mail) provided operations security is not compromised. **Note:** TORQUE will be used as it becomes available.

14.5.1.5.4. Normal daily operations and training schedules are For Official Use Only (FOUO) and will not be restricted to classified systems. **(T-2)**

14.5.1.5.5. **(Added-AETC)** Operational requirements are met by developing and executing plans that ensure annual UTE rates are met as matched against student production requirements. Each wing is provided with all known factors needed to meet the required UTE rate as portrayed in the AETC Flying Hour Programmed Allocation (PA).

14.5.1.5.6. **(Added-AETC)** Assignment of Flying Hours and UTE Rate Requirements. 19 AF/DO will allocate flying hours and document annual UTE rates, PAI, and average sortie duration/average mission duration (ASD/AMD) in the PA

document to match tasked production. **(T-2)** Flying wings will develop and execute monthly plans to accomplish the yearly requirement based on the PA document. **(T-2)** Monthly UTE rates may vary from the annual UTE rate to enable even sortie or mission production throughout the year despite varying operations and maintenance (O&M) days, available daylight window, etc.

14.5.1.5.6.1. **(Added-AETC)** Wings will ensure their annual flying hour plans are designed to achieve the annual UTE rate programmed by HQ AETC. **(T-2)** UTE planning factors for each MDS are command averages and are provided to assist in the development of yearly and monthly plans as well as weekly schedules.

14.5.1.5.6.2. **(Added-AETC)** The annual plan is an agreement between the AETC commander and the WG/CC. Except for emergencies such as hurricane evacuations, annual flying hour allocations will not be overflown without prior approval of the AETC commander. **(T-2) Note:** In organizations where maintenance is military, only PAI aircraft earn cost per flying hour monies and personnel. Backup aircraft inventory (BAI), attrition reserve, and excess aircraft do not earn cost per flying hour monies or personnel. Thus, the use of aircraft over and above authorized PAI to execute the annual FHP could incur additional costs. Contract organizations determine their manpower requirements based on contract requirements.

14.5.1.5.7. **(Added-AETC)** MAJCOM Coordination. 19 AF/DO is the OPR for the AETC flying hour PA. On the basis of the annual student production goals published in the program guidance letter, 19 AF/DO and 19 AF/A4 will jointly determine the annual UTE planning factors of flying hours required, PAI, programmed ASD/AMD, and programmed number of sorties or missions for formal training units where resources are limited. For CSO, UPT, PIT, and IFF units (organizations that have "T" designated aircraft assigned), PAI is an output of the UTE and flying hours allocated.

14.5.1.5.8. **(Added-AETC)** Unit or Wing Coordination. Coordination takes place at multiple levels of the organization through the annual, monthly, and weekly planning and scheduling processes. Through these processes, commanders, schedulers, and supervisors will ensure the distribution of sorties or missions and hours to meet training and support flying requirements while flying assigned aircraft at programmed UTE rates. Proper coordination is essential to ensure resources are available to support flying requirements and to adjust future plans. Units will develop an instruction outlining local procedures for coordinating scheduling requirements. **(T-3)**

14.5.2. First Look Requirements. The First Look report is an internal wing document intended to highlight potential maintenance-capacity and operational-requirement disconnects in the upcoming year. Every year, NLT 15 March, PS&D will coordinate with MMA, flightline and backshop maintenance work centers to provide PS&D with historical attrition and projected manning production. **(T-2)** This assessment will take into account personnel, facilities, and airfield infrastructure for each aircraft maintenance organization.

14.5.2. **(AETC)** First look requirements will be due to 19 AF/A4PA by 31 October of each year. **(T-2)** For example, requirements would be due on 31 October 2020 (the first month of FY21) for consideration in the FY 22 flying hour program. MMA will review the unit's historical data and provide specific capabilities to PS&D no later than 45 days prior to the

annual PFT conference. **(T-2)** This will ensure maintenance capabilities are considered at both the unit and headquarters prior to PFT conferences each year. Although there is no PFT conference for "T" designated aircraft, MMA must provide historical data to PS&D in order to begin the development of future plans.

14.5.2.1. In wings operating aircraft supported by a sortie production model, PS&D will coordinate with the Unit Maintenance Supervision to establish local requirements, responsibilities and procedures for utilizing the model to develop, sustain or reflow FHP/contingency requirements. **(T-2)**

14.5.2.2. The assessment will be provided to PS&D NLT the last workday of March. **(T- 2)** **Note:** AMC units tasked by the 618th Air and Space Operations Center will adhere to the CAAP policies and procedures.

14.5.2.3. PS&D will provide copies of the capability assessment to each OS scheduling section and maintenance supervision. **(T-2)**

14.5.2.3.1. The assessment will provide first look maintenance capability projections in a monthly format IAW MAJCOM guidance. **(T-2)**

14.5.2.3.1. **(AETC)** The PA allocates a wing's FHP for the upcoming fiscal year. With a known annual requirement, the next step is to communicate the wing's capability to accomplish the tasking. As a minimum, capability calculations will be repeated during the development of monthly plans. **(T-2)** Capability calculations determine the approximate maximum daily sustained sortie or mission load a unit should normally be able to support to achieve a reasonable balance between training and maintenance requirements.

14.5.2.3.1.1. **(Added-AETC)** Commanders must recognize that because these calculations are only approximations, their judgment must be relied on to determine if maintenance or operations capabilities will be exceeded.

14.5.2.3.1.2. **(Added-AETC)** To ensure the health of the fleet, the MXG/CC or DOM must ensure schedules are developed that allow sufficient time to provide for maintenance training and the performance of scheduled and unscheduled maintenance tasks.

14.5.2.3.2. The assessment will include operational requirements taking into consideration historical data that determines the average number of aircrews not available per month (DNIF, PME attendance, Leave, TDY, deployments), an assessment of maintenance ability to support the monthly requirement and an overall assessment of the unit's maintenance capability to meet the annual FHP (N/A for AMC units). **(T-2)**

14.5.2.3.2. **(AETC)** Aircraft availability is the main element in determining maintenance requirements. Units must accurately assess aircraft, personnel, and facility capabilities. The lowest capable component is the unit's maximum capability. For example, if aircraft, AGE, parts and/or facility capability is 4,000 sorties, and personnel capability is 3,800, the unit's maximum capability would be 3,800 sorties. Maintenance supervisors must inform PS&D, Operations and Wing leadership when personnel availability or capability will affect future sortie or mission production. **(T-2)** If any

capability projections fall short of the PA, it is incumbent upon group and wing leadership to communicate to 19 AF/DO and 19 AF/A4P specific additional support, items, or personnel needed to meet requirements and mitigate losses.

14.5.2.4. OS and maintenance responses are sent to PS&D and OSS's Current Operations Flight Scheduling and will be consolidated into a comprehensive package that includes a breakdown of the following items by OS:

14.5.2.4.1. Sortie UTE Rates (N/A to AMC units). **(T-2)** Compute UTE rates by month for the entire FY for contracted (required) sorties and scheduled sorties using the formula: (number of sorties per month) divided by (number of Primary Aerospace Vehicle (Aircraft) Inventory (PAI) aircraft).

14.5.2.4.1. **(AETC)** 19 AF/A4 models will calculate the maximum sustainable UTE rate and allocate available aircraft and personnel within AETC to meet annual flying hour requirements. However, the determination of the UTE rate is a collaborative effort between 19 AF/DO and each wing.

14.5.2.4.1.1. **(Added-AETC)** 19 AF/DO will use this rate as a guide to develop the AETC PA, using the maximum sustainable UTE rate as an upper control limit. Resource and Analysis (19 AF/A3 R&A) will publish a PA that reflects each wing's annual UTE rate, flying hours and sorties or missions. **(T-2)** The PA will also reflect the PAI needed to fly the UTE rate and the ASD/AMD for each MDS.

14.5.2.4.1.2. **(Added-AETC)** For wings with the same MDS and mission, UTE rates, PAI, student load and funding are allocated based on the wing's proportional capacity.

14.5.2.4.1.3. **(Added-AETC)** Units will then develop their annual month-by-month flying hour plan to execute the PA hours. The unit plan must be based on the annual planning factors as depicted in the PA document. **(T-2)** (The monthly UTE will likely vary from the published UTE that represents an annual average, but the annual average should match the planning UTE.) Using other factors could incur unintended costs. Requests for change to any of the programming factors require a formal request, along with factual supportable data to substantiate the request, to 19 AF/A3 R&A with an informational copy to 19 AF/A4PA. **(T-2)**

14.5.2.4.1.4. **(Added-AETC)** Contracted Monthly UTE Rate. A monthly UTE rate is a unit's sortie or mission or hourly requirement for a given month. This requirement has a two-fold purpose. First, the UTE rate will support and match the event calendar required to maintain the student timeline. Second, the UTE rate helps keep a unit within its projected maintenance and operational capability. **The monthly contract UTE does not include attrition.** The contracted monthly UTE rate is derived from the monthly portion of the wing's annual flying plan and incorporates the wing's programmed flying training, continuation training (CT), mission, and maintenance support.

14.5.2.4.1.4.1. **(Added-AETC)** The monthly plan is an agreement between the WG/CC and wing personnel to ensure the annual flying hour PA and UTE rate are met. Because there is wide latitude for managing attrition, commanders should minimize deviating from the monthly flying contract.

14.5.2.4.1.4.2. **(Added-AETC)** Monthly planning and execution goals are defined as "plan what to fly and fly what you plan." Monthly plans will reflect the monthly increments in the wing's annual FHP developed IAW **paragraph 14.5.3.1.3** and maintained on file at 19 AF/A3 R&A. There may be instances where local training or mission requirements dictate deviating from the monthly programmed utilization after the monthly plan is complete.

14.5.2.4.2. Sorties contracted/scheduled per day (N/A to AMC units). **(T-2)** Compute the number of sorties required per operations and maintenance (O&M) day to meet the operational requirement using the following formula: (Number of Sorties Required) divided by (Number of O&M days in a Given Month). Sorties per day need to be computed by month for the entire FY.

14.5.2.4.3. Monthly scheduled sorties (N/A to AMC units). **(T-2)** Compute monthly scheduled sortie requirements using the following formula: (Number of Sorties or Hours Required) divided by (1 Minus the Attrition Factor). For example, (1,000 sorties or hours required) divided by (1 minus 0.15) equals 1,177 sorties or hours to schedule. Round any part to the next whole sortie or hour.

14.5.2.4.4. Inspection dock capability. **(T-2)**

14.5.2.4.4.1. Compute the number of major inspections (i.e., PH/ISO) to be accomplished for each maintenance unit, by month, for the entire FY in order to meet operational requirements.

14.5.2.4.4.2. Compute dock capability using the following formula: (Number of O&M Days) divided by (Number of PH/ISO Days) multiplied by (Inspection Cycle) = Inspection Dock Capability. Inspection dock capability is provided at the wing level and provided by the squadron performing inspections.

14.5.2.5. Once compiled, first look packages will be presented to the OG and MXG/CCs before being presented to the WG/CC. **(T-2)**

14.5.3. Annual Maintenance Planning Cycle.

14.5.3.1. MAJCOMs will develop procedures to ensure the objectives of the annual maintenance planning cycle are met.

14.5.3.1.1. At a minimum, MAJCOM procedures will produce an annual flying and maintenance plan that allocates sorties and hours into quarters, is approved by the WG/CC, and published prior to the beginning of the FY.

14.5.3.1.1. **(AETC)** Planning is a five stage process. The first stage is receiving the annual and quarterly operations requirements, usage rate and airframe availability requirements. The second phase is to develop quarterly plans beginning with the first month and reaching out 2 months into the future. **Note:** For CSO, UPT, PIT and IFF units (organizations that have T designated aircraft assigned), the annual operations plan may substitute for the quarterly plan with monthly plans developed directly from the annual plan. The third phase is to refine the quarterly plan into a monthly plan. In the fourth phase, each weekly portion of the monthly plan is further refined to produce a weekly schedule. The last phase of the planning process is to verify maintenance,

training and operational requirements and finalize the daily portion of the weekly schedule.

14.5.3.1.1.1. **(Added-AETC)** Due to the non-typical nature of the flying operation at the USAFA, unit maintenance and operations must develop a joint instruction that outlines the scheduling process they will follow, using DAFI 21-101 and this supplement as a guide. **(T-2)**

14.5.3.1.1.2. **(Added-AETC)** While it is a planning goal to zero out the annual FHP by meeting programming factors, it is not the mission. It is desirable to execute the annual FHP efficiently without large amounts of unused flying hours remaining at the end of the fiscal year.

14.5.3.1.2. Due to the unpredictable nature of most future AMC mission requirements, units tasked by 618th Air and Space Operations Center will prepare flying and maintenance plans with focus on supporting local operational training requirements based on historical data as well as all known future maintenance and operational requirements.

14.5.3.1.3. **(Added-AETC)** Fleet Time Management:

14.5.3.1.3.1. **(Added-AETC) Goal.** The goal of fleet time management is to ensure a balanced inspection dock flow that will support the AETC PA (the official flying hour allocation document) of flying hours without over or under tasking resources. Fleet time management is only applicable to aircraft using hourly-based phases or PE inspection programs. Aircraft Fleet time will not be updated until the phase package is completed in the MIS. **(T-2) Note:** Refer to AFTTP 3-4.21V1 para 5.2.5 for guidance to manage the aircraft fleet time/phase flow. All aircraft can benefit by balancing the flying commitment across the entire fleet regardless of the inspection method.

14.5.3.1.3.2. **(Added-AETC)** 19 AF/A4PP and 19 AF/A4PA will monitor unit fleet time averages and intervals to identify potential future PE dock backlogs or vacancies. Identified issues will be raised to 19 AF/A4 as a topic for Health of Fleet discussions. 19 AF/A4 will request phase flow recovery plan from the unit as appropriate.

14.5.3.1.3.3. **(Added-AETC)** Compute and report average fleet time according to AETCI 21-105. **(T-2)** Compute PE or PH inspections by dividing the PA flying hours by the inspection interval. **(T-2)** To identify the total number of PE or PH inspections required for the coming year, take the annual PE or PH inspections required to support the PA flying hour program, plus or minus the inspections required to align the average fleet time at the beginning of the fiscal year with the AETC required minimum average. **(T-2)**

14.5.3.2. Flying Hour Allocation. Using the MAJCOM Baseline Allocation message, PS&D, the OS, and OSS's Operations Scheduling will provide affected work centers the following planning factors NLT 20 August each year, or within 10 working days after receipt of the flying hour allocations:

14.5.3.2. **(AETC)** The AETC PA, the basis for executing the annual plan, will be distributed to flying units no later than 30 August. **(T-2)** The wing will develop an annual plan to accomplish the annual UTE rate, annual FHP, and student production requirements. **(T-2)**

14.5.3.2.1. PS&D will provide updated capabilities which are computed by MMA and the PDM schedule. **(T-2)**

14.5.3.2.2. OSS will provide the:

14.5.3.2.2.1. Required flying hours and estimated sorties and missions in monthly increments. **(T-2)**

14.5.3.2.2.2. Flying days in each month. **(T-2)**

14.5.3.2.2.3. Aircraft and aircrew alert requirements. **(T-2)**

14.5.3.2.2.4. Known and projected TDYs and special mission requirements. **(T-2)**

14.5.3.2.2.5. Configuration and munitions requirements. **(T-2)**

14.5.3.2.2.6. **(Added-AETC)** Number of O&M days. Identify holidays, exercises, and other no-fly days.

14.5.3.2.2.7. **(Added-AETC)** Monthly historical attrition.

14.5.3.2.2.8. **(Added-AETC)** Annual scheduled sorties or missions to include projected known FCF, OCF, and ferry sorties or missions.

14.5.3.2.2.9. **(Added-AETC)** Sorties or missions and hours required for deployments.

14.5.3.2.2.10. **(Added-AETC)** Average scheduled sorties or missions required per O&M day.

14.5.3.2.2.11. **(Added-AETC)** Daily flying schedule block patterns.

14.5.3.2.2.12. **(Added-AETC)** Available daylight hours.

14.5.3.2.2.13. **(Added-AETC)** Anticipated aircraft gains and transfers.

14.5.3.2.2.14. **(Added-AETC)** Projected number of students.

14.5.3.2.2.15. **(Added-AETC)** Estimated munitions usage.

14.5.3.2.2.16. **(Added-AETC)** Support sorties or missions.

14.5.3.2.2.17. **(Added-AETC)** Instructor pilot and programmed student levels.

14.5.3.3. NLT 1 September, or within 10 working days after receipt of the planning factors, maintenance supervision will provide PS&D, SQ/CCs, and OSS's Operations Scheduling the following planning factors:

14.5.3.3.1. Estimated number of aircraft available by month, taking into consideration aircraft required for training. **(T-2)**

14.5.3.3.2. A projected airframe capability statement. **(T-2)**

14.5.3.3.2. **(AETC)** The purpose of computing airframe capability is to determine how many flying hours and sorties or missions are supportable while maintaining both scheduled and unscheduled maintenance. Inspection dock capabilities must also support annual and monthly flying programs. When computing airframe capabilities, use only the number of PAI aircraft assigned. **Note:** The wing AVDO will notify 19 AF/A4 (by MDS) when the total number of possessed aircraft in purpose identifier TF or ZB is less, or expected to be less, than the authorized number of PAI aircraft. Units may a locally developed capability spreadsheet must provide supervision with an accurate projection of the unit's maintenance capability to meet the unit's operational requirement.

14.5.3.3.3. Forecasted personnel capability, taking into consideration required training for maintenance personnel. **(T-2)** (N/A to contract maintenance organizations).

14.5.3.3.4. The number of supportable sorties for each month. **(T-2)**

14.5.3.3.5. An estimated monthly attrition factor provided by MMA. **(T-2)**

14.5.3.3.5.1. The factor combines operations, weather, and materiel (maintenance and supply) factors.

14.5.3.3.5.2. Maintenance is responsible for adding the attrition factor to operational requirements.

14.5.3.3.6. A recommended block scheduling pattern. **(T-2)**

14.5.3.3.7. A statement of limitations. **(T-2)**

14.5.3.4. **(Added-AETC) (Added)** When the annual plan is completed, forward one copy each to the Operations and Communications Directorate (HQ AETC/A3/6), 19 AF/A3 R&A, Directorate of Logistics, Engineering, Force Protection (HQ AETC/A4), and 19 AF/A4PA by the 10th calendar day of September. **(T-2)** Use the format at **Attachment 11** when forwarding annual flying plans and reflows of flying programs. The annual plan must reflect the monthly PAI, sortie or mission or hourly requirement, UTE rate, and ASD/AMD. **(T-2)** Total annual hours and sorties or missions for each MDS must match the PA document. In addition to, and separate from the plan for executing the PA, identify any flying hour disconnects (shortfall or excess) that could impact student production for the affected fiscal year. **(T-2)** To the extent resources permit, 19 AF/A3 R&A will work to resolve these disconnects prior to the first scheduled adjustment.

14.5.3.4.1. **(Added-AETC)** When 19 AF changes planned requirements as reflected in the PA, reflow the unflown portion of the annual plan for the remaining months (**Attachment 11**). Changes in the PA may change the PAI, ASD/AMD, or UTE rate for the remainder of the fiscal year.

14.5.3.4.2. **(Added-AETC)** OSS operations scheduling will track the execution of the annual flying plan. When there is a delta below or above the annual plan, consider reflowing any changes over the remaining months.

14.5.3.4.2.1. **(Added-AETC)** During the execution year, the actual hours flown may cause deviations from the original annual plan. In order to account for these deltas, it may become necessary to reflow the hours by creating a new flying hour plan. The reflowed plan will communicate how the remaining hours will be flowed

into the months remaining in the fiscal year, accounting for fleet health and operational capabilities agreed upon by both maintenance and operations.

14.5.3.4.2.2. **(Added-AETC)** A reflow should be considered when the delta is so large it exceeds the capabilities of maintenance and operations in a single month (normally the monthly plan). Reflows are approved at the wing level with both operations and maintenance developing and agreeing to an effective and attainable FHP to execute.

14.5.3.4.2.3. **(Added-AETC)** The WG/CC will forward a copy of the change to the annual plan (**Attachment 11**) to 19 AF, 19 AF/A3 R&A, and 19 AF/A4PA, by the 10th calendar day of the affected month. **(T-2) Note:** This is administrative processing time only and does not imply that a unit will delay formulating a plan until the 10th of the month. Some reflows artificially conceal accumulating deviations. Therefore, reflows that do not change the annual allocation (adjustments) may or may not be applied to the flying hour execution model. Reflows will reflect the wing's plan to get back on track with the FHP.

14.5.3.4.2.4. **(Added-AETC)** In addition to the annual plan (**Attachment 11**) the unit will also provide 19 AF/A4 an annual turn pattern by month per MDS. The turn pattern template can be found at **https://usaf.dps.mil/sites/aetc-19af/lg/lgp/lgpp/default.aspx**.

14.5.4. Quarterly Maintenance and FHP Planning. Quarterly planning starts with the operational requirement for flying hours, UTE rate, airframe availability, alert, and other related scheduling data.

14.5.4. **(AETC)** The quarterly plan (sometimes referred to as a long-range plan) is a refinement of the annual plan. It establishes a sound basis for the remaining phases of the scheduling process. The intent is to develop the plan in such a way that it is accessible by maintenance and operations at all times. **Note:** For CSO, UPT, PIT and IFF units (organizations that have T mission designated aircraft assigned), the annual flying plan, if still accurate, may be published as the flying portion of the quarterly.

14.5.4.1. MAJCOMs will develop procedures to ensure the objectives of the Quarterly Planning cycle are met.

14.5.4.2. The OS Director of Operations will provide these requirements to maintenance supervision and PS&D NLT 25 days before the beginning of the quarter. **(T-2)**

14.5.4.3. Maintenance supervision and the OS Director of Operations will discuss these requirements at the scheduling meeting before the quarter being planned. **(T-2)**

14.5.4.4. Schedulers will ensure quarterly plans are as detailed and accurate as possible. **(T-2)**

14.5.4.4.1. Plans should include known special missions, PDM schedules, HHQ commitments and lateral command support requirements.

14.5.4.4.2. All maintenance requirements will be consolidated into a single, quarterly plan using AF Form 2401, Equipment Utilization and Maintenance Schedule, or computer-generated form. **(T-2)**

14.5.4.4.2.1. Specific locally developed codes will be used to identify inspections, SI, TCI, and TCTO on the AF Form 2401. **(T-2)**

14.5.4.4.3. As a minimum, the quarterly plan will show the next 3 months planned sorties and known maintenance requirements. **(T-2)**

14.5.4.4.3.1. Known maintenance requirements include all maintenance events that impact aircraft availability and require management attention to ensure proper Time Distributed Index flow.

14.5.4.4.3.2. Consolidate as many scheduled maintenance events as practical, to reduce individual aircraft downtime, increase Aircraft availability, and minimize the number of times per month an aircraft is removed from the schedule due to scheduled maintenance requirements.

14.5.4.4.3.2.1. The intent is to reduce the number of times per month an aircraft is removed from the schedule for scheduled maintenance, thus increasing aircraft availability.

14.5.4.4.3.2.2. Unit/Wing/MAJCOM requests to change the frequency of -6 TO requirements to increase bundling opportunities will be submitted through the applicable Lead Command for consideration and/or resolution. **(T-2)**

14.5.4.4.3.3. To prevent operational utilization for that day(s) flying schedule, the quarterly plans will include, at a minimum, calendar inspections that hold an aircraft down, calendar TCIs, TCTOs in workable status, PDM schedules, training aircraft, cannibalization aircraft and aircraft ISO/PE/PH inspections. **(T-2)**

14.5.4.4.3.4. Other maintenance requirements, such as engine changes, hourly requirements, acceptance/transfer inspections, training aircraft and cannibalization aircraft will be posted as they become known or planned. **(T-2)**

14.5.4.4.3.5. Add AME inspections to the quarterly plan if the aircraft is scheduled to stay in that configuration to ensure the inspections are included in the monthly and weekly schedules. **(T-2)**

14.5.4.4.4. Revise weekly schedule and monthly plan to meet the quarterly plan objectives while staying within the maintenance capability. **(T-2)**

14.5.4.4.5. Use the following priority to determine which objectives to support if a lack of resources prevents meeting requirements:

14.5.4.4.5.1. Alert commitments. **(T-2)**

14.5.4.4.5.2. HHQ directed missions. **(T-2)**

14.5.4.4.5.3. Training. **(T-2)**

14.5.4.4.5.4. OSS's Current Operations Flight Scheduling will compile, coordinate, and brief the unit's quarterly plan and include operational requirements, support capability and any difficulties expected. **(T-2)**

14.5.4.4.5.5. Once an approved quarterly plan is established, OSS's Current Operations Flight, Scheduling will forward a copy to the OS, AMXS, OG/CC and MXG/CC along with all scheduling agencies. **(T-2)**

14.5.4.4.5.6. The plan will be posted so it may be viewed by both maintenance and operations. **(T-2)**

14.5.4.5. - 14.5.4.5.3. DELETED.

14.5.5. Monthly Maintenance and FHP Planning.

14.5.5.1. Wings will develop procedures to ensure the objectives of the monthly planning cycle are met. **(T-2)**

14.5.5.1. **(AETC)** The foundation of the monthly plan is the total required sorties or missions (or hours) needed to meet training requirements that support student event timeline progression, CT, and mission and maintenance support. Required sorties or missions are further refined by using the various training management systems to distribute student and support sorties or missions. Adjust requirements to achieve the best use of resources. When using an hourly plan, divide required hours into a specific number of sorties or missions, but make adjustments to achieve the hourly requirement.

14.5.5.1.1. Include predictable maintenance factors based on historical data along with other inputs, such as flow times for maintenance, turnaround times and parts replacement schedules.

14.5.5.1.2. MAJCOMs will develop maintenance scheduling effectiveness guidance in their supplements to this DAFI. **(T-2)**

14.5.5.1.2. **(AETC)** MSE Rate: The purpose of the MSE rate is to measure the success of a unit in executing its planned maintenance schedule. Scheduled actions and their respective weighted factor points in **Figure 14.1** will be used to compute the MSE rate. See **Table 14.1** for sample computations for these scheduled actions. The MSE rate is the percentage of scheduled aircraft maintenance actions that were completed and signed off in the MIS on or before scheduled completion date. For example, if a maintenance event is scheduled for Monday through Wednesday, the MIS must reflect the event completed before Thursday.

14.5.5.1.2.1. **(Added-AETC)** The MIS and the published weekly schedule will be used to determine whether maintenance actions and training events/static displays were completed on time. An action is considered completed on time if the date entered in the event ID in the MIS is consistent with the date scheduled in the weekly schedule or if a training event /static display is completed on the date scheduled. TCTO and TCI compliance are based off the day the task is scheduled in the weekly schedule unless scheduled during a PH, PE, HPO or ISO; the completion of the task will then be based on the completion of the inspection.

14.5.5.1.2.2. **(Added-AETC)** PH, PE, HPO, and ISO inspections will be measured against the scheduled completion date for the “look” portion of the inspection only. **(T-2)** The phase package will consist of all work cards associated with the phase and identified in the respective aircraft -6 TO. Phase is considered complete when all work cards loaded in the MIS for the actual phase package are completed and WCE 1 is signed off generating a suspense to P&S for clearing and updating the next phase due time. **(T-2)** Discrepancies discovered during completion of the phase work card package, and not completed, are carried forward

and signed off separate from the original phase package. Do not count (earned or possible) any of the following scheduled maintenance actions into the MSE rate: **(T-2)**

14.5.5.1.2.2.1. **(Added-AETC)** Maintenance cancelled due to severe weather, weather diverts, aircraft not able to return to base due to maintenance malfunction, or impounded aircraft.

14.5.5.1.2.2.2. **(Added-AETC)** Cancelled maintenance actions to comply with a higher headquarters tasking and notification of an immediate action TCTO or OTI that prevents the scheduled maintenance from being performed.

14.5.5.1.2.3. **(Added-AETC)** When computing MSE, record detailed reasons for missing scheduled maintenance actions. **(T-2)**

14.5.5.1.2.4. **(Added-AETC)** The MXG/CC may select additional areas for local scheduling effectiveness tracking (**Table 14.1., Item 12**).

Figure 14.1. (Added-AETC) Scheduled Actions and Their Corresponding Assigned Weighted Factor Points.

Scheduled Action	Assigned Weighted Factor Points
Phase (PH)/Periodic (PE)/Isochronal (ISO))	30
Home Station Check (HSC) or Hourly Postflight (HPO)	20
Time change technical order (TCTO)	20
Engine time change	20
Aircraft time change item	20
Special inspection	15
Wash, corrosion, prep, and paint	15
Delayed discrepancy	5
Document review	5
Transfer inspection or acceptance inspection	3
Maintenance and aircrew trainers or static display	2
Additional scheduled actions (not listed above)	2

Table 14.1. (Added-AETC) Sample Computations for Scheduled Maintenance Actions.

	A	B	C	D	E	F	G
ITEM	**Scheduled Action**	**Assigned Weighted Factor Points**	**Number of Actions**	**Possible Points (B X C)**	**Actions Completed as Scheduled**	**Points Earned (B X E) (note 1)**	**MSE Percent (note 2)**
1	PH/PE/ISO	30	1	30	1	30	100
2	HSC or HPO	20					
3	TCTO	20	2	40	2	40	100
4	Engine time change (**note** 3)	20	2	40	1	20	50
5	Aircraft time change item (**note** 3)	20					
6	Special inspection (**note** 3)	15	7	105	5	75	71.5
7	Wash, corrosion, prep, and paint (**note** 3)	15					
8	Delayed discrepancy (**note** 3)	5					
9	Document review	5	5	25	4	20	80
10	Transfer inspection or acceptance inspection	3					
11	Maintenance and aircrew trainers or static display	2					
12	Additional scheduled actions (not listed in Items 1 through 11)	2					

Notes:
1. Points are only earned for scheduled maintenance events on tail numbers printed in the weekly schedule. Use the event completion month as the basis for when to calculate possible points and points earned.
2. Column F (Points Earned) ÷ Column D (Possible Points) x 100 = MSE Percent.
3. Non-PE, ISO, HSC, or HPO requirements.

14.5.5.2. The monthly flying and maintenance plan schedule refines the quarterly plan by combining all aspects of aircraft utilization and will include:

14.5.5.2. **(AETC)** Document all known monthly utilization and maintenance requirements on a locally approved product or Air Force form such as AF Form 3153, *General Purpose Calendar (11" x 8 1/2")*, or AF Form 2401. **(T-2)**

14.5.5.2.1. A detailed monthly operations utilization calendar that specifies total aircraft flying hours, total sorties and missions, alert requirements, scheduled sortie or mission requirements and daily turn plans for each MDS by squadron, group, or wing. **(T-2)**

14.5.5.2.1. **(AETC)** The addition of aircraft sorties or missions may be identified on AETC Form 206, *Monthly Flying Coordination*, or locally approved product. **Note:** This document will not be considered as government direction to change the contract unless specifically authorized by the contracting officer. If the contractor believes this is outside the scope of the contract, he or she will take no action and will promptly notify the contracting officer. See **Attachment 12** for instructions on completing AETC Form 206.

14.5.5.2.1.1. Do not assign attrition sorties to a specific aircrew/mission for the monthly planning process. **(T-2)**

14.5.5.2.1.1. **(AETC)** Monthly attrition sorties or missions (or hours) are added to the monthly requirement. Attrition sorties or missions or hours are expected losses to the weekly schedule. Apply attrition factors to required locally supported sorties or missions. Units may apply attrition to deployed launched sorties or missions. Do not apply attrition to off-station sorties or missions, ferry flights, FCFs, or OCFs.

14.5.5.2.1.1.1. **(Added-AETC)** Squadron operations scheduling and PS&D may apply monthly attrition factors to student or instructor requirements based on the expected environment for the coming month (**Attachment 12**). Attrition sorties or missions (or hours) are not substitutes for capability shortfalls; they are figured against the operational requirements. The monthly plan will reflect the number of sorties, missions, or hours required; attrition sorties, missions, or hours added; and number of sorties, missions, or hours scheduled for each unit. **(T-2)**

14.5.5.2.1.1.2. **(Added-AETC)** The formula for determining monthly requirements to schedule is the number of sorties or missions (or hours) required divided by 1 minus the attrition factor; for example, 1000 / (1 – 0.015) = 1016 sorties or missions to schedule. For sorties or missions, round up any part to the next whole number.

14.5.5.2.1.1.3. **(Added-AETC)** Along with the following information on the AETC Form 206 or locally approved product, squadron operations scheduling will apply the attrition factor supplied by maintenance analysis for each month and compute the total number of sorties, missions, or hours that must be scheduled to meet the requirement. **(T-2)**

14.5.5.2.1.1.4. **(Added-AETC)** Type of sorties or missions.

14.5.5.2.1.1.5. **(Added-AETC)** Number of sorties or missions and hours.

14.5.5.2.1.1.6. **(Added-AETC)** Anticipated munitions, photo, electronic countermeasure configurations, and estimated munitions expenditures or ammunition changes.

14.5.5.2.1.2. **(Added-AETC)** If AETC Form 206 is not used, units will include the following information in their monthly plan:

14.5.5.2.1.2.1. **(Added-AETC)** Annual UTE position data compared to the wing's current annual plan (**Attachment 10**).

14.5.5.2.1.2.2. **(Added-AETC)** Student timeline position, current and projected.

14.5.5.2.1.2.3. **(Added-AETC)** Percentage of attrition by category.

14.5.5.2.1.2.4. **(Added-AETC)** Total sorties or missions and hours required as listed in wing's annual plan (**Attachment 11**).

14.5.5.2.1.2.5. **(Added-AETC)** Total sorties or missions and hours scheduled.

14.5.5.2.1.2.6. **(Added-AETC)** Number of aircraft required to support the schedule.

14.5.5.2.1.2.7. **(Added-AETC)** Anticipated configurations IAW syllabus requirements.

14.5.5.2.1.3. **(Added-AETC)** When monthly actual attrition is greater or less than programmed, prudently adjust weekly flying schedules to stay on track with the monthly and annual UTE rate. The intent of adjusting weekly schedules in order to meet the programmed UTE rate is to keep PFT and the FHP properly aligned and for fleet management. However, zeroing out the monthly UTE is not expected. Implement a prorated system for weather cancellation during the weekly process and recording deviations. See **Attachment 13** and **Attachment 10** for instructions on completing AETC Form 206A, *Weekly Flying Contract* and AETC Form 206C, respectively. Distribute the adjustments over future weekly flying plans to avoid significant disruptions to scheduled maintenance plans and student syllabus requirements. Make every effort to meet student and CT training requirements. Attrition sorties are expendable. The following are examples for adjusting attrition:

14.5.5.2.1.3.1. **(Added-AETC)** Low Attrition Application. If losses do not occur as anticipated, adjust weekly schedules to prevent exceeding the monthly plan. For example, if the monthly plan is 2,102 sorties or missions with an attrition factor of 25 percent, a total of 2,802 sorties or missions would be scheduled at 127.4 sorties or missions per day for the 22-workday month of

June. During 1 through 16 June (12 workdays), 1,500 of 1,528 sorties or missions scheduled were flown. The third weekly sortie or mission request should then be adjusted to prevent an overfly. Subtract the 1,500 sorties or missions flown from the 2,102 monthly requirement. This leaves a commitment of 602 required sorties or missions. Using the same 25 percent attrition factor, only 803 sorties or missions must be scheduled for the remaining 2 weeks. Depending on actual losses during the third week, a further increase or decrease for the fourth week may be required.

14.5.5.2.1.3.2. **(Added-AETC)** High Attrition Application. During the same 12-day period, 1,000 of 1,528 sorties or missions scheduled were flown due to higher than planned weather losses. Therefore, the third weekly sortie or mission request should be adjusted to prevent an underfly of the monthly plan. Subtract the 1,000 sorties or missions flown from the 2,102 monthly requirement, leaving a commitment of 1,102 sorties or missions required by the monthly plan. Reapply the 25 percent attrition factor to the remaining sortie or mission commitment for 1,469 sorties or missions for the remaining 2 weeks. This leaves 147 sorties or missions per day compared to the original of 128 sorties or missions per day. Because this is greater than the agreed sortie or mission count in the monthly plan, review maintenance and operational support capabilities for the inflated sortie or mission request. Again, depending on actual losses during the third week, a further decrease or increase may be required for the fourth week.

14.5.5.2.2. Monthly maintenance requirements (as required). **(T-2)**

14.5.5.2.3. Transient work schedule, if applicable. **(T-2)**

14.5.5.2.4. Scheduled inspections, TCTOs, engine changes, time changes, DDs, contract or depot maintenance, washes, corrosion control, training aircraft and all other known maintenance requirements. **(T-2)**

14.5.5.2.5. SE scheduled inspections, contract, or depot maintenance, TCTOs, time changes, DDs, washes, and corrosion control. **(T-2)**

14.5.5.2.6. Avionics and other off-equipment maintenance scheduled inspections, TCTOs, assembly or repair operations. **(T-2)**

14.5.5.2.7. Engine/module 6-month removal forecast and in-shop inspection requirements. **(T-2)**

14.5.5.2.7. **(AETC)** In-shop maintenance requirements will be published. Completing the AETC Form 520, *Engine Maintenance and Inspection Forecast*, fulfills engine requirements.

14.5.5.2.8. Munitions, ECM, and other mission loading or configuration requirements, including ammunition changes. **(T-2)**

14.5.5.2.9. Total ordnance requirements for aircraft support. **(T-2)**

14.5.5.2.10. Tanks, Racks, Adapters and Pylons and WRM scheduled inspections, TCTOs, assembly or repair operations. **(T-2)**

14.5.5.2.11. Monthly training schedules, if not published separately. **(T-2)**

14.5.5.2.12. Detailed support requirements (such as, Petroleum, Oil, and Lubricants servicing, supply, food service, fire department, security, civil engineer, and airfield operations requirements). **(T-2)**

14.5.5.2.13. All known operational events (such as, exercises, deployments, surges) to determine maintenance capability to meet operational needs. **(T-2)**

14.5.5.2.14. **(Added-AETC)** Other items as directed by the wing commander.

14.5.5.3. Monthly planning cycle requirements.

14.5.5.3.1. NLT the first weekly scheduling meeting of the month, the OS Director of Operations will provide maintenance supervision and PS&D with the estimated operational needs for the following month in as much detail as possible. **(T-2)**

14.5.5.3.1.1. To optimize aircraft and munitions support, CMS, EMS, MUNS, MXS, AMXS, and OS will ensure the number of aircraft, and/or munitions configurations, are minimized and standardized. **(T-2)**

14.5.5.3.1.2. Include known takeoff times, landing times and flying hour windows. **(T-2) Note:** Landing times are not required if the unit has an established and constant average sortie duration.

14.5.5.3.1.2. **(AETC)** Other impacting events such as safety briefings, commander's calls, scheduled exercises, and temporary duty will also be included.

14.5.5.3.2. The OS Director of Operations and maintenance supervision will review their applicable portion of the monthly maintenance plan and weekly schedule prior to submission to PS&D. **(T-2)**

14.5.5.3.3. NLT the second weekly scheduling meeting of the month, AMXS maintenance supervision will notify the OS Director of Operations whether requirements can be met or limitations exist and collectively make necessary adjustments to the proposed schedule to satisfy maintenance and operational requirements. **(T-2)**

14.5.5.3.4. MXG/CC and OG/CC will formalize the next month's flying and maintenance plan prior to presenting it to the WG/CC for approval NLT the third scheduling meeting of the preceding month. **(T-2)**

14.5.5.4. WG/CC's monthly scheduling meeting.

14.5.5.4.1. OS scheduling will outline past accomplishments, status of flying goals, problems encountered and detailed needs for the next month. **(T-2)**

14.5.5.4.2. PS&D will outline projected maintenance capability and aircraft/equipment availability. **(T-2)**

14.5.5.4.3. DELETED.

14.5.5.4.3. **(AETC)** When planned students do not show or when a lack of projected capability or resource funding prevents meeting monthly UTE rates, the WG/CC will decide what portions of the plan will be supported and to what degree. In this case,

maintenance and operations scheduling will reflow the annual plan and identify flying hours for possible turn-in or additional hours required.

14.5.5.4.3.1. **(Added-AETC)** If the projected number of available aircraft is less than required to accomplish the requirement, the OG/CC will provide alternatives and limitations to the WG/CC. If logistics support is limited, the MXG/CC will provide alternatives.

14.5.5.4.3.2. **(Added-AETC)** The WG/CC will validate these requirements and decide to what degree support will be given. Once signed by the WG/CC, OG/CC, and MXG/CC, the monthly plan establishes the foundation for the development of weekly schedules.

14.5.5.5. When the WG/CC approves/signs the proposed monthly flying plan, PS&D will include it as a portion of the monthly flying and maintenance plan. **(T-2)** Monthly plans may be published electronically provided local security requirements are met.

14.5.5.5. **(AETC)** After the proposed monthly plan has been signed, PS&D will publish and distribute it. This may be accomplished electronically no later than 5 duty days prior to the end of the month (**Table 14.2**), or the plan may be included as an annex to the last weekly schedule of the preceding month. Upload a copy of the approved monthly plan to the 19 AF Maintenance Scheduling Sharepoint site: **https://usaf.dps.mil/sites/aetc-19af/LG/MaintenanceManagement/default.aspx**.

14.5.5.5.1. **(Added-AETC)** For FHP adjustments, as the PA is executed during the fiscal year, units may find their requirement no longer matches their allocated program. This may be due to student no shows, force sustainment changes, and/or force structure issues. Wings should reevaluate their FHPs to ensure excess hours are turned back in to the AETC Flying Hour Manager. These hours will be evaluated for possible redistribution to fulfill other valid flying training requirements. Wings will submit FHP adjustments to 19 AF/A3 R&A who will coordinate adjustment requests with, 19 AF/A4, Resource Integration Division (HQ AETC/A4P), and AETC Finance (HQ AETC/FM). **(T-2)** In some circumstances, units may request an unscheduled special adjustment. These requests should be rare and limited to situations beyond the unit's control. There are three scheduled adjustments: January, March and July, as follows:

14.5.5.5.1.1. **(Added-AETC)** Operations, with coordination through maintenance, will request adjustments by the 10th calendar day of January, March and July. **(T-2)** Requests are due on the preceding Friday if the 10th falls on a weekend. Late requests will not be processed until the next scheduled adjustment. A detailed explanation for the request will be provided to include numbers that support the request (attrition, quota cancellations, ineffective sorties or missions, etc.). If justification is not provided, an adjustment may not be granted.

14.5.5.5.1.2. **(Added-AETC)** Units may be notified by message of approval or disapproval, usually within 3 weeks of the request suspense. Once approval has been granted, units will provide 19 AF/A3 R&A their programmed reflow (**Attachment 11**). The approval authority is 19 AF/DO.

14.5.5.5.2. **(Added-AETC)** The calendar in **Table 14.2** shows a sample month. It represents when group- and wing-level quarterly, monthly, and weekly scheduling

meetings should be conducted and when maintenance and operations requirements must be met. Each unit may hold scheduling meetings at times during the week or month convenient to its organization, as long as the timelines in this instruction are met.

Table 14.2. (Added-AETC) Example of Unit Planning and Scheduling of Monthly Meetings.

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
					Operations provides next week's requirement to maintenance (2 duty days before the OG/MXG meeting).	
3	4	5	6	7	8	9
Week 1		At the OG/MXG weekly scheduling meeting, operations provides requirements for next month and quarter.			The wing commander approves next week's schedule. Distribute next week's schedule. Operations provides maintenance with the following quarter's and week's requirements.	
10	11	12	13	14	15	16
Week 2		At the OG/MXG weekly scheduling meeting, the quarterly plan is briefed. Maintenance tells operations if next month's and quarter's requirements can be met.			The wing commander approves next week's schedule. Distribute next week's schedule. Operations provides maintenance with the following week's requirements.	
17	18	19	20	21	22	23
Week 3		At OG/MXG weekly scheduling meeting, the monthly and quarterly plans are briefed.			The wing commander approves next week's schedule. Distribute next week's schedule. Operations provides maintenance with the following week's requirements.	
24	25	26	27	28	29	30
Week 4		Brief finalized and signed next month's plan.			The wing commander approves next week's schedule. Distribute next week's schedule. Operations provides maintenance with the following week's requirements.	

14.5.6. Weekly Scheduling. The weekly schedule is the final refinement to the monthly plan and results in the weekly flying and maintenance schedule.

14.5.6. **(AETC)** Maintenance and operations schedulers must coordinate regularly when developing the weekly schedule to ensure all essential utilization and maintenance requirements are supportable. The planning week is 0001 local time Monday through 2400 local time Sunday. Once the weekly schedule is approved by the WG/CC, it executes the monthly plan and becomes the basis for deviation reporting. **(T-2) Note:** Weekly planning and deviation accounting also applies to deployed units if they have parent maintenance support and are flying hours from the AETC PA.

14.5.6.1. Wings will develop procedures to ensure the objectives of the weekly scheduling process are met. **(T-2)**

14.5.6.1.1. PS&D will review matrix/chart depicting the total number of SI and TCI requirements to be loaded in the MIS for each assigned aircraft/system and verify against the MIS totals weekly. **(T-2)** Overdue and uncorrected discrepancies will be briefed weekly during a daily production/scheduling meeting chaired by the MXG/CD (or equivalent). **(T-2)**

14.5.6.1.2. **(Added-AETC)** The first duty day of the week, PS&D will verify and send operations scheduling any known special maintenance requirements for the following week, such as flight compass swings or FCFs required by the aircraft -6 TO. Operations scheduling may use AETC Form 206A to develop sortie or mission requirements. **Note:** This document will not be considered as government direction to change the contract unless specifically authorized by the contracting officer. If the contractor believes this is outside the scope of the contract, he or she will take no action and will promptly notify the contracting officer. See **Attachment 13** for instructions on completing AETC Form 206A. Schedulers may use AETC Form 208, *Weekly Scheduling Request*, to consolidate flight requests.

14.5.6.2. NLT 2 workdays before the weekly scheduling meeting, the OS Director of Operations will provide maintenance supervision the following information (as required for missile units):

14.5.6.2.1. Aircraft takeoff and landing times. **(T-2)**

14.5.6.2.1. **(AETC)** Takeoff times must be coordinated and agreed to by both maintenance and operations.

14.5.6.2.2. Configuration requirements. **(T-2)**

14.5.6.2.3. Munitions requirements. **(T-2)**

14.5.6.2.4. Fuel loads. **(T-2)**

14.5.6.2.5. Special or peculiar mission support requirements. **(T-2)**

14.5.6.2.6. Alert requirements. **(T-2)**

14.5.6.2.7. Exercise vulnerability. **(T-2)**

14.5.6.2.8. Deployments. **(T-2)**

14.5.6.2.9. Off-base sorties. **(T-2)**

14.5.6.2.10. On-equipment training requirements. **(T-2)**

14.5.6.2.11. Other special requirements. **(T-2)**

14.5.6.2.12. All mission unique requirements are annotated by OS Director of Operations on the weekly and daily flying schedule. **(T-2)**

14.5.6.2.13. **(Added-AETC)** Date and type mission.

14.5.6.2.14. **(Added-AETC)** Estimated requirements for petroleum, oil, and lubricants when required, to include number of trucks, refueling pits, and times required.

14.5.6.2.15. **(Added-AETC)** Aircraft and equipment required to support ground-training requirements.

14.5.6.3. Home and deployed units will publish a weekly schedule. **(T-2)** Include the following in the weekly flying and maintenance schedule:

14.5.6.3.1. Sortie sequence numbers, aircraft tail numbers (primary and spares), scheduled takeoff and landing times, aircraft or equipment scheduled use times, configurations, fuel loads, and special equipment requirements. **(T-2)** Units that fly a published and constant average sortie duration need not publish land times.

14.5.6.3.1. **(AETC)** Scheduled turns should be developed in descending order (for example, 25x25x15x10). However, there may be times when developing schedules in descending order is not feasible or practical. PS&D will consolidate and review the schedules for adequate utilization of aircraft and proper scheduling of maintenance requirements prior to submission to the WG/CC.

14.5.6.3.1.1. **(Added-AETC)** CSO, UPT, PIT and IFF units (in organizations with T-1, T-6, and T-38, aircraft assigned) may abstain from assigning aircraft tail numbers to specific sortie sequence numbers on the daily operational portion of the weekly schedule. PS&D must identify prime and spare aircraft and how many sorties are planned for each prime aircraft. **(T-2)**

14.5.6.3.1.2. **(Added-AETC)** Units will develop a locally approved form or spreadsheet that depicts at a glance the maintenance and operational utilization of all aircraft for the week scheduled. This form or spreadsheet will contain all aircraft tail numbers assigned and identify prime fliers (including number of sorties or missions planned; for example F4 on the spreadsheet will denote four sorties or missions are scheduled for a particular aircraft) and spare aircraft. **(T-2)** It will also identify maintenance and training requirements. **(T-2)** Match tail numbers from the weekly utilization schedule to the specific sortie sequence number prior to the daily scheduling meeting. **(T-2)** These programmed prime fliers, along with spare aircraft, are the available pool to fly the daily schedule.

14.5.6.3.1.3. **(Added-AETC)** Regardless of the type of unit (military, civil service, or contractor), aircraft will be scheduled into a specific sortie sequence number. **(T-2)** All lines will have aircraft assigned NLT two hours prior to first scheduled takeoff time for the day. Tail swaps, spares and interchanges will be used to document any subsequent changes. For continuity purposes and to aid in the analytical process, the sortie or mission will be debriefed in the MIS, using the same

sortie sequence number published in the weekly schedule. **(T-2)** CSO, UPT, PIT, and IFF units will use the following standardized sortie sequence numbers: **Note:** All other AETC units should develop written guidance standardizing their sortie sequence numbers. Wings with one MDS in multiple flying units should divide these sortie sequence numbers equitably between the units.

14.5.6.3.1.3.1. **(Added-AETC)** Local sorties: 001-298.

14.5.6.3.1.3.2. **(Added-AETC)** Additions: 300-598.

14.5.6.3.1.3.3. **(Added-AETC)** Return from out and back (O&B), off-station, and XC sorties: 600-698.

14.5.6.3.1.3.4. **(Added-AETC)** FCF and OCF: 700-728.

14.5.6.3.1.3.5. **(Added-AETC)** Ferry Sorties: 730-748.

14.5.6.3.1.3.6. **(Added-AETC)** HQ AETC taskings: 750-798.

14.5.6.3.1.3.7. **(Added-AETC)** Weather evacuations: 800-898.

14.5.6.3.1.3.8. **(Added-AETC)** SUPT/FBF sorties 900-949.

14.5.6.3.1.3.9. **(Added-AETC)** IFF/FBF sorties 950-999.

14.5.6.3.1.4. **(Added-AETC)** When developing the weekly schedule, if it is known that an aircrew cannot and will not be available for a required sortie, load the aircraft planned for the mission/sortie against the line in the MIS to record the operations cancellation. **(T-2)**

14.5.6.3.1.5. **(Added-AETC)** When developing the weekly schedule, if it is known that an aircraft cannot and will not be MC (NMC conditions), do not place the NMC aircraft on the weekly/daily flying schedule. **(T-2)** However, if not enough MC aircraft are available to meet the weekly requirement, load NMC aircraft against the remaining lines in the MIS to record the maintenance or supply cancellation as applicable. **(T-2)** NMC aircraft applied to the weekly schedule for the purpose of recording deviations will be proportional to the ratio of NMCS/B and NMCM possessed as closely as possible (i.e. 10 aircraft NMCS/B, 20 aircraft NMCM = 1/3 or only 33% of the NMC aircraft applied to the schedule can be supply cancels (NMCS/B)). **(T-2)**

14.5.6.3.1.6. **(Added-AETC)** When loading tails against lines in the MIS purely to capture deviations per paragraphs **14.5.6.3.1.4** and **14.5.6.3.1.5**, load and cancel those lines before each day's execution as applicable and ensure the schedule clearly reflects what is intended to be executed. **(T-2)**

14.5.6.3.2. Spare aircraft requirements. **(T-2)** Spare requirements are printed by day for each maintenance unit. Generate only the absolute minimum of spare aircraft.

14.5.6.3.2. **(AETC)** A percentage of first-go launches are provided as spare aircraft to avoid cancellations. Analysis will compute spare aircraft factors based on historical first sortie or mission logistical losses from previous or similar flying months or weeks and provide this information to the maintenance scheduler for use in computing spare requirements for future schedules. This methodology provides the minimum spare

requirement. Actual spare requirements may be adjusted to compensate for multiple configurations, syllabus constraints, and maintenance capability.

14.5.6.3.2.1. **(Added-AETC)** When additional spares are added for multiple configurations, units will not exceed one spare per configuration. **(T-2)** Additional spares are authorized to support higher headquarters taskings. At least one spare aircraft is authorized per MDS for each flying day. Like attrition, the spare rate is a guide for planners to use in the execution of the flying schedule to minimize disruption. Spare configurations will be prioritized because a spare cannot substitute for every line on the schedule. Calculate the spare rate as follows:

14.5.6.3.2.1.1. **(Added-AETC)** Based on historical data of the unit from previous similar flying months. Minimum spare aircraft requirement factors will be calculated against first-go sorties or missions by MMA.

14.5.6.3.2.1.2. **(Added-AETC)** These factors will be provided to the appropriate maintenance scheduling function. The following is an example how to determine the spare factor:

Table 14.3. (Added-AETC) Spare Factor Determination.

a. First sortie or mission maintenance cancels		0.10
b. First sortie or mission supply cancels		0.03
c. First sortie or mission GAs		0.05
d. Spare factor	=	0.18 (18 percent)

14.5.6.3.2.2. **(Added-AETC)** Contact maintenance analysis for these rates.

14.5.6.3.2.3. **(Added-AETC)** Spare rate = spare factor x total average first-go launches. This is the spare aircraft required to support the schedule. Round decimals up to the next whole number.

14.5.6.3.2.4. **(Added-AETC)** The formula to determine minimum spare aircraft required is as follows: First-go sorties or missions scheduled x spare factor = minimum number of spare aircraft required rounded to next whole number. This may be adjusted to compensate for unusual configurations such as tow dart, flare pods, etc. For example, 12 first-go sorties or missions and using the spare factor from **paragraph 14.5.6.3.2.2**, that is, 12 x 0.18 = 2.16 (number of spares required is 3).

14.5.6.3.3. Scheduled maintenance actions, by aircraft and equipment serial number, to include inspections, TCTOs, time changes, contract and depot inputs, engine changes, washes or corrosion control, document reviews and DDs. **(T-2)**

14.5.6.3.4. Required pre-inspection and other maintenance/scheduling meetings. **(T-2)**

14.5.6.3.5. Wash rack use. **(T-2)**

14.5.6.3.6. On-equipment training requirements. **(T-2)**

14.5.6.3.7. AGE inspections or maintenance schedule by type and ID number. **(T-2)**

14.5.6.3.8. MAJCOMs will develop standardized procedures to record and coordinate changes to the weekly schedule using an AF Form 2407 or electronic equivalent. Include minimum approval levels for approving changes to the weekly schedule.

14.5.6.3.8. **(AETC)** Changes to the approved weekly schedule that add aircraft and/or sorties or increase the flying window require approval by both the OG and MXG commanders (or organizational equivalent). **(T-2)** All other changes will be approved by the affected squadron commander(s) or organizational equivalent (or designated representative). **(T-2)**

14.5.6.3.8.1. **(Added-AETC)** Use AF Form 2407 to document weekly schedule changes which occur prior to the start of the flying period and record these changes in the MIS. **(T-2)** (AETC Form 206C will only be used as a manual backup in the event of MIS non-availability.) Electronic equivalent and coordination is acceptable provided approval can be verified against the routing chain and data is retained IAW the Air Force Records Disposition Schedule. Deviations to the weekly schedule apply and are recorded even though a change is made using the AF Form 2407. A detailed reason for the schedule change will be included on the AF Form 2407. **Note:** Munitions configuration changes require an AF Form 2407 regardless of when the action is initiated.

14.5.6.3.8.2. **(Added-AETC)** Units will publish local AF Form 2407 routing procedures in a supplement to this instruction. **(T-3)** In contract maintenance organizations, service providers shall publish AF Form 2407 routing procedures in a contractor regulation completed in accordance with **para 1.9.3** of this instruction. **(T-2)**

14.5.6.3.9. Any change to the printed schedule will require an AF Form 2407 with the following exceptions: a change to the original printed takeoff or landing time of 15 minutes or less; a change of aircrew names, ranges, or airspace; or a change arising after the first crew ready time for the squadron's current day's scheduled flying window. **(T-2)**

14.5.6.3.9.1. Changes made during the daily scheduling meeting also require an AF Form 2407. **(T-2)**

14.5.6.3.9.2. The agency requesting the change initiates the AF Form 2407 and coordinates it IAW MAJCOM procedures. **(T-2)**

14.5.6.3.10. **(Added-AETC)** Estimated requirements for petroleum, oil and lubricants, when required, to include number of trucks, refueling pits, and times required.

14.5.6.3.11. **(Added-AETC)** Aircraft and equipment to support ground training requirements.

14.5.6.4. The OS Director of Operations and Maintenance Supervision will review and coordinate on the proposed weekly flying and maintenance schedule with OS, AMXS, MXS, CMS, and EMS prior to presenting it to the OG/CC and MXG/CC (or equivalent). **(T-2)**

14.5.6.4. **(AETC)** After coordinating any necessary adjustments, OS commanders will document training requirements and maintenance capability and forward requests to the OSS operations scheduling. The OSS operations scheduling will coordinate and deconflict squadron requests before the weekly scheduling meeting and forward any recommended changes to the operations scheduling section for review no later than two workdays before the meeting. **(T-2)** Maintenance and operations schedulers will discuss weekly needs and arrive at an acceptable, coordinated schedule for the group commander's review.

14.5.6.5. The approved schedule will be submitted to PS&D for compilation and a complete copy provided to the WG/CC. **(T-3)**

14.5.6.6. At the weekly scheduling meeting wings will evaluate the past week's accomplishments (to include flying and MSE) and negotiate/approve refinements to the coming week's schedule. **(T-2)**

14.5.6.6. **(AETC)** SQ/CCs or their designated representatives will brief status and other information with an emphasis on trends and existing limitations that are hindering the monthly sortie or mission (or hourly) attainment.

14.5.6.6.1. The AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*, or locally developed product, will be used to summarize the upcoming week's schedule. **(T-2)**

14.5.6.6.2. The AF Form 2403, *Weekly Aircraft Utilization/Maintenance Schedule*, or locally developed equivalent product that contains all requirements and creates a finite depiction of aircraft utilization and maintenance. **(T-2)**

14.5.6.7. Once the weekly schedule is reviewed and signed by the OG/CC, MXG/CC (or equivalent), and WG/CC it becomes the final planning guide for both operations and maintenance and the basis for deviation reporting. **(T-2)**

14.5.6.7. **(AETC)** The weekly schedule will be approved NLT 1400 Fridays. **(T-2)** PS&D will retain the approved original schedule.

14.5.6.7.1. The schedule will be followed as printed or as amended by coordinated changes. **(T-2)**

14.5.6.7.2. Coordinated changes do not negate reporting deviations IAW MAJCOM guidance.

14.5.6.7.2. **(AETC)** Any AF Form 2407 coordinated flying schedule changes will be input by MOC into the MIS.

14.5.6.7.3. **(Added-AETC)** Deviations.

14.5.6.7.3.1. **(Added-AETC)** Deviations General. Every attempt will be made to minimize deviations to the approved schedule and prevent unnecessary disruptions to affected agencies executing the plan. Deviation recording is a management tool for identifying and correcting trends. The MOC will record all chargeable and nonchargeable deviations from the approved, printed weekly schedule in the MIS. **(T-2)** AETC Form 206C will only be used as a manual backup in the event the MIS becomes inoperative. (See **Attachment 10** for instructions on completing AETC Form 206C.) Deviations recorded on the AETC Form 206C will be input into the

MIS by MOC personnel within 24 hours after system recovery. **(T-2)**

14.5.6.7.3.1.1. **(Added-AETC)** Deviations to the schedule are considered either chargeable or nonchargeable for the purpose of computing sortie or mission scheduling effectiveness. The MOC will review online sortie recaps at the completion of each flying period, ensuring deviation reporting accuracy. If the MIS is inoperative, AETC Form 206C must be used. The MOC will deliver a copy of the previous day's completed form to maintenance analysis each morning. **(T-2)**

14.5.6.7.3.1.2. **(Added-AETC)** Deviation reporting is applicable to all AETC- possessed aircraft. **(T-2)** When assessing deviations, always ask "What caused the event?" Normally, the first event in a sequence of events is the primary cause for a deviation. For example, late crew arrival at the aircraft or operations refusal to accept an MC spare is not always a maintenance cancellation.

14.5.6.7.3.2. **(Added-AETC)** Chargeable Deviations. These are variations to the flying schedule that are within the control of the local authority. Deviations resulting from FCF/OCF sorties will be recorded as nonchargeable. Chargeable deviations are as follows:

14.5.6.7.3.2.1. **(Added-AETC)** Engine Running Crew Change (ERCC). ERCC sorties or missions printed in the weekly schedule that are not flown (**paragraph 14.5.7.8**) are charged to the agency that caused the deviation. **(T-2)** **Exception:** A deviation will not be recorded for an ERCC if all of the following conditions exist: The aircraft is required to be shut down to facilitate maintenance actions. Repairs are made while operations maintains control of the aircraft. The sortie or mission can be launched to meet mission requirements.

14.5.6.7.3.2.2. **(Added-AETC)** Ground Abort (GA). A GA is the discovery of a maintenance condition, after aircrew arrival, which prevents the aircraft from being flown in time to complete the scheduled mission. Use only deviation code GA; use only cause codes GAA, GAB, or GAC for maintenance ground aborts in the MIS. The following are additional examples of what will normally be classified as a GA: If an aircraft ground aborts and is replaced by a spare that meets mission requirements, IMDS units will use the "Spare" deviation on screen 343 and load the deviation on screen 350, do not select the chargeable indicator. If an aircraft lands Code 2 or 3 and bypasses the hot pits to take a spare aircraft, only the spare action is recorded. If the aircraft lands, takes fuel via the hot pits, incurs an NMC condition after completion of hot pit refueling (receptacle disconnected) and can no longer continue, a GA is recorded. GAs are only chargeable against the prime aircraft; that is, only one GA is chargeable per sortie or mission line for sortie scheduling effectiveness (SSE). All GAs are chargeable for abort rate calculations.

14.5.6.7.3.2.3. **(Added-AETC)** Additions. Additions are aircraft or sorties/missions added to the weekly schedule that are not on the previously printed schedule. Additions will be recorded against the agency requesting the

addition. **(T-2)** Additions that exceed the difference between the number of planned weather attrition and the current weather losses available for use to bring the student timeline and CT requirement back to even will be recorded as chargeable operations additions. **(T-2)**

14.5.6.7.3.2.4. **(Added-AETC)** Cancellations. A sortie not flown for any reason other than a ground abort. As determined locally, the cancellation will be charged to the agency that caused the missed event. The following terms apply: Maintenance cancel is a sortie not flown for maintenance reasons that occur prior to aircrew arrival. Operations cancel is a sortie not flown for operations reasons. Supply cancel is a sortie not flown for supply reasons to include a Partially Mission Capable Supply or Not Mission Capable Supply condition, or for late Supply or fuel delivery.

14.5.6.7.3.3. **(Added-AETC)** Nonchargeable deviations. Nonchargeable deviations are variations to the weekly schedule attributable to, or resulting from, events or factors not within the control of the local authority, as follows:

14.5.6.7.3.3.1. **(Added-AETC)** Weather Additions. Sorties will only be added to the schedule when the planned weather attrition for the month, prorated daily, has been exceeded for that month. **Example:** Planned weather attrition for a 20 O&M day month is 30 sorties (30 / 20 = 1.5 sorties per day). On the 10th O&M day of the month a unit's weather losses are already 17 sorties. The unit may add 2 sorties (weather "adds" = 17 – (1.5 x 10 O&M days)). When weather losses occur, sorties may be added back into current and subsequent weekly schedules for the month, as necessary, to bring the student timeline and CT requirements back to even. These provisions are applicable any time during the execution of the annual FHP. The maintenance schedule and the ability of maintenance to support the additional requirements must be carefully considered before adding sorties. Under no circumstances will the number of sorties added for weather exceed the difference between actual weather losses and the prorated expected weather losses for the month. **(T-2)** **Note:** Off-station, weather-cancelled sorties may be added back on a one-for-one basis at the off-station location.

14.5.6.7.3.3.2. **(Added-AETC)** Weather Cancel. These cancellations are scheduled sorties not flown due to adverse weather impacting mission accomplishment at local, destination, en route, or alternate locations. This includes sorties not flown due to exceeding the thermal heat index or allowable wind chill index.

14.5.6.7.3.3.3. **(Added-AETC)** Air Abort. An air abort is a sortie or mission on an airborne aircraft that is terminated due to an in-flight aircraft system malfunction and prevents the completion of minimum sortie/mission requirements. An air abort is considered a sortie or mission flown when reporting total sorties or missions flown. An air abort will not be recorded when malfunctions occur during the before-takeoff checklist portion of helicopter sorties or missions. A noneffective sortie or mission or the early return of an aircraft does not necessarily mean an air abort occurred unless there is an in-

flight aircraft system malfunction. **Note:** Effective sortie or mission determination will be made by operations.

14.5.6.7.3.3.4. **(Added-AETC)** Ground Abort (GA). Only the first GA is chargeable against any single sortie or mission line. All other GAs against that sortie will continue to be recorded, but as nonchargeable against the sortie scheduling effectiveness rate. All GAs count toward the abort rate computation identified in AETCI 21-105. **(T-2)**

Table 14.4. (Added-AETC) Other Deviations Category (OT).

ITEM	Other Deviations
1	Sorties or missions added to the daily schedule for reasons beyond the control of the local authority; for example, higher headquarters and distinguished visitors (DV) sorties or missions (excluding incentive and familiarization flights) and ferry sorties or missions. Training sorties or missions that were sympathy cancellations (this table **ITEM 8**), but were added back to the schedule are considered flown as scheduled. Sorties or missions added back to the schedule after being cancelled by the Supervisor of Flying for birds in the area are nonchargeable operations adds.
2	Incentive and familiarization flights flown at the XC location of a deployed unit. These are considered flown as scheduled.
3	Sorties or missions not flown due to: a. Lost air traffic control capability/determination, unprogrammed runway closure, total loss of required communications or equipment, or evacuation due to bomb threat. Also, random natural acts such as lightning strikes. b. A bird strike on a previous sortie or mission when there is no spare or interchangeable aircraft available. This is only authorized for use on the day of the incident. c. Higher headquarters or DV sorties or missions (excluding incentive and familiarization flights). This does not include higher headquarters or DV sorties or missions cancelled due to chargeable deviations within the control of local authority (**paragraph 14.5.6.7.3.2**). d. Recommendation from the Supervisor of Flying or equivalent for safety concerns based on the quantity of birds in the area. e. Ferry Sortie or mission requirements.
4	Aircraft grounded or restricted from a scheduled mission because of an immediate action TCTO or one-time inspection.
5	Deviations resulting from a WG/CC-directed exercise, including force protection conditions.
6	Notification of an unscheduled WG/CC safety briefing.
7	The inability of an AI or student to return to the home station from an O&B or a XC mission solely because of aircraft servicing delays at the transient location.
8	Another scheduled aircraft's abort or cancellation sympathy.

ITEM	Other Deviations
9	To prevent unnecessary expenditures of resources, UTE management can be used any day of the month when less-than-programmed attrition occurs and all training requirements for scheduled profile objectives have been met. For example, Monday thru Thursday are required night sorties or missions with Friday as an attrition day for those night sorties or missions. Zero night sorties or missions were lost Monday thru Thursday so Friday's attrition night sorties or missions could be cancelled while other training requirement profile objectives scheduled for Friday must still be accomplished. Notify the appropriate maintenance functions of UTE cancellations as soon as the requirement is known. Not intended to be used as a cover for poor scheduling or to hide deviations and should be used as a last option after attempting to make mission changes or moving training requirements. For year-end management, refer to **paragraph 14.5.10**.
10	ERCC sorties or missions added for incomplete training. These are nonchargeable if added during the same week a training event was lost.
11	When an aircraft is at an off-station location, cannot return to home station for its scheduled sorties or mission, and a home station spare is not available to fly the sorties or missions record the deviation as nonchargeable. These will be nonchargeable only for the next day's flying, any additional sorties will be charged against maintenance.
12	Sorties or missions canceled when operations cannot provide aircrew due to public health quarantine restrictions. IMDS units will use deviation cause code XCO.
13	Sorties or missions canceled when maintenance cannot provide maintenance crews due to public health quarantine restrictions. IMDS units will use deviation cause code XCM.
14	Sorties or missions canceled when due to other public health quarantine restrictions. Units will provide a detailed explanation for its use. IMDS units will use deviation cause code XCT.

14.5.6.8. PS&D will distribute the schedule to each appropriate activity and work center NLT time determined in MAJCOM supplements to this DAFI. **(T-2)**

14.5.6.8. **(AETC)** PS&D will load weekly flying schedules into the MIS and distribute the schedule by 1500 on Friday of the week preceding the effective week. **(T-2)**

14.5.6.8.1. Weekly schedules may be published electronically provided local security requirements are met.

14.5.6.8.2. **(Added-AETC)** Upload a copy of the approved weekly schedule to the 19 AF Maintenance Scheduling SharePoint site: **https://usaf.dps.mil/sites/aetc-19af/LG/MaintenanceManagement/Unit%20Weekly%20Flying%20Schedules/Forms/AllItems.aspx**.

14.5.7. **(Added-AETC)** Flying the Schedule.

14.5.7.1. **(Added-AETC)** Weekly Schedule. This schedule is the final planning guide for both maintenance and operations. Although changes to the weekly schedule are inevitable, changes that adversely affect maintenance or operations should be kept to a minimum. Operations scheduling and PS&D will maintain constant coordination to minimize the

negative impact changes might have on achieving long range objectives and maximizing reaction time. Operations scheduling and PS&D will verbally coordinate changes to the weekly schedule no later than prior to the daily scheduling meeting or 1500. They will follow up verbal coordination on an AF Form 2407 per **paragraph 14.5.6.3.8**.

14.5.7.2. **(Added-AETC)** Alternate Schedule. If weather is questionable for night flying, operations scheduling may provide an alternate schedule for the following day (depending on the flying window, maintenance, and instructor capabilities) based on the successful completion of the night flying and its rescheduling. Operations scheduling will notify the MOC and flight line production superintendent by 2200 regarding which schedule to use. **(T-2)**

14.5.7.3. **(Added-AETC)** Delayed Launch. If a launch is delayed, operations scheduling will decide (after coordinating with the flight line production superintendent) if the sortie or mission should be cancelled (cancellation for operations, maintenance or supply) to prevent hindering future aircrew or aircraft commitments. A delayed launch will be initiated before an aircraft's crew ready time. **(T-2)**

14.5.7.4. **(Added-AETC)** Late Launch: The late launch window is two hours for Eglin, Holloman F-16s & Luke; four hours for Altus, Holloman MQ-9s, Kirtland, Little Rock, and Fairchild; and one hour for all other bases.

14.5.7.4.1. **(Added-AETC)** If a scheduled sortie or mission does not launch within the window after the scheduled takeoff time and there was no coordination between operations and maintenance prior to the crew ready time, the sortie or mission will be terminated and the appropriate deviation will be recorded against maintenance, operations, or supply, as appropriate. **(T-2) Note:** Verbal coordination can be used between operations and maintenance, however once a decision has been coordinated and agreed upon, maintenance must coordinate changes to the MOC.

14.5.7.4.2. **(Added-AETC)** If the printed tail number is a ground abort and is replaced with a spare that does not take off within the window after the scheduled time, the MOC will record the ground abort, terminate the line, and add a new line (ops add) if requested. **(T-2)**

14.5.7.4.3. **(Added-AETC)** If no spare is available and an aircraft is added or the original aircraft launches after the window and the flight line production superintendent acknowledges supportability, the MOC will record an ops add. **(T-2)** (This does not apply to weather-related delays.)

14.5.7.5. **(Added-AETC)** Early Launch. Early launches are authorized if the launch is consistent with mission control times and the flight line production superintendent acknowledges supportability.

14.5.7.6. **(Added-AETC)** Interchanges:

14.5.7.6.1. **(Added-AETC)** Interchanges should be used to prevent reconfiguration and unnecessary expenditures of work hours when the prime aircraft is NMC at its scheduled takeoff time. The flight line production supervisor may interchange printed prime, spare, FCF, or OCF released or XC return aircraft without incurring deviations.

Every effort must be made to make the interchanges at the daily maintenance scheduling meeting the day before the aircraft's scheduled flight.

14.5.7.6.2. **(Added-AETC)** Interchanges prior to the start of the flying period will be documented on an AF Form 2407. Approval IAW **paragraph 14.5.6.3.8** is not required. Record all interchanges in the MIS. **(T-2)**

14.5.7.6.3. **(Added-AETC)** Interchanges occur prior to aircrew arrival at the aircraft. Spares occur after aircrew arrival at the aircraft.

14.5.7.7. **(Added-AETC)** O&B or XC Sorties or Missions:

14.5.7.7.1. **(Added-AETC)** When aircraft on an O&B or XC mission cannot return to home station as scheduled, the MOC will immediately notify PS&D, flight line production superintendent, and operations scheduling. **(T-2)** Sorties originating off-station without home unit support will be considered "flown as scheduled" without recording deviations.

14.5.7.7.2. **(Added-AETC)** Weather conditions and student progress may require the conversion of O&B and XC sorties or missions to locals. When converting an O&B or XC to a local sortie, the out portion will be flown as scheduled and the return portion can be reported as a non-chargeable Ops Cancel. **(T-2)** Conversely, locals may be converted to O&B or XC. Fly the out portion as scheduled and coordinate the recovery via an AFTO Form 2407. In the event that the conversion of local sorties to O&B or XC results in second and subsequent local sorties not being flown, record these sorties as a chargeable ops cancel(s). **(T-2)**

14.5.7.8. **(Added-AETC)** ERCC Sortie or Mission. Tanker, airlift, tanker transport trainer, or rotary wing aircraft may implement ERCC procedures when it is not economical to generate a new aircraft for partially missed operational training objectives. During an ERCC, the aircrew maintains control of the aircraft. If an aircrew member does not remain during the crew swap, maintenance assumes responsibility for the aircraft and maintenance inspections will be performed IAW the aircraft-specific technical guidance before the aircraft may relaunch. **(T-2)**

14.5.7.9. **(Added-AETC)** T-6 initial solo ride. For T-6 initial student solo and instructor pilot seat change for currency, the aircrew will maintain control of the aircraft and no thru-flight will be performed IAW 1T-6A/B-6WC-1. Document this in the MIS as one line with multiple mods.

14.5.7.10. **(Added-AETC)** Incomplete Training. This term is used to document student or crew who are incomplete on a sortie/mission due to not meeting required/planned training objectives. Incomplete training may result in a sortie or mission being documented as ineffective, an operations determination. For example, if a student or crew has three training objectives scheduled for a sortie or mission and one of the requirements was not met, but is required for syllabus progression, a later sortie or mission line must be identified within that weekly schedule as an ERCC for the student to complete previously missed training events. Additionally, documenting incomplete training does not necessarily mean there was an air abort or an in-flight emergency.

14.5.7.11. **(Added-AETC)** Sortie Modifier. In IMDS, one sortie can consist of multiple legs (sortie modifiers = mods). The intent is to equate these multiple mods as one sortie. If sorties are debriefed with sortie mods then the following rules for utilization documentation apply:

14.5.7.11.1. **(Added-AETC)** Only the last mod will have a landing status documented.

14.5.7.11.2. **(Added-AETC)** A mod can only be used on the same sortie sequence number, with the same crew, during the same flying period, as the original sortie launch (mod 1).

14.5.7.11.3. **(Added-AETC)** All pilot reported discrepancies will be documented against the last mod of the sortie. **Exception:** Pilot reported (RED BALL) discrepancies not repaired before flight will be loaded against the first sortie mod. **Exception:** Pilot reported (RED BALL) discrepancies repaired before flight will be loaded into IMDS on screen 073 with no associated sortie mod. **(T-2)**

14.5.7.11.4. **(Added-AETC)** All mods will use the same aircraft utilization code.

14.5.7.11.5. **(Added-AETC)** When a sortie mod is documented, the detailed debrief flight data will be documented in the MIS against the last mod only.

14.5.8. **(Added-AETC)** Planned Surge.

14.5.8.1. **(Added-AETC)** Surging is a management technique employed by the WG/CC and designed to temporarily produce sorties or missions at a higher-than-normal rate. For the purpose of this instruction, a sortie or mission surge for units that fly trainer-designated aircraft is an increase of at least 15 percent over the average daily sortie or mission rate and an increase of at least 50 percent for other units. **(T-2)**

14.5.8.2. **(Added-AETC)** Maintenance and operations must work together with the MRD, ACO (if a contracted activity), and any other support activity that may be affected by the surge to ensure proper coordination during the planning processes. The number of sorties or missions increased is determined by the training objective. Surge scheduling should only be used on a limited basis to recover lost sorties or missions or to purposely exceed or get ahead in preparation of future known events that will cause a decrease in sortie or mission production. Units should plan to get the maximum number of sorties or missions possible from each airframe committed to the schedule. Surges may also be employed when part of a squadron is deployed.

14.5.8.3. **(Added-AETC)** When planning a sortie or mission surge, take full advantage of the available flying and maintenance training period by performing concurrent aircraft inspection and servicing procedures. When planning surges, keep in mind that there may be some maintenance contracts that contain a maximum allowable number of sorties or missions that may be flown on a daily basis. To determine the average daily sortie or mission rate when planning a sortie or mission surge in a particular month, take the number of sorties or missions planned for that month from the annual plan (**Attachment 11**) and divide that number by the number of O&M days in that month.

14.5.8.4. **(Added-AETC)** Surging significantly increases the tempo of all activities involved in flying and producing sorties or missions. A surge can decrease aircraft mission

capable rates by creating a backlog of unscheduled maintenance affecting future airframe capability and/or availability. Ineffective sorties or missions, an adverse effect on student and instructor capability, syllabus constraints, and overextending scarce resources also must be considered when scheduling surges.

14.5.8.5. **(Added-AETC)** As a minimum, assign sortie sequence numbers, aircraft tail numbers, takeoff and land times, configurations, type missions, and the priority in the weekly flying and maintenance schedule for the first sortie or mission launch. **(T-2)** Only sortie sequence numbers (the total number of sorties or missions the unit intends to fly), configurations, and type missions are required for subsequent launch lines. Returning MC aircraft may be inserted into the next open line as determined by aircraft-land status. If more sorties or missions were flown than intended, they will be considered flown as scheduled. For all other deviations, normal deviation reporting applies.

14.5.8.6. **(Added-AETC)** The frequency and duration of surges for civil service and contract activities can result in supportability challenges. If a unit plans to surge more than 2 days in a monthly flying period, coordinate with 19 AF/A4D WSM and 19 AF/A4R sustainment manager to ensure supportability.

14.5.9. **(Added-AETC)** Combat Generation. Generations are conducted as outlined in applicable Air Force guidance and unit plans. Scheduling procedures are as follows: **(T-2)**

14.5.9.1. **(Added-AETC)** Publish a weekly schedule, but once the exercise is initiated, delete the unflown portion of that day's printed schedule without recording deviations using screen 883, Operational Event Delete. Hold the remainder of the weekly schedule in abeyance until the exercise has terminated.

14.5.9.2. **(Added-AETC)** Before publishing the ATO, determine the total number of aircraft that maintenance can support versus operational requirements.

14.5.9.3. **(Added-AETC)** Ensure the ATO contains the mission number, on-status time or time on target, and configurations. Prepare and finalize a daily flying schedule that identifies aircraft tail numbers, including spares for the first launch period no later than 2 hours prior to the first on-status or takeoff time. When using a scramble scenario, establish a launch window timeframe instead of takeoff times. Record cancellations in the MIS and report them as deviations.

14.5.9.4. **(Added-AETC)** When the exercise is terminated, revise the original weekly schedule by replacing it without reporting deviations. After approval of a new weekly schedule, normal deviation reporting procedures will resume.

14.5.10. **(Added-AETC)** Year-End Closeout. The goal is to complete the annual FHP by flying allocated hours prior to the end of the fiscal year, staying as close to programmed UTE as possible without degrading mission accomplishment or mismanaging resources.

14.5.10.1. **(Added-AETC)** WG/CCs may selectively cancel scheduled sorties or missions to manage the end-of-the-year flying hour closeout. This provision will help wings gradually close out flying without creating Hangar Queens, unintentionally exceeding the UTE rate, or accumulating unwarranted chargeable scheduling deviations.

14.5.10.2. **(Added-AETC)** Sorties or missions cancelled as a result of year-end FHP accomplishment will be recorded as other cancel, and will not be included in attrition

computations. A unit will not overfly allocated hours without prior approval through 19 AF/DO by the 19 AF Commander.

14.6. Contingency and Expeditionary Responsibilities.

14.6.1. Responsibilities of Contingency/Expeditionary (Cont/Exp) units, for example, maintaining non-assigned aircraft. **Note:** This does not include AMC-established enroute stations.

14.6.1.1. Most planning and scheduling is the responsibility of units with assigned aircraft and is provided through reach back support to home stations. Contingency units have fewer responsibilities as described below. Commanders of expeditionary units will ensure the intent of the guidance is met when the dynamic nature of a Cont/Exp organization make strict adherence impossible. **(T-2)**

14.6.1.2. Cont/Exp PS&D will conduct the following programs as outlined below:

14.6.1.2.1. ADR, pre- and post-dock meetings, acceptance inspections (from DFT/CFTs) and the major work program. **(T-2)**

14.6.1.2.1.1. Cont/Exp PS&D will use the procedures developed by the aircraft-owning organizations. **(T-2)**

14.6.1.2.1.2. If aircraft from multiple bases/units are supported, procedures do not have to be standardized.

14.6.1.3. Ensure discrepancies noted by the aircraft-owning PS&D for the Aircraft Configuration Management, TCI and SI programs are corrected. **(T-2)** Cont/Exp PS&D will not develop programs independent of the aircraft-owning organization. **(T-2)**

14.6.1.4. Develop local coordination procedures for contingency aircraft affected by Immediate and Urgent Action (I/UA) TCTOs. **(T-2)**

14.6.1.5. When notified by the aircraft-owning organization of an I/UA TCTO, the Cont/Exp PS&D will host a TCTO meeting. **(T-2)**

14.6.1.5.1. The purpose of the meeting is to determine if the Cont/Exp unit has the maintenance capability to perform the TCTO.

14.6.1.5.1.1. Invite AMU, QA and affected work centers. Cont/Exp will notify the Commander of the unit's capability to perform the TCTO. **(T-2)**

14.6.1.5.1.2. Develop and implement local tracking methodology to track TCTO completion. **(T-2)**

14.6.1.5.1.3. Update MIS when the aircraft owning Cont/Exp PS&D loads the requisite JST/JCNS. **(T-2)**

14.6.1.5.1.4. If the Cont/Exp unit does not have the maintenance capability to perform the TCTO, Cont/Exp PS&D will notify the owning organization of that inability. **(T-2)**

14.6.1.5.2. Cont/Exp PS&D will only maintain aircraft I/UA TCTO files while active. **(T-2)**

14.6.1.5.2.1. Once TCTOs are completed and loaded in MIS, records will be sent

to home station for filing. **(T-2)**

14.6.1.5.2.2. A TCTO meeting is not necessary for Routine Action aircraft TCTOs.

14.6.1.5.3. A full TCTO program IAW this **Chapter** is required for AGE and other special equipment which is assigned to the contingency unit. **(T-2)** This is intended to cover equipment that does not rotate with aviation packages.

14.6.1.5.4. Monthly and weekly maintenance planning. Cont/Exp PS&D will produce maintenance plans detailing all known maintenance requirements for the upcoming month/week. **(T-2)**

14.6.1.5.4.1. This plan will detail by tail number, due date, JST and a description of the scheduled maintenance required for the time period. **(T-2)**

14.6.1.5.4.1.1. Use of the AF Form 2401 is not required.

14.6.1.5.4.1.2. The list will be published 2-days prior to the covered time period, coordinated through maintenance supervision, and approved by the Commander. **(T-3)**

14.6.1.5.4.2. The weekly schedule will additionally identify those actions which will be deferred. **(T-2)**

14.6.1.5.4.2.1. It will specifically identify if the action is deferred for mission requirements or due to a lack of capability. **(T-2)**

14.6.1.5.4.2.2. Actions which are not identified as “pre-deferred” are expected to be accomplished during the upcoming week.

14.6.1.5.4.3. MSE will not be calculated for Cont/Exp units. **(T-2)** It is anticipated that Cont/Exp units require a great deal of flexibility to meet mission requirements.

14.6.1.6. Cont/Exp organizations are not responsible for Aircraft Generation Planning, Transfer Inspections, Flying/Maintenance Planning Cycle, First Look, Annual/Quarterly Mx Planning, AVDO and 2R1 functional management responsibilities.

14.6.1.7. Cont/Exp PS&D will develop procedures with home station AVDOs to communicate and ensure AVDO responsibilities are performed. **(T-2)**

Chapter 15

AIRCRAFT SUNSHADE MANAGEMENT

15.1. Purpose: This **Chapter** outlines overall management responsibilities for aircraft sunshades, crew shelters and portable/inflatable shelters. Additionally, it provides guidance and a standardized approach to procure and sustain these equipment items.

15.2. Scope: Applies to all AF units possessing or procuring these equipment items to support logistics operations and flight line or maintenance areas. This includes conventional force logistics units; nuclear and nuclear support units; cyber and space; special operations; wholesale-level procurement, sustainment, and maintenance; aerial port squadrons; logistics readiness squadrons; research, test, and development units. It does not include medical logistics, civil engineering logistics, security forces units and communications units.

15.2.1. Aircraft sunshades and other shelter types as defined below and addressed in this **Chapter** are considered equipment items for accountability purposes and will be tracked and accounted for IAW DAFI 23-101 and DAFMAN 23-122.

15.2.1.1. These assets are not listed on unit authorized equipment tables of allowance because authorizations are ***not required*** support equipment for weapons systems. These assets are the responsibility of the owning organization.

15.2.1.2. Commanders will ensure all other applicable organizations with appropriate subject matter expertise are involved in the procurement, installation, repair, sustainment, and replacement of these assets. **(T-2)**

15.2.1.3. Aircraft sunshades are not considered as temporary or relocatable facilities associated with Military Construction (MILCON) projects. Procedures for temporary or relocatable facilities associated with MILCON projects are contained in DAFI 32-1020, *Planning and Programming Built Infrastructure Projects*. Relocatable buildings are designed to be readily erected, disassembled, stored, moved, and reused to meet a short-term requirement for facilities due to either transitory peak requirements or urgent requirements pending approval, such as construction of facilities via normal military construction programs. According to DAFI 32-1020, Chapter 8, Relocatable and Temporary Facilities, the terms temporary and relocatable are interchangeable. Furthermore, DAFI 32-1020 provides guidance on satisfying interim facility requirements using relocatable or temporary facilities. Aircraft sunshades are not incident or interim to a MILCON project, nor are they in place to meet a temporary requirement; therefore, the terms temporary or relocatable as used in DAFI 32-1020 do not apply to aircraft sunshades.

15.2.1.4. Aircraft sunshades are not intended to replace aircraft maintenance hangars and as such there is no requirement associated with aircraft specifications or square footage allowances contained in DAFMAN 32-1084.

15.3. Definitions.

15.3.1. Aircraft Sunshades: Structure with the sole purpose of providing minimal protection for personnel from the elements (sun, wind, rain, snow, excluding lightning) with a roof and a maximum of two sides.

15.3.2. Crew Shelters: Any portable or prefabricated structure placed inside, under or erected to support activities within an aircraft sunshade, hangar, hardened aircraft shelter or protective aircraft shelter. These should not be confused with other shelters that are designed for personnel protection only (such as, End-of-Runway shacks).

15.3.3. Portable/Inflatable shelters: A structure constructed using layers of membrane connected together using pressurized air to produce a structure which covers limited areas (such as, cargo aircraft engine, open fuel tanks) of an aircraft or equipment.

15.3.4. Allied support: Utilities (electrical, water, air, communications) provided up to a stub at each aircraft sunshade. Utilities are real property assets. Installation of new utility services carries a work classification of Construction. See **Paragraph 15.11**.

15.4. Headquarters Air Force.

15.4.1. AF/A4L will:

15.4.1.1. Develop, articulate, and clarify all AF aircraft sunshade policies.

15.4.2. The Directorate of Civil Engineers (AF/A4C) will:

15.4.2.1. Provide input for development and clarification of aircraft sunshade policies.

15.4.2.2. Determine appropriate A4C agencies responsible for procurement consultation to the field.

15.4.2.3. Develop allied support guidance in relation to aircraft sunshades.

15.5. MAJCOM A4s will:

15.5.1. Provide input to AF/A4L on AF aircraft sunshade policies.

15.5.2. Review all plans for procurement, installation, and sustainment of aircraft sunshades with assistance from MAJCOM/A3, A4, Safety, AF Installation and Mission Support Center (AFIMSC) or Primary Subordinate Unit (PSU) Air Force Civil Engineer Center (AFCEC) as outlined in Paragraphs **15.7.1.11** and **15.8**, prior to approving the procurement or installation.

15.5.3. Develop weather event baseline criteria if not previously developed so an organization can procure an acceptable aircraft sunshade suitable to its specific location. Consider annual days of sun, average wet bulb globe temperature, annual rainfall, and annual snowfall, UV index, snow load, snow removal capability, wind sustainment requirements and temperatures that may affect work-rest cycles and overall productivity.

15.5.3. **(AETC)** Units with assigned T-series, F-series, or H-series aircraft shall make every attempt to procure sun shades in sufficient numbers to cover all assigned aircraft. At least one of the following criteria must be met for sunshades to be authorized:

15.5.3.1. **(Added-AETC)** Wet bulb globe temperature 80 degrees Fahrenheit for at least 30 days per year.

15.5.3.2. **(Added-AETC)** Precipitation at least 30 days per year.

15.5.3.3. **(Added-AETC)** Wind speed gusts in excess of 60 knots.

15.5.3.4. **(Added-AETC)** At least 200 days of direct sunshine per year.

15.5.4. DELETED.

15.5.5. Approve/disapprove submitted request(s) based on information contained under the owning organization responsibilities section of this **Chapter**.

15.5.6. Provide field operating and sustaining organizations direction on the specific types and sizes of aircraft sunshades to use for each application.

15.6. Owning Organization.

15.6.1. The owning organization is the group level or equivalent organization responsible for the planning, funding, procurement, installation, maintenance, and lifetime sustainment of the aircraft sunshade including any installed utilities (lighting, obstructions in front of lighting, electrical, communications included in the project scope as defined in Paragraphs **15.3.4** and **15.8.8**. **(T-2)**

15.6.1.1. Owning organizations may install aircraft sunshades, upon MAJCOM/A4 concurrence, to provide protection from the sun or other weather events such as: rain, sleet, snow. **(T-2)**

15.6.2. Owning organizations are responsible for the aircraft sunshade grounding system beginning at the single point service ground. Owning organizations will test the aircraft sunshade grounding system IAW AFMAN 32-1065, *Grounding & Electrical Systems*, Chapter 10, *Testing and Inspecting Static and Lightning Protection Systems and Grounding*. **(T-2)** **Note:** These responsibilities can be contracted as outlined in **Paragraph 15.8.8**.

15.6.2.1. Owning organizations will ensure that Base Civil Engineer accepts the Lightning Protection Systems prior to accepting the facility, ensuring the lightning protection system is compliant and that the facility is immediately usable IAW AFMAN 32-1065. **(T-2)**

15.6.3. The owning organization is responsible for maintaining and storing manufacturer design drawings and specifications and providing ready access to installation agencies as necessary. **(T-2)**

15.6.4. For each procurement, and each aircraft sunshade related contracting effort (such as inspection and sustainment contracts) referenced in **Paragraph 15.10.3** of this publication, the owning organization will provide and appoint a Contracting Officer Representative (COR) who reports to the contracting officer on all aspects of implementation of the contract. **(T-2)**

15.6.4.1. The COR will coordinate agreement with local Civil Engineering organization request a Civil Engineering representative to advise on technical requirements of the procurement and sustainment. **(T-2)**

15.6.4.2. The CE advisor will assist the COR in:

15.6.4.2.1. Enforcing established engineering standards or inspection criteria as defined and incorporated in the procurement/sustainment contract in order to address safety and integrity of the structure. **(T-2)**

15.6.4.2.2. Providing quality oversight authority for any technical/serviceability inspections performed on the structure by the contractor. **(T-2)**

15.7. New Procurements. To minimize diversity of types of aircraft sunshades, the AF utilizes strategic sourcing to establish efficiencies in procurement and long-term sustainment. For additional guidance, contact the MAJCOM A4 on aircraft sunshade standardization.

15.7.1. The owning organization will:

15.7.1.1. Develop plans for purchase, installation, acceptance, and sustainment then submit information to the MAJCOM/A4 for concurrence. **(T-2)** If the owning organization intends to request allied support, the owning organization will include these costs in the forecast. If allied support is required, submit an AF Form 332, *Base Civil Engineer Work Request*, or service/work request to Civil Engineering Customer Service prior to solicitations, purchases, or procurements. **(T-2)**

15.7.1.2. Refer to AFI 65-601, Volume 1, *Budget Guidance and Procedures*, and AFI 65-601, Volume 2, *Budget Management for Operations* to determine correct appropriation for procurement and installation of aircraft sunshades or crew shelters described in this publication. Plan and fund current equipment sustainment IAW **Paragraph 15.10**.

15.7.1.3. Use local contracting office for strategic sourcing, if available, to standardize and leverage buying power from an enterprise perspective. (T-2)

15.7.1.4. Ensure all facets of aircraft sunshade sustainment are considered; all applicable installation functional areas (CE community planner, Airfield Management, Comm, Safety, Medical) are involved in the siting and selection process and is approved by the installation's facility board prior to solicitation and procurement. **(T-2)**

15.7.1.4.1. If expertise is not available in the owning organization, contact the appropriate MAJCOM representative for further guidance. All new sunshades will be compliant with current applicable structural, environmental and safety standards. **(T-2)** Ensure compliance with criteria and design as outlined in **Paragraph 15.8**.

15.7.1.5. Submit planning materials to include drawings, dimensions, cost estimates and statements of work, as well as ramp work striping and support equipment requirements to their applicable MAJCOM/A4. **(T-2) Note:** This must be completed as early as possible in the planning phase to facilitate a smooth execution phase.

15.7.1.6. Ensure use of reflective markings on corner structural supports regardless of lighting used. **(T-2)**

15.7.1.7. Ensure use of retro reflective beads for all apron, taxiway, and taxi lane markings near aircraft sunshades. **(T-2)** Reference Engineering Technical Letter 04-2, *Standard Airfield Pavement Marking Schemes* and Unified Facilities Guide Specifications 32-17-23, *Pavement Markings* and AFMAN 32-1040, *Civil Engineering Airfield Infrastructure Systems.*

15.7.1.8. Perform an evaluation of all proposed sunshade installation plans to ensure requirements in Unified Facilities Criteria (UFC) 3-260-01, *Airfield and Heliport Planning and Design* are met. If waivers are required, those waivers must be approved prior to contract award of the sunshade. **(T-2)**

15.7.1.8.1. Ensure waiver authorities do not undermine contract requirements or federal regulations (example Federal Acquisition Regulation, Department of Defense Federal Acquisition Regulation Supplement). **(T-0)**

15.7.1.9. Ensure aircraft sunshades that penetrate an airfield imaginary surface defined in UFC 3-260-01 have obstruction lights installed IAW UFC 3-535-01, *Visual Air Navigation Facilities*, and conform to requirements contained in AFMAN 32-1040.

15.7.1.10. Ensure compliance with fuel servicing safety requirements IAW TO 00-25-172.

15.7.1.11. Address the following items below and those in **Paragraph 15.8** as a minimum in installation plans submitted to applicable MAJCOM/A4 for approval. **(T-2)**

15.7.1.11.1. Aircraft sunshade protection characteristics such as hail size, snow, ice, and water accumulation (weight and/or inches, consider water runoff, ice mitigation), maximum winds (sustained and gusts), aircraft tie down and lightning/grounding protection determined in conjunction with proper local authorities or AFIMSC/PSU AFCEC. **(T-2)**

15.7.1.11.2. Ensure sunshades are designed IAW UFC 3-301-01, *Structural Engineering*. **Note:** Consider jet blast potential in aircraft sunshade design and siting.

15.7.1.11.3. Number of spots to be covered. Consider ramp space capacity for both peacetime and contingency requirements (reception and bed down). **(T-2)**

15.7.1.11.4. Number of parking spaces lost due to aircraft sunshade placement. Consider ramp requirements, future mission changes, and impact on overall aircraft parking plan. **(T-2)**

15.7.1.11.5. Design life expectancy and warranty information. **(T-2)**

15.7.1.11.6. Expected costs including procurement, installation, and projected annual sustainment costs, to include inspection services. **Note:** Ensure adequate resources are established to maintain aircraft sunshade serviceability and mission accomplishment.

15.7.1.11.7. **Sustainment methodology (owning organization supported, manufacturer supported, supplemental contractor).** Ensure minimum requirements outlined in **Paragraph 15.10.3** are addressed. **(T-2)** Pre-posture sustainment through end-of-year.

15.7.1.11.7.1. DELETED.

15.7.1.11.8. Foreign Object Damage (FOD) mitigation and prevention. **(T-2)**

15.7.1.11.9. Planned storage of Aerospace Ground Equipment (AGE) and other related support equipment in aircraft sunshades within the maintenance area. **(T-2)**

15.7.1.11.10. Provisions for electrical power units or powered AGE placement and protection from equipment exhaust and aircraft jet blast while operating in/near aircraft sunshades. **(T-2)**

15.7.1.11.11. Environmental impacts and mitigation plans. Ensure the host Environmental Planning Function reviews proposals for installation of aircraft sunshades and associated utilities as early in the planning process as possible. The Environmental Planning Function is responsible for determining the level of environmental impact analysis required. Environmental impact analysis must be completed prior to contract award or implementation. **(T-0)**

15.7.1.11.12. Conduct and include a Risk Management (RM) assessment IAW AFPD 90-8, *Environment, Safety, and Occupational Health Management and Risk Management*, and AFI 90-802, to determine potential impact to personnel,

environmental, safety, occupational health and airfield operations before procurement and installation activities begin. **(T-2)**

15.7.1.11.13. Mitigate any issues affecting control tower visibility or security to include security lighting and illumination and any issues affecting navigational aids. **(T-2)**

15.7.1.11.14. Mitigate obstructions to airspace and file FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, with the FAA for new construction. **(T-0)**

15.7.1.11.15. Communications requirements. If communication (Local Area Network (LAN), wireless communications) is placed in aircraft sunshades, provide explanation of how communications will be procured, installed, and sustained. Include in procurement, installation, and sustainment cost estimates. **(T-2)**

15.7.1.11.16. Mitigate any limitations on emergency and maintenance vehicle access to aircraft. **(T-2)**

15.7.1.11.17. Fall protection for personnel working above 4’ off the ground IAW DAFMAN 91-203. **(T-2)**

15.8. Design Criteria/Standards of Aircraft Sunshades.

15.8.1. Current aircraft sunshades that don't meet these requirements of current design standardization are authorized for use until time of replacement. If repairs become significant or not cost effective, owning organizations should consider replacement to the new standard or removal of the aircraft sunshade.

15.8.1.1. Coordinate with Air Traffic Control, Base/Unit Terminal Instrument Procedures specialist (SEI 357), to evaluate plans for potential impacts on aircraft approach/departure procedures. **(T-2)**

15.8.1.2. **&**

15.8.1.3. DELETED.

15.8.2. **Type of materiel used.** Select materiel as appropriate for location, type of aircraft sunshade, and the mission being served. The aircraft sunshade and side materiel will be fabric, reinforced aramid fiber, carbon fiber, galvanized steel or shop/factory painted steel. The frame materiel should be galvanized steel or other suitable newly designed building materiel with strength and durability characteristics that replicate or exceed that of galvanized steel.

15.8.3. **Aircraft sunshade height and width.** Aircraft sunshades must meet minimum clearance requirements for interior aircraft movement, as well as entrances and exit points including taxi lanes or taxiways in close proximity to the exterior of the structure. Refer to UFC 3-260-01, Chapters 6 and 8 for these dimensions. (**T-2)**

15.8.4. Consider AGE transport and maintenance/emergency vehicle height requirements. Also, consider exhaust blast from jet engines and auxiliary power units, and future mission changes that may impact aircraft sunshade height and width requirements.

15.8.5. Wing tip and tail height clearances will meet the requirements outlined in DAFMAN 91-203 and UFC 03-260-01.

15.8.6. Bird nesting/roosting mitigation. Ensure no bird roosting or nesting locations are present, all holes in support structure and beneath roof must be covered or screened. **(T-2)**

15.8.6.1. The metal structure should minimize potential nesting sites for birds.

15.8.6.2. Anti-perching devices will be installed to deter birds from perching on or under the structure. **(T-2)**

15.8.7. Airfield waivers. The owning organization will make every effort to prevent submission of new airfield waivers. **(T-2)**

15.8.8. Lighting requirements. If lighting is placed in or on the aircraft sun shades, provide explanation of how electricity will be provided to and within the aircraft sunshade. Ensure lighting provides sufficient illumination for security but does not interfere with flightline visual references. The procurement of lighting, installation, maintenance, and sustainment will be included in aircraft sunshade cost estimates. **(T-2)**

15.8.8.1. Lighting designs and fixture specifications will be IAW UFC 3-530-01, *Interior and Exterior Lighting Systems*.

15.8.8.2. Light mounts will be designed to handle wind loads on the light fixtures without damaging the lights and without compromising the structural integrity of the aircraft sunshade. **(T-2)**

15.8.9. Electrical requirements. If electrical power is to be placed in aircraft sunshades, provide explanation of how electricity will be provided to and within the aircraft sunshade. Procurement, installation, maintenance, and sustainment of electrical requirements on the load side of the power supply point/stub will be included in aircraft sunshade cost estimates. **(T-2)**

15.8.9.1. Electrical power system design will be IAW AFMAN 32-1062, *Electric Systems, Power Plants and Generators*, AFMAN 32-1065. Reference UFC 3-501-01, *Electrical Engineering*, UFC 3-520-01, *Interior Electrical Systems*, UFC 3-530-01, and UFC 3-550-01, *Exterior Electrical Power Distribution*, UFC 3-600-01, *Fire Protection Engineering for Facilities*, and Engineering Technical Letter 02-15, F*ire Protection Engineering Criteria - New Aircraft Facilities*.

15.8.10. The cost of running power (such as, lighting, and electrical) from prime or temporary power sources to the sunshades will be included in the cost estimate and will be borne by the owning unit. **(T-2)**

15.8.11. In no case will the loss of parking spots resulting from the purchase or installation of aircraft sunshades be a primary factor used to propose or construct additional aircraft parking spots or upgrade existing pavements to support aircraft. Procedures on construction of additional parking spots or pavement upgrades will be IAW AFI 32-1020, *Planning and Programming Built Infrastructure Projects* and DAFI 32-1020.

15.8.11.1. Whenever possible, aircraft sunshades will be installed on existing pavement without driving a requirement to expand or upgrade the underlying features. When the addition of pavement is necessary to make the sunshade complete and usable, the cost of the structure must be included with the cost to installation of the pavement for a total sunshade construction project cost. **(T-2)**

15.8.12. Aircraft sunshades are airfield fixed-structure obstructions and will meet MIL-STD-3007, *Department of Defense Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications* and AF criteria included in referenced UFCs and AFIs, as well as, local and national fire, safety, and electrical standards and codes as applicable. **(T-2)**

15.8.13. Consider location specific design requirements (snow load, maximum wind ratings). In addition to the requirements in UFC 3-301-01, for adjacent sunshades which share bracing frames, each fourth frame will provide twice the required lateral bracing strength. **(T-2)**

15.8.13.1. Particular attention will be focused on the design of lateral bracing for wind and jet blast loads, fatigue strength of steel lateral bracing members, and the design and location of anchor bolts near joints in runway aprons. **(T-2)**

15.8.14. Aircraft sunshades must meet ventilation and exhaust air requirements referenced in the International Mechanical Code, UFC 1-200-01, *DoD Building Code*. **(T-0) Note:** Achieve minimum exhaust and/or ventilation air requirements utilizing either mechanical or natural systems.

15.9. Current Aircraft Sunshades.

15.9.1. To replace currently installed aircraft sunshades, select materiel as appropriate for location, type of aircraft sunshade, and the mission being served. The aircraft sunshade and side materiel will be fabric, reinforced aramid fiber, carbon fiber, galvanized steel or shop/factory painted steel. **(T-2)**

15.9.1.1. The frame materiel will be galvanized steel or other suitable newly designed building materiel with strength and durability characteristics that replicate or exceed that of galvanized steel. **(T-2)**

15.9.1.2. Current aircraft sunshades that don't meet these requirements of current design standardization are authorized for use until time of replacement. **(T-2)**

15.9.1.3. If repairs become significant or not cost effective, owning organizations will consider replacement to the new standard or removal of the aircraft sunshade. **(T-2)**

15.9.1.4. To minimize diversity of types of aircraft sunshades across the enterprise and to establish better efficiencies in procurement and long-term sustainment, use strategic sourcing, if available. **(T-2)**

15.9.1.5. If strategic sourcing is not available, seek guidance from higher headquarters on aircraft sunshade standardization. **(T-2)**

15.9.2. Owning organizations will sustain aircraft sunshades and other shelter types described in this publication IAW AFI 65-601, Volume 2, *Financial Management*, to ensure no degradation of safety to personnel or mission accomplishment occurs. **(T-2)**

15.9.3. Owning organizations will conduct a risk management assessment IAW AFI 90-802 in conjunction with proper local authorities on current aircraft sunshades for FOD mitigation, markings, bird roosting mitigation, sustainability, safety, structural integrity, wind-load capacity, snow-load capacity, and ability to withstand hail. **(T-2)**

15.9.3.1. The owning organization is responsible for repairing any deficient areas identified during the risk management assessment. **(T-2)**

15.9.4. There is no requirement to upgrade current aircraft sunshades to meet the full requirements outlined in Paragraphs **15.7.1** through **15.7.1.11.16** and **15.8.1** through **15.8.13** except where codes apply and are mandatory. However, any replacement or significant repair of current aircraft sunshades will meet requirements as outlined in Paragraphs **15.7.1** through **15.7.1.11.16** and **15.8.1** through **15.8.13** **(T-2)**

15.9.5. Alterations can significantly impact loading on the structure. Conduct a structural analysis certified by a licensed professional engineer or government structural engineer to ensure the alterations do not compromise the structural integrity of the sunshade structure. Sunshades will not be altered to have more than two total walls or bay(s).

15.10. Sustainment and Accountability. Owning organization Group Commander or equivalent will:

15.10.1. Appoint a primary and alternate aircraft sunshade managers.

15.10.2. Develop local procedures establishing management and maintenance of sunshades.

15.10.3. Ensure assets are tracked as equipment items on the appropriate documents IAW DAFI 23-101 and DAFMAN 23-122.

15.10.4. Ensure appropriate authorities (Maintenance Group (MXG), Contracting, Comm, CE, Safety, Airfield Management) at the installation level accept installation of aircraft sunshades and allied support IAW manufacturer specifications, contract specifications, and AFIs. **(T-2)**

15.10.5. Develop an organically supported or contractor supported replacement/sustainment plan that will be included in the 10-year facility plan IAW this DAFI. **(T-2) Note:** This statement does not limit the plan from exceeding the minimum 10-year requirement.

15.10.5.1. Sustainment plan at a minimum will address the following as appropriate:

15.10.5.1.1. Certification and acceptance of installation as needed. **(T-2)**

15.10.5.1.2. Routine maintenance/sustainment and inspection criteria/services which meet manufacturer or qualified engineering authority (such as, personnel officially trained to inspect or provide technical guidance on that specific Sunshade) guidance as needed and appropriate. **(T-2) Note:** Ensure manufacture warranty is not voided.

15.10.5.1.3. Periodic and recurring in-depth inspections with prescribed interval/frequency and items to be inspected to determine structural integrity as appropriately defined for each type of structure by the manufacturer or qualified engineering authority as needed and appropriate. **(T-2)**

15.10.5.1.4. Non-routine maintenance/sustainment and inspection services as needed and appropriate. **(T-2)**

15.10.6. Develop local guidance that establishes periodic inspection criteria as recommended by original manufacturer (interval not to exceed 6 months) approved by a qualified engineering authority for aircraft sunshades and document on AFTO Form 244, or equivalent. **(T-2)**

15.10.6.1. Required inspections will be tracked in MIS. **(T-2)**

15.10.6.2. As a minimum, the owning organization will ensure inspection of:

15.10.6.2.1. Structural Supports for signs of corrosion, excessive movement, cracking, or damage; lateral bracing for signs of corrosion, loosening, cracking, missing hardware, or fatigue damage, particularly at the connections; structural anchorage for signs of loosening and cracking around anchorage points on apron. **(T-2)**

15.10.6.2.2. Foreign Object, cleanliness, and serviceability of installed safety markings. **(T-2)**

15.10.6.2.3. Lighting (if installed) for security and serviceability. **(T-2)**

15.10.6.2.4. Electrical system equipment, including electrical panels, receptacles, lighting systems, solar panels, and conduit (if installed) for security and serviceability. **(T-2)**

15.10.6.2.5. Following extreme/unique weather events (i.e., microburst, flooding).

15.10.7. Any discrepancy identified during routine, non-routine maintenance or other visual inspection will be documented on the AFTO Form 244 or equivalent; appropriate condition symbol will be used IAW TO 00-20-1.

15.10.7.1. Additionally, all discrepancies will be annotated in the MIS. **(T-2)**

15.10.7.2. If a discrepancy is discovered which could affect safety or structural integrity this information will immediately be directed to the owning organization group commander or equivalent. **(T-2)**

15.10.7.3. The owning organization group commander or equivalent with advisement from the qualified engineering authority and safety personnel will decide whether the sunshade is in an acceptable condition to continue performing its intended purpose or whether the sunshade will be removed from service and all assets and personnel vacated from the sunshade until repair is completed. **(T-2)**

15.10.8. Establish an emergency evacuation plan to protect both personnel and equipment from inclement/severe weather that may compromise the integrity of the aircraft sunshade roof or support structure. **(T-2)**

15.10.8.1. During inclement/severe weather situations including but not limited to high winds, thunderstorms, lightning, hail, tornadoes, hurricanes or other adverse weather warning situation, personnel will be evacuated from the aircraft sunshade, not to the aircraft sunshade. **(T-2)**

15.10.8.1.1. The aircraft sunshade is not intended to be used as a protective shelter in these situations.

15.11. Allied Support (Electricity, Water, Communications, Lighting).

15.11.1. If elected, electrical power will be provided to a connection point at the aircraft sunshade IAW UFC 3-550-01, *Exterior Electrical Power Distribution* and will be installed and maintained by Civil Engineering as real property IAW DAFI 32-9005, *Real Property Accountability and Reporting*. **(T-2)**

15.11.1.1. Allied support funding requirements will be prioritized along with other facility and infrastructure requirements through the Facilities Board process or applicable installation facility project prioritization process. **(T-2)**

15.11.2. If elected, water lines can be installed to a stub at the aircraft sunshade site and will be installed and maintained by Civil Engineering as real property IAW DAFI 32-9005. Water stubs and/or connections must be appropriately protected from frost/freeze and other environmental conditions. **(T-2)**

15.11.2.1. These stubs and/or connections must be prominently marked to prevent hazards and accidents. **(T-2)**

15.11.2.2. Allied support funding requirements will be prioritized along with other facility and infrastructure requirements through the facilities board process or applicable installation facility project prioritization process. **(T-2)**

15.11.3. If elected, communications will be provided to the aircraft sunshade IAW UFC 3-580-01, *Telecommunications Interior Infrastructure Planning and Design*, and will be installed and maintained by qualified communications personnel.

15.11.3.1. Allied support funding requirements for the communication real property elements of a project (example, conduit, manholes, duct banks) will be prioritized along with other facility and infrastructure requirements through the facilities board process or applicable installation facility project prioritization process. **(T-2)**

15.11.4. Lighting installation will be considered during procurement and/or sustainment phases and will be purchased and maintained by the owning organization from the light to the power stub. **(T-2)**

15.11.4.1. If lighting is to be included in an aircraft sunshade, the owning organization will include this in the procurement, installation, and sustainment plan. **(T-2)**

15.11.4.2. Owning organizations will use criteria and consultation as outlined in Paragraphs **15.7** through **15.9**. Energy efficient lighting will be considered where allowable. **(T-2)**

15.11.5. Power receptacles will be considered during the procurement and/or sustainment phases and will be purchased and maintained by the owning organization from the power receptacles to the power stub. **(T-2)**

15.11.5.1. If power is to be included, the owning organization will include this in the procurement, installation, and sustainment plan. **(T-2)** Owning organizations will use criteria and consultation as outlined in Paragraphs **15.7** through **15.9**. **(T-2)**

15.12. Crew Shelters and Portable/Inflatable Shelters.

15.12.1. Owning organizations will address the following items as a minimum in installation plans submitted to applicable MAJCOM/A4 for approval:

15.12.1.1. Annual procurement and sustainment costs, including allied support infrastructure costs. See **Paragraph 15.11** for allied support procedures. **(T-2)**

15.12.1.2. Ensure shelter meets all standards and codes as applicable. Crew shelters and inflatable or fabric structures must comply with the minimum Antiterrorism Standard requirements of UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*. **(T-0)**

15.12.1.3. Ensure a FOD mitigation plan is implemented. **(T-2)**

15.12.1.4. Warranty information. **(T-2)**

15.12.1.5. Wing tip and tail height clearances will meet the requirements outlined in DAFMAN 91-203 and UFC 03-260-01. **(T-0)**

15.12.1.6. Appoint a shelter manager and establish a shelter user and operations plan. Ensure assets are tracked as equipment items on the appropriate documents on the CA/CRL IAW DAFMAN 23-122. **(T-2)**

15.12.2. Crew shelters will be configured to minimum ventilation standards referenced in the International Mechanical Code when occupied. **(T-0)**

Chapter 16 (Added-AETC)

AIRCRAFT AND EQUIPMENT MAINTENANCE CONTRACT SURVEILLANCE

16.1. (Added-AETC) Contract Surveillance.

16.1.1. **(Added-AETC)** Regulatory guidance. This chapter intends to build upon the contract oversight foundation provided by the Federal Acquisition Regulation (FAR) Part 1.602-2(d); Part 42, *Contract Administration and Audit Services*; FAR Part 46, *Quality Assurance*; DOD Procedures, Guidance and Information (PGI) 201.602-2; Mandatory Procedure (MP) 5301.602-2(d), *Designation, Assignment, and Responsibilities of a Contracting Officer's Representative (COR)*; and DAFI 63-138, *Acquisition of Services.* This guidance provides the structure required to meet the oversight requirements of aircraft and equipment maintenance noted in FAR Part 46.202-4 and FAR Part 46.203(b) and (c) for performance-based activity aircraft and equipment contracts. In addition to the required standards in DoDI 5000.72, *DoD Standard for Contracting Officer's Representative (COR) Certification*, the DOD COR Guidebook is a good supplemental resource to assist CORs in performing contract surveillance: **https://www.acq.osd.mil/asda/dpc/cp/policy/other-policy-areas.html**.

16.1.2. **(Added-AETC)** COR technical guidance. Under the provisions of FAR Part 46.103(a) and PGI 246, this chapter provides the surveillance technical requirements for the inspection, testing, and contractor quality requirements essential to ensure integrity of aircraft and equipment maintenance-related services.

16.1.3. **(Added-AETC)** Applicability. This chapter establishes procedures for surveilling aircraft maintenance, aircraft-related maintenance, aircraft-related trainer maintenance (EOD, CE, AMMO, etc.), and transient maintenance contracts within AETC. It applies to all AETC organizations responsible for surveilling aircraft and equipment maintenance, aircraft-related (e.g., AGE, munitions, PMEL, etc.), and/or functions supporting aircraft and equipment (e.g. wash, PE/ISO), aircraft-related trainer maintenance and transient maintenance contract activities.

16.1.4. **(Added-AETC)** CLS Contract Management. CLS contracts outline COR duties and responsibilities in the applicable QASP and are not subject to the requirements contained in DAFI 21-101 and supplements if the procurement contracting officer (PCO) appoints DCMA to administer the contract. Duties and responsibilities are further defined by the individual ACO and DCMA Instruction 8210.1D, *Contractor's Flight and Ground Operations*, and are delegated to senior Air Force representatives via a DCMA/AETC brokered MOA at each main operating base that utilizes the weapon system.

16.1.4.1. **(Added-AETC)** Some AETC aircraft are supported by partial CLS contracts such as the T-1, T-6, and T-38.

16.1.4.2. **(Added-AETC)** The COR surveilling these contracts will:

16.1.4.2.1. **(Added-AETC)** Be thoroughly familiar with the CLS concept and the applicable CLS PWS.

16.1.4.2.2. **(Added-AETC)** Review CLS contract amendments and airworthiness directives, service bulletins, safety communiqués, service information letters, and service instructions received for the weapons system. The system program director, in

coordination with HQ AETC, determines the implementation of technical directives. **(T-2)**

16.1.4.2.3. **(Added-AETC)** Attempt to resolve technical problems at the lowest level possible. If problem resolution is beyond local capability or has contractual implications, elevate the problems through the applicable 19 AF/A4RP program manager to the ACO for the contract. **(T-2)**

16.1.4.2.4. **(Added-AETC)** Attend program management review and technical interchange meetings as scheduled by the ACO or System Program Director, if applicable.

16.1.5. **(Added-AETC)** Oversight of AFMC awarded COMBS, CLS, and CFT contracts. IAW with DAFI 63-138, AFMC is required to coordinate with using activities to identify quality objectives related to products or services being acquired and when contract oversight is delegated to field units. CORs, 19 AF COR functional, and the applicable 19 AF functional managers will provide AFMC inputs as required/requested to develop a tailored QASP to meet the surveillance and documentation procedures for COMBS CLS contract.

16.1.6. **(Added-AETC)** AFMC PCO/ACOs consult with 19 AF/A4 for COMBS, CLS, or CFT acquisitions to determine if DCMA involvement in contract administration/oversight meets the needs of MAJCOMs and field units.

16.2. (Added-AETC) Responsibilities.

16.2.1. **(Added-AETC)** 19AF/A4RP is the designated program management function to manage the requirements for AETC's aircraft and equipment contract requirements IAW DAFI 63-138.

16.2.2. **(Added-AETC)** PCO/ACO (synonymous with KO (Contracting Officer) for Army contracts). The PCO is responsible for overseeing the administration of a contract and is the only individual with the legal authority to act as an agent between the government and the contractor. The responsibility and authority of an ACO is derived by a delegation from a PCO.

16.2.3. **(Added-AETC)** Maintenance Requirements Director (MRD). The MRD is the government's functional authority for the contracted function area in an applicable squadron, group, or wing level and retains responsibility for the success or failure of the contracted function. For example, if the AGE function is contracted, the MXS/CC is the MRD. If an entire maintenance group is contracted, the wing commander will determine who will serve as the MRD. MRDs execute management and oversight responsibilities of the acquisition process and provides oversight for delivery of acquired services. The MRD will:

16.2.3.1. **(Added-AETC)** Keep up-to-date on mission changes that could cause a contract modification. Coordinate with and seek advice from the contracting officer on a possible need for a modification based on changes within the functional mission that could affect the performance requirements of the contract. **(T-2)**

16.2.3.2. **(Added-AETC)** If applicable, participate as a voting member on Incentive Fee/Award Fee Review Boards. **(T-2)**

16.2.3.3. **(Added-AETC)** Fill C-COR position with an individual that possesses the technical expertise applicable to the maintenance contract requiring surveillance IAW DoDI 5000.72. **(T-2)**

16.2.3.3.1. **(Added-AETC)** Within five duty days of a C-COR completing all required training, ensure a nomination letter is forwarded to the PCO/ACO or C-COR self-nominates in the Joint Appointment Module (JAM) though the Procurement Integrated Enterprise Environment (PIEE) link at **https://piee.eb.mil**. **(T-2)**

16.2.3.3.2. **(Added-AETC)** If a C-COR is assigned locally, the MRD will fulfill the role as supervisor. **(T-2)**

16.2.3.4. **(Added-AETC)** Nominate the C-COR to administratively fulfill the role of a Ground Government Flight Representative (GGFR)/Ground Government Representative (GGR). GGFRs will not be assigned where a GFR already exists, (e.g., 21 FTS) or at locations where the PWS does not require/contain the Ground Flight Risk clause (e.g. 82 TRG). In cases where a GFR is assigned, a GGR will also be assigned; however, C-CORs serving as GGRs will not approve contractor policies or procedures. Reference AFI 10-220, Contractor's Flight and Ground Operations, (DCMAI 8210.1D). **(T-2)**

16.2.3.5. **(Added-AETC)** Review, approve, and sign monthly surveillance schedules prior to the beginning of the upcoming monthly surveillance period. **(T-2)**

16.2.3.6. **(Added-AETC)** Review problem areas identified by CORs to C-CORs, coordinate with the PCO/ACO and 19AF/A4RP program manager to resolve. If the problem cannot be resolved, request assistance through the 19 AF COR Functional.

16.2.3.6.1. **(Added-AETC)** Ensure CPAR assessments and narratives are consistent with the surveillance reports. **(T-2)**

16.2.3.7. **(Added-AETC)** Review and forward all Corrective Action Requests (CARs) to the PCO/ACO for issuance. **(T-2)**

16.2.3.8. **(Added-AETC)** Review and approve end-of-month summaries. **(T-2)**

16.2.3.9. **(Added-AETC)** Ensure AFMC awarded COMBS, CLS, and CFT contracts are coordinated with the 19 AF/A4 prior to executing any portion of the AFMC contracts.

16.2.4. **(Added-AETC)** Chief COR (C-COR). All contract surveillance activities will include a C-COR. **(T-2)** In addition to the COR supervisor responsibilities identified in PGI 201.602, MP5301.602-2(d) and DAFI 63-138, the C-COR will:

16.2.4.1. **(Added-AETC)** Develop performance requirements in pre-award activities when requested. **(T-2)**

16.2.4.2. **(Added-AETC)** Establish/maintain a COR file by maintaining COR records (mods, minutes, invoices, COR qualifications, QASP, surveillance results, etc.) and Memorandum for Record(s) on significant contract related issues for the life of the contract. Use of the Surveillance and Performance Monitoring (SPM) function within PIEE is authorized to maintain COR files/Docs. **(T-2)**

16.2.4.3. **(Added-AETC)** Inform the ACO in writing of any changes/proposed changes to the contract scope. **(T-2)**

16.2.4.4. **(Added-AETC)** Review contractor-developed publications prior to final signature and implementation to ensure they meet all contractual requirements and do not conflict with local, MAJCOM, or AF instructions. **(T-2)**

16.2.4.5. **(Added-AETC)** Report performance issues to 19AF/A4RP and ACO in writing. **(T-2)**

16.2.4.6. **(Added-AETC)** Ensure hours worked by contractor are the hours billed in contractor invoices and notify 19AF/A4RP and ACO if contract costs will exceed amount programmed for contract. **(T-2)** 80 FTW Resource Manager performs this function for the Euro-NATO Joint Jet Pilot Training (ENJJPT) Program at Sheppard AFB.

16.2.4.7. **(Added-AETC)** Validate sufficient funding is available before providing certification for invoice payment. **(T-2)** 80 FTW Resource Manager performs this function for ENJJPT Program at Sheppard AFB.

16.2.4.8. **(Added-AETC)** Use Wide Area Workflow (WAWF) within the PIEE to inspect, accept or reject invoices submitted by the contractor for payment for services. **(T-2)**

16.2.4.8.1. **(Added-AETC)** Report any improperly invoiced costs IAW contract requirements to 19AF/A4RP and ACO. Do not perform acceptance of services unless invoices are proper and correct. **(T-2)**

16.2.4.8.2. **(Added-AETC)** For ENJJPT at Sheppard AFB, the C-COR performs the inspection and the 80 FTW Resource Manager signs the acceptance and forwards to Defense Finance and Accounting Service for payment.

16.2.4.9. **(Added-AETC)** Notify 19 AF/A4PR immediately when military (Air Force) COR positions are expected to become vacant. Military COR authorizations and those assigned as CORs will have a minimum grade of TSgt (E-6) and will be manned at 100 percent. **(T-2)** 19AF/A4RP will coordinate with the C-COR and select personnel to fill vacant military COR positions.

16.2.4.10. **(Added-AETC)** Fill COR/COMBS COR vacancies or new positions with individuals possessing aircraft and equipment/supply technical expertise applicable to the maintenance contract requiring surveillance. **(T-2)**

16.2.4.10.1. **(Added-AETC)** Within five duty days of a COR completing all required training, ensure a COR nomination letter is forwarded to the PCO/ACO or COR self-nominates, with C-COR concurrence, in the JAM though the PIEE link at **https://piee.eb.mil**. **(T-2)**

16.2.4.10.2. **(Added-AETC)** For civil service CORs, provide 19 AF/A4PR with the name, grade, years of experience, and position of civil service employees when they are selected to fill vacant COR positions.

16.2.4.10.3. **(Added-AETC)** Both military and civil service COR selections will be based on their experience in the career field, weapon system experience and quality force indicators.

16.2.4.11. **(Added-AETC)** Ensure CORs receive required surveillance and technical training, in the appropriate areas, before performing evaluations, inspections, or surveillance duties unsupervised. Document in the COR's training records (MyTraining or DAF approved system). **(T-2)**

16.2.4.11.1. **(Added-AETC)** While the COR is awaiting formal training, familiarize them with the MP5301.602-2(d) training requirements (led by CO) and DoDI 5000.72.

16.2.4.11.2. **(Added-AETC)** Perform an initial PE/over-the-shoulder evaluation of each primary and alternate COR in the performance of surveillance activities. **(T-2)** Document the results of the evaluation in the COR's training records (MyTraining or DAF approved system). **(T-2)** In large units, this responsibility may be delegated to the COR superintendent, or equivalent.

16.2.4.11.3. **(Added-AETC)** Perform a PE evaluation every two years of each primary and alternate COR to ensure proficiency is maintained. **(T-2)** Document the results of the evaluation in the COR's training records (MyTraining or DAF approved system). **(T-2)**

16.2.4.11.4. **(Added-AETC)** Augmentee CORs who do not possess maintenance-related AFSCs are authorized if the COR organization does not possess the specific expertise (for example, environmental, safety). Augmentee CORs are required to possess the same mandatory training as a COR does. **(T-2)**

16.2.4.12. **(Added-AETC)** C-CORs are required to have an initial PE evaluation if they will be performing surveillance duties. **(T-2)** Document the evaluation in the training record (MyTraining or DAF approved system). **(T-2)**

16.2.4.13. **(Added-AETC)** Assist the PCO/ACO in providing an assessment on COR performance when requested. **(T-2)** In instances of COR conflicts of interest or ethical compromise, inform the PCO/ACO immediately and recommend the termination of COR designation when appropriate. **(T-2)**

16.2.4.14. **(Added-AETC)** Assist the PCO/ACO in determining quality system requirements and review the contractor quality management system, quality program, or other means used to control quality and comply with contract requirements. **(T-2)**

16.2.4.14.1. **(Added-AETC)** Place special emphasis on the comprehensiveness and adequacy of the contractor’s quality management system to ensure adherence to all aspects of contract performance, to include sections A through M of the contract that comply with and the Inspection of Services clause in FAR 52.246, the contractor’s quality management system, and applicable contractor derived policies, directives, or regulations.

16.2.4.14.2. **(Added-AETC)** Submit comments through MRD and PCO/ACO for disposition. **(T-2)**

16.2.4.15. **(AETC)** Determine surveillance requirements.

16.2.4.15.1. **(Added-AETC)** Develop and publish an approved/signed monthly schedule of COR surveillance activities (label as For CUI) prior to the beginning of the month it covers. **(T-2)**

16.2.4.15.2. **(Added-AETC)** Maintain copies of all schedules on file for the life of the contract. **(T-2)**

16.2.4.16. **(Added-AETC)** Verify statistical information provided by the contractor concerning the standards specified in the Performance Thresholds (PT)/Service Summary

(SS) or the applicable appendix of the contract. Ensure accuracy, completeness and adequacy, and coordinate this information with supply and operations prior to final validation, when applicable.

16.2.4.17. **(Added-AETC)** Review waiver requests to PWS standards/requirements. Provide a recommendation and forward waiver requests to 19AF/A4RP for review. **(T-2)**

16.2.4.17.1. **(Added-AETC)** 19AF/A4RP will coordinate HQ Staff review and route/forward to 19 AF/A4 for review and final approval/disapproval recommendation to the ACO, through the C-COR.

16.2.4.17.2. **(Added-AETC)** For Air Force Security Assistance Training (AFSAT) managed contracts, 19AF/A4RP retains the final approval/disapproval recommendation for waiver requests to PWS standards/requirements.

16.2.4.18. **(Added-AETC)** When contractor performance does not meet contractual requirements which warrants a CAR, submit to the MRD for review and PCO/ACO for issuance. Provide a copy to 19 AF/A4RP. **(T-2)**

16.2.4.19. **(Added-AETC)** Ensure the annual contractor performance assessment ratings (CPAR) draft is coordinated with 19AF/A4RP prior to submission to the MRD for review and ACO for final input.

16.2.4.20. **(Added-AETC)** Ensure the Government meets its SOW or PWS contractual obligations.

16.2.4.21. **(Added-AETC)** Ensure Government Furnished Materiel (property, equipment, spares and repair parts) are provided property accountability/control of contractor managed and possessed Air Force owned property (inclusive of materiel and equipment) through implementation of standard and integrated AF logistics and contractor processes (from acceptance and receipt to disposition) IAW FAR 52.245-1, *Government Property*, DoDI 5000.64, *Accountability and Management of DoD Equipment and Other Accountable Property,* and Financial Improvement and Audit Readiness (FIAR) Guidance. This establishes and maintains accountable inventory records for government furnished property within a government accountable property system of record that reflects current quantity, status, location, condition and authorizing contract while establishing an audit trail to update and track end-to-end logistics and financial transactions. There is no waiver for reporting of contractor managed and possessed property (Operating Materials and Supplies spares/assets and equipment).

16.2.4.22. **(Added-AETC)** Provide assistance to the installation environmental management office in mishap and incident reporting, as required.

16.2.4.23. **(Added-AETC)** For all non-HQ AETC awarded aircraft maintenance, aircraft-related maintenance, aircraft-related trainer maintenance and transient maintenance contracts; ensure a draft copy of the PWS and QASP is forwarded to the 19 AF COR Functional and 19AF/A4RP (as applicable) for review prior to release of a new solicitation or request for proposal (does not apply to 82 TRSS). Ensure that non-aircraft maintenance related functions or responsibilities are not included in the PWS.

16.2.4.24. **(Added-AETC)** Annually review and revise surveillance checklists, Program Management Evaluation (PME) guides, etc. for currency and completeness. Document the review. **(T-2)**

16.2.4.25. **(Added-AETC)** Conduct periodic reviews, at least every two years, of contractor publications/procedures to ensure they continue to meet all contractual requirements. Document the review. **(T-2)** Ensure the following documents are reviewed and coordinated with 19AF/A4RP and 19 AF COR Functional, as applicable, prior to approval and implementation (include comments and recommendations, when applicable):

16.2.4.25.1. **(Added-AETC)** Locally-procured maintenance contracts. Ensure copies of modifications and amendments to contracts are forwarded through the ACO, as applicable, 19AF/A4RP, and to the 19 AF COR Functional.

16.2.4.25.2. **(Added-AETC)** PWS for all aircraft maintenance, aircraft-related maintenance, aircraft-related trainer maintenance and transient maintenance contracts.

16.2.4.26. **(Added-AETC)** Ensure discrepancies discovered by CORs are documented in the appropriate aircraft or equipment forms and MIS. **(T-2)** Ensure CORs follow-up contractor corrective and preventive actions. **(T-2)**

16.2.4.27. **(Added-AETC)** When required, develop Independent Government Estimates and evaluate contractor proposals, providing comments and recommendations to the MRD and PCO/ACO. **(T-2)** Assist 19AF/A4RP, the MRD and the ACO in determining contract cost estimates, when requested.

16.2.4.28. **(Added-AETC)** Prepare a monthly summary to document COR surveillance activities at the end of each month as described in **paragraph 16.7.3**.

16.2.4.29. **(Added-AETC)** Verify and validate contractor submitted performance indicators in end-of-month summaries; specifically, leading and lagging indicators, monthly logistics indicator report, CEMS, or other MIS-derived metrics where the contractor accomplishes the MIS function. **(T-2)**

16.2.4.30. **(Added-AETC)** Administratively fulfill the role of a GGFR/GGR where the PWS contains the Ground Flight Risk clause, reference AFI 10-220 (DCMAI 8210.1D). Surveillance and reporting of contractor performance will be conducted IAW AFI 10-220 (DCMAI 8210.1D), DAFI 21-101, supplements, PWS, and the QASP.

16.2.4.30.1. **(Added-AETC)** Contractors performing PWS services falling within the purview of DCMAI 8210.1D (AFI 10-220), Chapter 3 and Chapter 5, may elect to develop a single comprehensive ground operating procedure.

16.2.4.30.2. **(Added-AETC)** This applies to those operations/procedures that the PWS requires the contractor to accomplish IAW Air Force guidance, MDS specific TOs, and/or general TOs, etc. The only exception is that contractors must still develop standalone training and quality management system plans as required by the PWS.

16.2.4.31. **(Added-AETC)** Assist with contract closeout. **(T-2)**

16.2.5. **(Added-AETC)** COR Superintendent (optional). The COR Superintendent, duties and responsibilities will be determined locally by the C-COR. Any C-COR duties delegated to the COR Superintendent will be documented in writing.

16.2.6. **(Added-AETC)** Contracting Officer Representative (COR). The COR observes then documents the contractor's overall performance and provides the PCO/ACO with documentation that identifies contractual conformance or nonconformance. CORs do not direct work, direct the re-accomplishment of work, assist the contractor during maintenance, change the contract, or formally interpret the contract. The ACO resolves these types of issues. Some COR responsibilities outlined in MP5301.602-2(d) have been assigned to the C-COR. In addition to responsibilities outlined in FAR 1.604, Defense Federal Acquisition Regulation Supplement (DFARS) PGI 201.602, AFFARS MP 5301.602-2(d), DoDI 5000.72, and MP5301.602-2(d), COR will:

16.2.6.1. **(Added-AETC)** Complete mandatory training requirements prior to performing surveillance duties unsupervised. **(T-2)**

16.2.6.2. **(Added-AETC)** Be knowledgeable of the specifications of the contract. **(T-2)**

16.2.6.3. **(Added-AETC)** Maintain proficiency in contract assessment methods. **(T-2)**

16.2.6.4. **(Added-AETC)** Be knowledgeable of the procedures for documenting surveillance. **(T-2)**

16.2.6.5. **(Added-AETC)** Perform surveillance according to the QASP. **(T-2)**

16.2.6.6. **(Added-AETC)** Report observations through the C-COR to the MRD.

16.2.6.7. **(Added-AETC)** Review applicable incoming/outgoing official government and contractor correspondence. **(T-2)**

16.2.6.8. **(Added-AETC)** Maintain proficiency in the MIS used by the contractor and surveillance activities. **(T-2)**

16.2.6.9. **(Added-AETC)** Evaluate contractor effectiveness in mishap investigations. **(T-2)**

16.2.6.10. **(Added-AETC)** Provide technical support to the C-COR, 19AF/A4RP program manager, MRD, PCO/ACO, and assist in developing performance requirements in pre-award activities when requested.

16.2.6.11. **(Added-AETC)** Ensure weapon system discrepancies discovered are documented in the appropriate aircraft or equipment forms, and applicable MIS. **(T-2)**

16.2.6.12. **(Added-AETC)** Evaluate and recommend contract modification.

16.2.7. **(Added-AETC)** Multi-Functional Team (MFT). The MFT is a customer-focused team responsible for assessing contractor performance and managing the functional requirement over the life of the contract. The emphasis of the MFT is on teamwork, trust, and agility in order to fully meet mission requirements. This team has representatives of all the stakeholders involved in the effort, to include the 19AF/A4RP program manager, MRD, Mission Owner, Contracting Officer, C-COR, Quality Assurance Program Coordinator (QAPC), CORs, and Legal Advisor. Membership may be tailored to fit the size and complexity of the contract. It is convened under the authority of the ACO, who appoints the members. It is led by the MRD or another designee.

16.3. (Added-AETC) Training Requirements. Training requirements are specified by DoDI 5000.72, MP5301.602-2(d), ACO/QAPC led training, 19 AF, and MAJCOM unique requirements.

At units without onsite ACOs, consider using video teleconferencing technology or have the ACO provide course material. If difficulty is encountered obtaining this training, request assistance through 19 AF/A4. MRD and CORs will complete all training requirements within 90 days of assignment. **(T-2)**

16.3.1. **(Added-AETC)** MRDs will complete the 19 AF/A4PR Maintenance Requirements Director executive training session and ACO/QAPC led training within 90 days of assignment. **(T-2)** Document all training requirements in the approved electronic training records (MyTraining or DAF approved system).

16.3.2. **(Added-AETC)** COR sections coordinate with 19 AF/A4PR (**19AF.LGPR.MMS@us.af.mil**) to obtain formal school training schedule and availability.

16.3.2.1. **(Added-AETC)** All, C-COR's, COR Superintendents and CORs surveilling aircraft maintenance, aircraft-related maintenance, aircraft-related trainer maintenance and CLS COMBS contracts shall adhere to the following training requirements:

16.3.2.2. **(Added-AETC)** COR Initial Training Requirements. Complete AETC COR Course 393AET0066-002, blocks I and II in-residence (special circumstances will be reviewed on a case by case situation), QAPC led training/CO led training, DAU CLM 003, Overview of Acquisition Ethics, and DAU CLC 222, Contracting Officers Representative (COR) Online Training, within 90 days of assignment. **(T-2) Note:** CORs surveilling only transient maintenance, engine, PMEL, munitions, trainer maintenance, USAFA contracts or COMBS contracts are not required to complete block II of course 393AET0066-002.

16.3.2.3. **(Added-AETC)** COR Recurring Training. Re-accomplish course 393AET0066-002, Block I in-residence and only on a case by case basis via distance learning every 3 years. **(T-2)**

16.3.2.4. **(Added-AETC)** C-COR/Superintendent Initial Training Requirements. Complete AETC COR Course 393AET0066-002, blocks I and II in-residence, AETC Chief COR Course 393AETC0066-001 (special circumstances will be reviewed on a case by case situation), QAPC led training, CO led training, ACQ 0030, *Overview of Acquisition Ethics*, and DAU CLC 222, *Contracting Officers Representative (COR) Online Training*, within 90 days of assignment. **(T-2) Note:** CORs surveilling only transient maintenance, engine, PMEL, munitions, trainer maintenance, USAFA contracts or COMBS contracts are not required to complete block II of course 393AET0066-002.

16.3.2.5. **(Added-AETC)** C-COR/Superintendent Recurring Training. Re-accomplish course 393AET0066-001 in-residence and only on a case by case basis via distance learning every 3 years. **(T-2)**

16.3.2.6. **(Added-AETC)** C-COR/Superintendent/COR Annual Refresher Training. Complete 19 AF/A4PR developed computer based training Annual Refresher Training NLT 120 days of posting (October of each year) on the HQ AETC/COR SharePoint link. **(T-2)**

16.3.3. **(Added-AETC)** CORs requiring special certification will comply with the requirements established by the local contracting office. **(T-2)**

16.3.4. **(Added-AETC)** CORs performing surveillance in hazardous areas or on hazardous tasks where specific training/safety requirements are prescribed (e.g., fuels, munitions, egress,

high voltage, etc.), will be trained on all associated safety requirements prior to performing the surveillance. **(T-2)**

16.3.5. **(Added-AETC)** FCF pilot COR training requirements consists of CO and QAPC led training which will be accomplished at the local unit. **(T-2)** FCF pilots performing COR duties may assist the MRD and C-COR as necessary. Report FCF pilot surveillance evaluations directly to the C-COR.

16.4. (Added-AETC) Quality Assurance Surveillance Plan (QASP). The purpose of a QASP is to provide a planned/documented process for surveilling the contractor's actual performance and comparing that performance to the contractual requirements to determine conformity with the technical requirements of the contract. The QASP identifies what is going to be inspected, the method of surveillance, the Acceptable Quality Level (AQL), and the frequency of surveillance. The results become the basis for documenting contractor performance.

16.4.1. **(Added-AETC)** The QASP provides CORs with information to identify acceptable performance and potential reasons for any non-conformance. The QASP should be a "living" document (i.e., increase or decrease surveillance intensity based on performance/confidence in the contractor) throughout the life of the contract as performance warrants.

16.4.2. **(Added-AETC)** QASP Development. QASP surveillance is based on the minimum surveillance necessary to assess contractor compliance to PWS requirements. It incorporates contractual regulatory requirements and unique aircraft and equipment requirements organized into the following sections: Performance Planning & Preparation; Performance Assessment Surveillance; Performance Results Analysis & Reporting; and Performance Follow-up. C-CORs will ensure the QASP conforms to **Attachment 14** format. After establishing mission essential/crucial SS items with measurable performance thresholds, the QASP builds a surveillance plan that schedules surveillance of all PWS services, PT/SS and non-PT/SS contract items. Furthermore, the QASP identifies how CORs link surveillance of PWS requirements to periodic surveillance reporting and CPAR reporting.

16.4.2.1. **(Added-AETC)** Ensure the QASP is developed to effectively measure contractor performance according to applicable guidance/requirements (AFIs, TOs, PWS, contractor's quality management system, contractor's proposal, locally directed inspections, and associated baselines, etc.). **(T-2)**

16.4.2.2. **(Added-AETC)** QASP Related Requirements: Consult FAR Parts 12, 37 and 46, DFARS 237.172 and 246.401, PGI 222, PGI 237, MP 5301.602-2(d), DAFI 63-138, and MP 5346.103, and any applicable functional community guidance for QASP requirements. This is not an all-inclusive list.

16.4.3. **(Added-AETC)** Submit revised/updated QASPs to 19 AF/A4RP and 19AF COR Functional (n/a for CLS contracts) for review prior to implementation. As a minimum, QASPs will be reviewed for currency every two years and will be signed by the MRD and C-COR. **(T-2)**

16.5. (Added-AETC) Surveillance Schedule. After determining the surveillance requirements, the C-COR will develop the schedule of surveillance activities to ensure all contract requirements are surveilled at least once annually (**Exception:** those items that are a one-time requirement). **(T-2)** To meet this requirement, C-CORs will include non-PT/SS items into PME guides when

practicable. Those non-PT/SS items which are not incorporated into PME guides, will be scheduled for surveillance.

16.5.1. **(Added-AETC)** Ensure contractor hours of operation are surveilled on a random basis to include all shifts, weekends, and holidays the contractor works.

16.5.2. **(Added-AETC)** The monthly surveillance schedule will be signed by the C-COR, MRD, and PCO/ACO and published prior to the beginning of the month it covers. **(T-2)** A copy will be provided to the PCO/ACO. The schedule will be marked For Official Use Only and will not be given to the contractor. See **Attachment 15** for a template that may be used for COR surveillance schedule development.

16.5.2.1. **(Added-AETC)** Changes to the monthly surveillance schedule within the month being surveilled must first be coordinated and approved by the MRD and a copy provided to the PCO/ACO. **(T-2)**

16.5.2.2. **(Added-AETC)** When approved, the COR must post changes to the schedule as they occur and send copies to the MRD and PCO/ACO. **(T-2)**

16.5.3. **(Added-AETC)** C-CORs, with the approval of the MRD and PCO/ACO, may adjust surveillance activities commensurate with contractor's performance and level of risk to the Government. When this occurs, the C-COR will make a note in the monthly summary. **(T-2)**

16.5.3.1. **(Added-AETC)** If a particular function of the contractor's performance has a continuing record of acceptable performance in an area not likely to result in loss of life to AF personnel or damage to government property, surveillance of that function may be reduced. Surveillance of a PME area will not be waived for more than one prescribed period (month, quarter, etc.) as determined by the C-COR. **(T-2) Note:** This is not applicable to technical evaluation requirements.

16.5.3.2. **(Added-AETC)** Conversely, surveillance of that function should increase if contractor performance of a function is less than satisfactory. However, any increase should be temporary and only accomplished to determine if the substandard performance is a statistical anomaly or an actual contractual non-conformity.

16.5.4. **(Added-AETC)** If scheduled monthly surveillance requirements cannot be met due to equipment non-availability or special circumstances, an explanation in the end of month summary for each missed scheduled area and/or surveillance category is required.

16.6. (Added-AETC) COR Evaluations. In accordance with the Inspection of Services clause in FAR 52.246, the government has the right to inspect and test all services (both PT/SS and non-PT/SS services) called for by the contract to the extent practicable at all times and places during the term of the contract. Surveillance inspections must ensure CORs are "sampling" contractor services and not acting, or giving the appearance of acting, as the contractor's quality control. Performance-Based Service Acquisition principles denote COR sampling levels are at a much lower rate than the inspections levels of a contractor quality management system.

16.6.1. **(Added-AETC)** CORs predominately use the periodic surveillance concept described in the DOD COR Guidebook. However, CORs may use the One-Hundred percent surveillance concept on maintenance tasks that do not occur frequently, are critical, and/or have stringent performance requirements. When using this surveillance method, CORs inspect and evaluate the contractor's performance every time they accomplish the service. Since the FAR, DFARS,

AFFARs, and contracting AFIs are silent on surveillance definitions and use of surveillance methodologies, aircraft and equipment COR surveillance will be accomplished using Technical Evaluations, PMEs, Customer Comment/Complaint Evaluations (CCE), "as observed" discrepancies, and Follow-up evaluations as appropriate to the program. **(T-2)** CORs use judgment and experience in determining major/minor discrepancies. Categorize major/minor discrepancies IAW paragraphs **6.7.4.3.1** and **6.7.4.3.2** (for major discrepancies) and IAW paragraphs **6.7.4.4** and **6.7.4.4.2** (for minor discrepancies). Areas that can be applied across all surveillance methods include:

16.6.1.1. **(Added-AETC)** Safety Violations. Document safety violations of Occupational Safety and Health Administration (OSHA) or AFMAN 91-203 that clearly present a potential to damage or injure government resources as part of the inspection being performed or, if appropriate, "as observed". **(T-2)** The documentation should clearly indicate the potential to damage or injure government resources.

16.6.1.2. **(Added-AETC)** CORs do not document violations of OSHA or AFIs that do not present the potential to damage or injure government resources; rather they will informally notify the site supervisor, MRD, and PCO/ACO.

16.6.2. **(Added-AETC)** Technical Evaluations (TE). Validating technical requirements of a contract are accomplished by performing TEs. Any maintenance task accomplished in accordance with technical guidance, (e.g., TO, work-card, original equipment manufacturer (OEM) manual, etc.) qualifies for COR surveillance under the TE concept, to include GITA/Trainer maintenance surveillance. TEs consist of In-progress (IP) Evaluations, Compliance Evaluation (CE), and Quality Control (QC) Evaluations. Evaluations may include, but are not limited to, equipment condition, maintenance processes, maintenance inspections, servicing, repair actions, aircraft and equipment forms inspections, document file inspections, CTKs, TO files, vehicle inspections, and housekeeping. Include these requirements in the QASP and the monthly surveillance schedule. CORs at units operating with a PT/SS will ensure that applicable standards in the PT/SS are considered during the development of technical evaluation requirements. **Note:** The C-COR may elect to do a follow-up evaluations on a QC work center management inspection.

16.6.2.1. **(Added-AETC)** In-progress (IP) Evaluations. IP Evaluations are direct evaluations while maintenance is being performed.

16.6.2.2. **(Added-AETC)** Compliance Evaluations (CE). CE consists of a visually available evaluation of equipment condition, a maintenance process, and/or an assessment following a maintenance inspection, servicing or repair action.

16.6.2.3. **(Added-AETC)** Documentation File Evaluations. Documentation file Evaluations consist of a review of the status of active and historical documents (include documents in the MIS). It may also include ensuring aircraft forms and MIS entries match. Rate documentation file Evaluations for aircraft, support equipment, and engines. **(T-2)** Send discrepancies found in the historical documents file to the contractor for corrective action. Actual discrepancies are not corrected except for items of a historical nature, including automated documents that can be verified from other sources. Specifically:

16.6.2.3.1. **(Added-AETC)** Each incorrect clearing of a Red X symbol, erasures of symbols, overdue TCIs, and overdue inspections caused by improper documentation

are considered major discrepancies. The correct use and clearance of Red X symbols are items of special attention during documentation file Evaluations. CORs must ensure unsafe or unfit for operation conditions are represented by Red X entries and these entries are properly cleared. **(T-2)**

16.6.2.3.2. **(Added-AETC)** Do not charge documentation errors against the contractor for form entries initiated at other than the home station or if generated by non-maintenance personnel. Correct deficiencies only if they affect historical and/or automated information.

16.6.2.4. **(Added-AETC)** Evaluating Contractor QC Inspections. Verify the QCs ability to readily detect technical deficiencies. They may be follow-up or concurrent with QC inspections and may be performed in conjunction with other evaluation requirements. When performed in conjunction with other evaluation requirements, document each evaluation independently. Include these requirements in the QASP, and the monthly surveillance schedule.

16.6.2.5. **(Added-AETC)** In conjunction with IP, CE, and QC inspections, CORs will include the following in the evaluation (as applicable): **(T-2)**

16.6.2.5.1. **(Added-AETC)** Check a minimum of 50 percent of the required inspection items. **(T-2)** Ensure that when evaluating only a portion of the required inspection items that surveillance documentation identifies those steps/items not evaluated. Normally, disassembling of a part, removal of a stress panel, or similar actions are not necessary to accomplish a technical evaluation.

16.6.2.5.2. **(Added-AETC)** Review aircraft or equipment forms and the MIS for accurate documentation (to include reviewing the closed out job in the MIS); checking for proper technical data usage and currency; individual training records; tool usage/serviceability/TMDE calibration date; and after maintenance FO checks of the area in which the task was performed. **(T-2)**

16.6.2.6. **(Added-AETC)** Minimum technical area surveillance requirements and frequencies for aircraft and munitions are identified in **Attachment 16**. Minimum surveillance technical area evaluation requirements and frequencies for training wings (TRW) are in **Attachment 17**. Using the contract as a guide, C-COR, MRD and the ACO, jointly determine any additional surveillance requirements.

16.6.2.6.1. **(Added-AETC)** Minimum technical area surveillance requirements for stand-alone transient maintenance activities are identified in **Attachment 18**. Stand-alone transient maintenance functions are defined as those contracts where the primary function is to perform transient maintenance services.

16.6.2.6.2. **(Added-AETC)** CORs surveilling stand-alone transient maintenance functions with additional maintenance requirements such as AGE/SE inspection and maintenance or fabrication responsibilities will review their contract requirements and establish technical evaluations as required. Technical evaluations will include contractor QC/QA inspection requirements as determined locally.

16.6.2.7. **(Added-AETC)** Technical Evaluations Ratings. Technical Evaluations will be rated as either conforms or non-conforms. **(T-2)** Assign a technical evaluation rating as

conforms when the total number of minor discrepancies does not exceed the applicable baseline or AQL contained in the QASP. Assign non-conforms ratings when one of the following conditions occur:

16.6.2.7.1. **(Added-AETC)** A step serious enough to adversely affect the performance of the equipment involved is omitted or improperly completed.

16.6.2.7.2. **(Added-AETC)** A major or Red X discrepancy is detected.

16.6.2.7.3. **(Added-AETC)** The performance threshold, if established, is not met.

16.6.2.7.4. **(Added-AETC)** Assign non-conforms ratings for forms technical evaluations when a major discrepancy is detected or more than three minor discrepancies are identified for each ten pages (e.g., 1 to 10 pages, three minors; 11 to 20, six minors). The C-COR may lower the baseline for minor discrepancies on support equipment if appropriate.

16.6.3. **(Added-AETC)** Program Management Evaluations (PME). PMEs are similar to IG inspections where CORs assess contractor work center's ability to manage program areas they are contractually responsible for.

16.6.3.1. **(Added-AETC)** Minimum PME surveillance requirements for flying units are found in **Attachment 19**. Minimum requirements for TRWs are found in **Attachment 20**. Minimum PME surveillance requirements for stand-alone transient maintenance contracts are found in **Attachment 21**. Accomplish PMEs utilizing general and work center specific PME guides for each work center. **(T-2)**

16.6.3.2. **(Added-AETC)** Stand-alone transient maintenance functions are defined as those contracts where the primary function will perform transient maintenance services. CORs surveilling stand-alone transient maintenance functions with additional maintenance requirements such as AGE/SE inspection and maintenance, or fabrication responsibilities, etc., will review their contract requirements (to include the contractor's quality management system requirements) and establish any additional PMEs that may be required.

16.6.3.3. **(Added-AETC)** COR activities surveilling AETC maintenance contracts not specifically addressed in this section will use **Attachment 19** and **Attachment 20** as guides (when applicable) and the PWS to identify PME surveillance requirements. If PME requirements are not listed in **Attachment 19** and **Attachment 20**, use the PWS to determine the surveillance requirements that apply to a specific contract.

16.6.3.4. **(Added-AETC)** Surveil work centers by performing evaluations within each work area and assigning an overall rating, or perform evaluations of each program within each work area, assign a rating to each program and assign an overall work area rating based on the ratings assigned to each program evaluated. Characterize each program and/or work area as either conforms or non-conforms. **Note:** Minor discrepancies that consist of a grouping of like deficiencies. (e.g., bench stock with 6 commingled bins, 10 bins not flagged, and 4 bins with torn labels may be documented as one or three discrepancies against the PME guide.) When grouping these types of deficiencies, ensure surveillance techniques are applied consistently across evaluation areas.

16.6.3.4.1. **(Added-AETC)** Assign a rating as conforms if minor discrepancy baselines or AQLs were not exceeded (max AQL allotted is 6 unless stated differently in the PWS) or no major discrepancies were identified.

16.6.3.4.2. **(Added-AETC)** The C-COR, with approval of the MRD, may consider it appropriate to adjust the baseline or AQL up (not to exceed a 6 AQL) or down based on the size of the PM work area or because work centers/functions have been combined. However, the C-COR will first consult the PWS for applicable minor discrepancy AQLs. If no AQLs are present, the C-COR will coordinate with the contractor's quality management system documents and quality management system personnel to determine the contractor's self-imposed AQL. If AQL adjustments are made, they must be reflected in the QASP and maintain documentation to support baseline or AQL adjustments.

16.6.3.4.3. **(Added-AETC)** COR organizations with less than 10 contractor work centers will accomplish PMEs by performing surveillance of individual programs and will assign a rating to each program. The C-COR, with approval of the MRD, will establish minor discrepancy baselines or AQLs for each program evaluated and maintain documentation to support the baselines or AQLs. Characterize each program as conforms if minor discrepancy baselines or AQLs were not exceeded and/or no major discrepancies were identified. Assign an overall quarterly rating based on the total programs evaluated/total programs conforming ratings of each program. An example PME report of surveillance results for organizations with less than 10 contractor work centers is provided in **Table 16.1**.

Table 16.1. (Added-AETC) Observation Area Program Evaluations.

	Tools & Equip	Tech Data	Documentation	Supply	Safety	Training	Environ / HAZMAT	Facilities	Policy / FOD	IMDS	Work Area Quarterly Rating
JEIM	A	U	A	A	A	U	A	A	A	A	80%
AGE	U	A	U	A	A	A	A	U	U	A	60%
Egress	A	A	A	A	A	A	A	A	U	A	90%
PMEL	A	A	A	A	A	A	A	A	A	A	100%
Structural Repair	A	U	U	A	A	A	A	A	U	A	70%
NDI/JOAP	A	A	A	A	A	A	A	A	A	A	100%
Engine Management	N/A	A	A	N/A	A	A	N/A	A	A	A	100%
Quality Control	N/A	N/A	A	N/A	A	A	N/A	A	A	A	100%
Training	N/A	N/A	N/A	N/A	A	A	N/A	A	A	A	100%

16.6.3.5. **(Added-AETC)** PME Guides. PME guides should contain minimum evaluation areas or items and should not include overwhelming requirements that may unduly delay the contractor. Area evaluations are not limited to the PME guide content. Annotate evaluation guides with the following statement: "Area evaluation is not limited to the content of evaluation guide." The C-COR will review evaluation guides annually, document the review on an official memorandum or locally approved form, and file it in the COR office. **(T-2)** Evaluation guides may be included as part of the QASP.

16.6.3.5.1. **(Added-AETC)** General Evaluation Guides. C-CORs will develop a general guide to identify minimum requirements. **(T-2)** General Evaluation Guides are used with the applicable PME guide for the inspected work area. General Evaluation Guides may include, but are not limited to:

16.6.3.5.1.1. **(Added-AETC)** Supply Procedures. If applicable, CORs will sample supply and AFREP management products/aids quarterly during applicable PMEs for signs of fraud, waste, abuse, or poor supply discipline. Products may include the Daily Document Register (D04), Due-Out Validation (M30), Repair Cycle Asset Management List (D23), Readiness Based Leveling Misallocated List (R49), Priority Monitor Report (D18), AWP Validation List (D19), Special Level Review List (R35), Bench Stock Review (M04), Organization Bench Stock Listing (S04), Supply Point Listing (Q13), and micro-purchase summaries.

16.6.3.5.1.2. **(Added-AETC)** Environmental Plans and Programs. Establish a guide to effectively evaluate the contractor's compliance with federal, state and local laws as well as DoD, Air Force, and AETC directives, and the installation's applicable environmental plans and programs. **(T-2)** Ensure hazardous waste collection points and storage areas that are the contractor's responsibilities are included in surveillance requirements as applicable.

16.6.3.5.1.3. **(Added-AETC)** Contractor Training. Include surveillance requirements in the QASP to effectively monitor compliance with the contractor's training plan as prescribed by the contract. CORs will place special emphasis on the adequacy of the training provided by the contractor and perform the following: **(T-2)** Periodic monthly observance of task qualification, and certification training accomplished by the contractor, to include training associated with special certification tasks. In addition to actually observing the training as it takes place, review training documentation, individual training records, and plans of instruction, if applicable. Assign a conforms or nonconforms rating to contractor training observations based on whether or not the training observed meets contract requirements, the standards and intent of the contractor's training plan, and the objectives of the training being provided.

16.6.3.5.1.4. **(Added-AETC)** Tool and equipment management.

16.6.3.5.1.5. **(Added-AETC)** FO prevention.

16.6.3.5.1.6. **(Added-AETC)** Housekeeping procedures. Ensure all applicable areas and facilities are included, such as flight line, hangar, maintenance facilities, and jet engine operating areas.

16.6.3.5.1.7. **(Added-AETC)** TO/eTool maintenance.

16.6.3.5.1.8. **(Added-AETC)** MIS and forms documentation focusing on accuracy and completeness of the data entered (i.e., job data, work unit code, etc.).

16.6.3.5.1.9. **(Added-AETC)** PMEL Automated Management System, automated oil analysis, and any other automated system that includes aircraft or equipment information when applicable.

16.6.3.5.1.10. **(Added-AETC)** Facilities Management. Includes physical security, conservation of utilities and fire prevention.

16.6.3.5.1.11. **(Added-AETC)** PME of Contractor QC. Contractor QC Inspection Evaluations verify the QCs ability to readily detect program management deficiencies. They may be follow-up or concurrent with QC inspections and may be performed in conjunction with other evaluation requirements. When performed in conjunction with other evaluation requirements, document each evaluation independently. Include these requirements in the QASP, and the monthly surveillance schedule.

16.6.3.5.2. **(Added-AETC)** Work center Specific PME Guides. C-CORs/CORs will develop evaluation guides to identify unique work center program requirements not normally found in other work centers. **(T-2)** Examples include, but are not limited to: PMEL, egress, munitions, PS&D, analysis, quality assurance/control and etc. When developing specific work center evaluation guides, CORs must ensure they are developed IAW the performance thresholds in the PT/SS, the minimum requirements identified in this supplement, and other applicable AFIs/AFMANs. **(T-2)** Review **Attachment 19** and **Attachment 20** for possible addition of PM areas to the surveillance program. If functions or work centers have been combined within an organization, develop a single evaluation guide that encompasses the combined functions/work centers. Combined functions/work centers normally share common elements such as CTK, TOs, etc. Functions collocated in the same facility are not considered combined. The C-COR, with approval of the MRD, may consider it appropriate to adjust the baseline or AQL up (not to exceed a 6 AQL) or down based on the size of the PM work area or because work centers/functions have been combined.

16.6.3.5.2.1. **(Added-AETC)** Contractor Quality. The C-COR will develop a work center specific PME Guide that evaluates the contractor's quality management system. **(T-2)** Include PWS requirements, contractor's quality management system requirements and any contractor's regulations/policies/procedures developed at the corporate or local level that are part of the contractor's accepted quality management system.

16.6.3.5.2.2. **(Added-AETC)** Munitions. Evaluation guides for munitions activities will be developed utilizing the applicable PWS and **Attachment 22**, Munitions Surveillance Critical Items list. (**T-2**)

16.6.4. **(Added-AETC)** Customer Comment/Complaint Evaluations (CCE). Although CCE are not a primary surveillance method, it is a valuable surveillance tool in enabling CORs to assess a contractor's performance. When a customer complaint is received on an AETC Form 450 or locally generated form (or electronic equivalent), the COR office will conduct an

evaluation to validate the complaint. Often times government employees are customers of contractor provided services.

16.6.4.1. **(Added-AETC)** AETC Form 450, *Customer Comment/Complaint Record* or locally generated form (or electronic equivalent) are used to document customer comments/complaints. If the customer complaint is validated, the COR will document an AETC Form 447 *Routing and Review of COR Reports* (or locally generated form/electronic equivalent), forward it and the AETC Form 450 to the contractor for action. Potential non-conformance identified by headquarters staff may be submitted in a variety of formats and will be validated by the CORs.

16.6.4.2. **(Added-AETC)** A customer comment/complaint does not necessarily indicate a service is nonconforming but may indicate customers do not understand the PWS requirements, a personality conflict, and/or other non-contractual issue. Customers should be aware of PWS requirements to ensure understanding of what constitutes a customer complaint. To facilitate this, CORs will provide customer training to each organization receiving contractor services. **(T-2)** Customer training will cover those services relevant to the customer, the contract performance thresholds for those services and the actions customers may expect from the COR and/or CO for nonconforming services associated with a comment/complaint. Training will also ensure customers understand they may not direct contractor work or make unauthorized commitments on behalf of the government.

16.6.5. **(Added-AETC)** As Observed discrepancies. As observed discrepancies are not evaluations, rather they are discrepancies observed by CORs that are not associated with a scheduled evaluations. Because they are not scheduled evaluations, they are not calculated into the monthly rating of any PT/SS item. However, CORs must ensure all as observed discrepancies are reported in the end of month summary. Furthermore, CORs may use the cumulative results of as observed discrepancies towards CPAR ratings under the Quality category.

16.6.6. **(Added-AETC)** Follow-up evaluations. Follow-up evaluations verify the contractor's response/closure of documented non-conformance/discrepancies. Specifically, follow-up evaluations ensure the contractor's quality management system has determined the root cause and implemented corrective actions to eliminate future non-conformities. COR's will schedule follow-up evaluations as needed to determine the viability of the contractor's quality management system. **(T-2)**

16.6.6.1. **(Added-AETC)** The C-COR will determine if a follow-up evaluation on any documented non-conformance/discrepancy is required.

16.6.6.2. **(Added-AETC)** A COR follow-up is required for all CARs, after the contractor completes the corrective actions to ensure full resolution of the noncompliance(s). **(T-2)**

16.6.7. **(Added-AETC)** GITA/Trainer Maintenance Surveillance.

16.6.7.1. **(Added-AETC)** GITA. In surveillance of GITA aircraft, C-CORs will ensure a balance between safety, reliability, and economy. In the absence of military or commercial technical data, C-CORs will determine through surveillance if contractors employ commercial acceptable methods, techniques, and best practices by using the most current version of FAA Advisory Circular 43.13-1B or other applicable OEM guidance.

16.6.7.2. **(Added-AETC)** Trainers. C-CORs will determine through surveillance if aircraft related trainers using OEM aircraft parts are maintained to ensure operational reliability and student safety and are not maintained to flying standards. Trainers with manuals will be maintained IAW with the applicable manuals. Any deviations to DoD related maintenance manuals will be coordinated with the applicable DoD item mangers. Commercial manual deviations will be coordinated through the applicable 19 AF Functional manager.

16.6.7.3. **(Added-AETC)** The 82 TRG and 782 TRG designated GITA ramp at Sheppard AFB is a non-active airfield/aircraft parking area; therefore, aircraft parking distance requirements of DAFMAN 32-1084, DAFMAN 91-203, and UFC 3-260-01, *Unified Facilities Criteria, Airfield and Helicopter Planning and Design* are not applicable. All other flight line requirements of DAFMAN 91-203 still apply.

16.6.7.4. **(Added-AETC)** Static Display Aircraft. CORs will ensure contractors maintain static display aircraft IAW AFI 84-103 and the applicable PWS. COR surveillance will be accomplished and documented accordingly.

16.7. (Added-AETC) Documenting Surveillance Results. Documentation includes the results of individual evaluations, non-conformance, monthly surveillance reporting and, as applicable, annual CPARs. Forward all surveillance documentation/reviews to the ACO for review within 15 business days after the end of each month. **(T-2)**

16.7.1. **(Added-AETC)** CORs will document discrepancies as soon as they are discovered, and notify the contractor as soon as the surveillance is completed. **(T-2)** After the surveillance form is completed, CORs will request a contractor representative acknowledge they have been notified of surveillance results by either initialing, signing, or via an electronic equivalent, on which the evaluation is recorded. Initials or electronic signatures do not constitute contractor concurrence with the surveillance findings, but signifies they have been notified by the government of evaluation results. Contractor representative refusal to initial evaluation record will be so noted by the COR.

16.7.1.1. **(Added-AETC)** Documenting individual evaluations. CORs will use AETC Form 447 or locally generated form (or electronic equivalent) to document performance identified during TIs, PMEs, As Observed, CCEs, and Follow-up Evaluations, IAW **Table 16.2**. **Note:** Contractual non-conformance may result in a higher level of documentation depending on the seriousness and frequency of the non-conformance.

16.7.1.2. **(Added-AETC)** At the end of each surveillance period, if the contractor does not meet a PT/SS or other PWS or Quality Management System (QMS) derived standard, CORs may draft CARs for addressing areas of contractual non-conformity and forward to MRD for review and PCO/ACO for evaluation and subsequent issuance to the contractor.

16.7.2. **(Added-AETC)** Corrective Action Request (CAR). Non-conformance of contractual requirements are documented using CAR Levels 1 through 3 as described in **Table 16.2** (or as specified in the PWS). Individual evaluation surveillance forms that describe contractual non-conformance are ordinarily addressed on the AETC Form 447 or locally generated form (or electronic equivalent), but may result in a CAR depending on the potential impact and/or frequency of the non-conformance. CARs will be submitted on the AETC Form 448, *Corrective Action Request (CAR)*, or locally generated form. **Note:** Contractor performance

not meeting contract standards determined to be government caused will not generate a CAR. However, the C-COR will document on the end of month summary the government reason for not generating CAR in the area of contractual non-conformity. CORs will submit CARs to the MRD for review and PCO/ACO for issuance. **(T-2)** CARs may result in initiation of available contractual remedies IAW applicable FAR/DFARS/AFARS/PWS policies and procedures (i.e. letter of concern, corporate discussions, cure notice, show cause notice, and/or termination notice). The levels of CARs are:

16.7.2.1. **(Added-AETC)** Level I CAR. A Level I CAR is issued for non-conformance which indicates increasing process performance risk, or major product/service deficiencies indicating a systemic issue throughout the process(es). Level I CARs will be directed to the contractor site lead/PM responsible for initiating corrective actions, root cause analysis, preventive action, and/or need action by the contractor to determine if other product/services are affected.

16.7.2.2. **(Added-AETC)** Level II CAR. A Level II CAR is issued for serious non-conformance which is not promptly correctable, could affect cost, schedule, or performance if not corrected in a timely manner. Level II CAR may be used when a Level I CAR has been ineffective. Level II CARs will be issued to the contractor's contractor site lead/PM, with a copy to Top-level manager or corporate manager.

16.7.2.3. **(Added-AETC)** Level III CAR. A Level III CAR is issued when the contractual non-conformance(s) is critical to mission accomplishment, government resources or when a Level II CAR has been ineffective. Level III is issued to the contractor's Top-level manager or corporate management, with a copy to contractor site lead/PM. A Level III CAR will result in a mandatory review of available contractual remedies.

16.7.2.4. **(Added-AETC)** Generating a CAR. The level of the CAR depends on the significance of the non-conformance and the level of contractor management engagement required. Lower level CARs need not be issued prior to higher level CAR issuance. The CAR must be issued against a valid contractual requirement and the cited non-conformance description must show a clear departure from the contractual requirement.

16.7.2.4.1. **(Added-AETC)** CARs will communicate the contractor response requirements (i.e. nonconformity's root cause, a reasonable corrective action, and a "get-well" date) and must state that the contractor is required to produce and submit a Corrective Action Plan (CAP). The C-COR forwards the CAR to the MRD for review and the PCO/ACO for evaluation and subsequent issuance to the contractor IAW **Table 16.2**.

16.7.2.4.2. **(Added-AETC)** CARs will include evidence documenting a non-conformance when the capability exists and it is feasible to do so. For example, a high resolution digital photograph illustrating a non-conformance condition or screen shots evidencing data anomalies can be helpful in the corrective action process.

16.7.2.4.3. **(Added-AETC)** In order to manage corrective action suspenses and subsequent contractor responses, ensure CORs establish a tracking system for corrective actions that includes date COR submitted CAR to PM/MRD, date reviewed by PM/MRD, date reviewed by PCO/ACO, date issued by PCO/ACO, contractor's

identified root cause, proposed corrective action, contractor follow-up actions, and get-well date.

16.7.2.5. **(Added-AETC)** Contractor corrective action. Contractors should be given no more than 15 business days (or per the PWS) from the date of CAR issuance to submit their CAP. An extension, of no more than 10 business days (or per the PWS), may be granted if the contractor can establish a valid reason requesting the extension. The extension request must be submitted prior to the expiration of the original suspense. Extensions will not be granted if it is determined the contractor has the ability to work the CAR within the given time period. If the contractor fails to reply within the suspense date, a follow-up notification should be issued. If the contractor fails to respond again, C-COR should escalate the CAR to the next higher level. Examples of when escalation is appropriate are contained in **paragraph 16.7.2.7**. An example of when escalation may not be required would be when ongoing satisfactory efforts by the contractor, addressing the CAR, meeting milestones and achieving desired results.

16.7.2.5.1. **(Added-AETC)** Review and acceptance of contractor's CAP. The PCO/ACO, in consultation with the MRD and C-COR will evaluate the contractor's proposed CAP to ensure all non-conformance cited in the CAR are addressed and the adequacy of the contractor's root cause analysis and planned corrective actions is determined acceptable.

16.7.2.5.2. **(Added-AETC)** When a CAP does not adequately address the applicable requirements, reject the response. Response to the contractor will be issued by the ACO. The written rejection will address the specific part(s) of the CAP that are deemed inadequate and describe the basis for the inadequacy determination but will not direct a solution. Contractor will have 5 business days (or per the PWS) to submit a revised CAP. If the contractor fails to resubmit an adequate CAP within 5 business days (or per the PWS) or the resubmitted response is still found to be insufficient, issuance of an additional CAR or escalation of the CAR should be considered.

16.7.2.6. **(Added-AETC)** CAR follow-up. Upon expiration of the contractors get well date, CORs will validate the effectiveness of the corrective action by performing a follow up.

16.7.2.6.1. **(Added-AETC)** The follow-up shall assure that the implementation is effective in preventing recurrence of the non-conformance.

16.7.2.6.2. **(Added-AETC)** When objective evidence establishes that the contractor's corrective action is ineffective, reject the contractor's corrective action response and consider issuance of an additional CAR or escalation of the CAR. The rejection will include evidence of the ineffectiveness. Document results of the follow-up review, including the date completed.

16.7.2.7. **(Added-AETC)** Circumstances warranting raising a CAR to the next higher level. CARs will be raised to the next higher level when a contractor is unwilling or unable to effect corrective action. Examples of circumstances when CARs should be raised include, but are not limited to:

16.7.2.7.1. **(Added-AETC)** Multiple Level I or II CARs issued in a reasonably short period of time indicating a breakdown of one or more contractor processes or systems.

16.7.2.7.2. **(Added-AETC)** Contractor is nonresponsive to a CAR.

16.7.2.7.3. **(Added-AETC)** Rejections of the contractor's response for the same CAR.

16.7.2.7.4. **(Added-AETC)** Recurring history of CAR response rejections indicating a breakdown of the contractor's corrective action system.

16.7.2.7.5. **(Added-AETC)** Contractor fails to implement corrective actions outlined in a CAR response and/or CAP.

16.7.2.7.6. **(Added-AETC)** Multiple occurrences of ineffective contractor corrective actions.

16.7.2.8. **(Added-AETC)** If CARs do not result in contractual conformity, MRD/C-COR/ACO may recommend issuing an AETC Form 451, *Contract Discrepancy-Invoice Reduction Notification* or locally generated form (as applicable).

16.7.2.9. **(Added-AETC)** CAR closure. When the PCO/ACO, in consultation with 19 AF/A4RP, the MRD, and C-COR is satisfied the contractor's corrective actions are appropriate to prevent recurrence of the non-conformance resulting in the CAR, the corrective action details shall be recorded on the corrective action record, including the causes and any follow-up actions that were performed. The contractor shall be notified when the CAR is considered closed. For Level II and higher CARs, copies of the letter notifying the contractor of the closure action shall be sent to all those addressed/copied in the original CAR.

Table 16.2. (Added-AETC) Surveillance Results Documentation Matrix.

Surveillance Results Documentation Matrix				
Document Level	Description	Release approval & CAP acceptance	Issued To Supplier Management Level	Post-Release Distribution
Individual evaluations AETC 447 (or locally generated form/electronic equivalent)	Contractual non-conformance requiring no special management attention to correct. Written by COR, but may result in a higher level (CAR) depending on the seriousness and frequency of the non-conformance. May require the contractor to provide CAP, if the root cause is unknown.	C-COR	Lowest working level Management Responsible to Correct Deficiency (contractor site lead/PM)	C-COR, MRD, & PCO/ACO

CAR Level I AETC 448	Contractual non-conformance which indicates increasing process performance risk, or multiple major product deficiencies indicating a systemic issue throughout the process(es). Warrants a CAP.	ACO, in consultation with the MRD and C-COR	Contractor management level responsible for the process/corrective action (contractor site lead/PM)	C-COR, MRD, & PCO/ACO
CAR Level II AETC 448	Serious contractual non-conformance which is not promptly correctable, could affect cost, schedule, or performance if not corrected in a timely manner, and warrants a CAP.	ACO, in consultation with the MRD and C-COR	Contractor Top-level manager or corporate manager (courtesy copy 19 AF/A4RP representative)	C-COR, MRD, & PCO/ACO Copies sent to contractor Top-level manager or corporate manager
CAR Level III AETC 448	Contractual non-conformance of a critical nature (personnel safety or mission accomplishment) or when a Level II has been ineffective. Most serious CAR, warrants a CAP.	PCO/ACO, in consultation with the MRD and C-COR	Contractor Top-level manager or corporate manager (courtesy copy 19 AF/A4RP representative)	C-COR, MRD, & PCO/ACO Copies sent to contractor Top-level manager or corporate manager

16.7.3. **(Added-AETC)** End of month surveillance summary. CORs shall develop a monthly summary of surveillance activities IAW this paragraph and **Attachment 23**. **(T-2)** CORs will coordinate and submit the monthly surveillance summary through the MRD to 19 AF/A4RP and provide a copy to ACO/PCO and 19AF COR Functional (uploaded to the AFIS SharePoint: **https://usaf.dps.mil/sites/aetc-19af/LG/AFIS/default.aspx**) NLT the 15th workday of the month following the scheduled surveillance. **(T-2)** Maintain copies of all summaries on file for the life of the contract. **Note:** Compute individual evaluations, technical area, PME area and overall results as follows: Total number of evaluations rated conforms, divided by the total number of evaluations, multiplied by 100 percent. The following areas must be addressed in the summary:

16.7.3.1. **(Added-AETC)** Narrative summary of COR Surveillance.

16.7.3.2. **(Added-AETC)** Scheduled Evaluation Items breakdown of each area surveilled.

16.7.3.3. **(Added-AETC)** Prior three months of evaluations performed, number conform, number non-conform and monthly rating.

16.7.3.4. **(Added-AETC)** Evaluation plan to include TEs and PMEs performed. For evaluations which involved contractor QC, annotate if the evaluation was an over-the-shoulder or a follow-up (by MDS/Functional Areas). **(T-2)**

16.7.3.5. **(Added-AETC)** Trending data (3 months minimum).

16.7.3.6. **(Added-AETC)** CCEs (by MDS/Functional Areas). **(T-2)**

16.7.3.7. **(Added-AETC)** Scheduled evaluations not complied with and reason not completed (by MDS/Functional Areas). **(T-2)**

16.7.3.8. **(Added-AETC)** Follow-up Evaluations (by MDS/Functional Areas). **(T-2)**

16.7.3.9. **(Added-AETC)** PT/SS items against the standard (by MDS). **(T-2)**

16.7.3.10. **(Added-AETC)** Non-PT/SS items (not currently included in a PME). **(T-2)**

16.7.3.11. **(Added-AETC)** Data Integrity as applicable to the PWS (unless included in PT/SS reporting). **(T-2)**

16.7.3.12. **(Added-AETC)** Government performance thresholds waivers. **(T-2)**

16.7.3.13. **(Added-AETC)** Submitted CARs. **(T-2)**

16.7.3.14. **(Added-AETC)** Status of all outstanding CARs not closed out. **(T-2)**

16.7.3.15. **(Added-AETC)** Miscellaneous local COR data to include FCF Release Rate info.

TOM D. MILLER
Lieutenant General, USAF
DCS/Logistics, Engineering and Force Protection

(AETC)

KIRK W. PETERSON, Col, USAF
Director, Logistics, Engineering and Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Prescribed Forms

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(**Added-AETC**) AETC Form 136, Repair Enhancement Approval Request

(**Added-AETC**) AETC Form 138, Lost Tool or Item Investigation Record

(**Added-AETC**) AETC Form 199, *Foreign Object Damage (FOD) Incident Investigation*

(**Added-AETC**) AETC Form 206, *Monthly Flying Coordination*

(**Added-AETC**) AETC Form 206A, *Weekly Flying Contract*

(**Added-AETC**) AETC Form 206C, *Aircraft Deviation Record*

(**Added-AETC**) AETC Form 208, *Weekly Scheduling Request*

(**Added-AETC**) AETC Form 209, *Aircraft Flameout/Stall Debrief Checksheet*

(**Added-AETC**) AETC Form 246, *Inspection Workcard Control*

(**Added-AETC**) AETC Form 403, *Landing Gear/Flight Control Malfunction History*

(**Added-AETC**) AETC Form 447, *Routing and Review of COR Reports*

(**Added-AETC**) AETC Form 448, *Corrective Action Request* (CAR)

(**Added-AETC**) AETC Form 450, *Customer Comment/Compliant Record*

(**Added-AETC**) AETC Form 451, *Contract Discrepancy-Invoice Reduction Notification*

(**Added-AETC**) AETC Form 520, *Engine Maintenance and Inspection Forecast*

(**Added-AETC**) AETC Form 1042, CTK Tool Checklist

(**Added-AETC**) AETC Form 1158, *Cannibalization Control Register*

AF Form 596, Quick Engine Change Kit Inventory

AF Form 861, *Base/Transient Job Control Number Register*

AF Form 864, *Daily Requirement and Dispatch Record*

AF Form 2001, *Notification of TCTO Kit Requirements*

AF Form 2400, *Functional Check Flight Log*

AF Form 2401, *Equipment Utilization and Maintenance Schedule*

AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*

AF Form 2403, *Weekly Aircraft Utilization/Maintenance Schedule*

AF Form 2407, *Weekly/Daily Flying Schedule Coordination*

AF Form 2410, *Inspection/TCTO Planning Checklist*

AF Form 2411, *Inspection Document*

AF Form 2426, *Training Request and Completion*

AF Form 2408, *Generation Maintenance Plan*

AF Form 2409, *Generation Sequence Action Schedule*

Adopted Forms

AF Form 55, Employee Safety and Health Record

(**Added-AETC**) AF Form 68, *Munitions Authorization Record*

AF Form 332, *Base Civil Engineer Work Request*

AF Form 623, *Individual Training Record*

(**Added-AETC**) DAF Form 679, *Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 797, *Job Qualification Standard Continuation/Command JQS*

DAF Form 847, *Recommendation for Change of Publication*

AF Form 1067, *Modification Proposal*

DAF Form 1098, *Special Tasks Certification and Recurring Training*

AF Form 1297, *Temporary Issue Receipt*

AF Form 1492, *Warning Tag*

AF Form 2005, *Issue/Turn-In Request*

DAF Form 2096, *Classification/On the Job Training Action*

(**Added-AETC**) AF Form 3153, *General Purpose Calendar (11" x 8 1/2")*

AF Form 3580, *USAF Museum Aerospace Vehicle Static Display Egress and Safety Certificate*

AFTO Form 20, *Caution and Inspection Record*

AFTO Form 66, *TMDE Bar Codes (Polyester Film)*

AFTO Form 82, *TCTO Verification Certificate*

AFTO Form 95, *Significant Historical Data*

AFTO Form 97, *Aerospace Vehicle Battle Damage Incident Debrief/Assessment/Repair Record*

AFTO Form 97B, *Aircraft Battle Damage Evaluator Checklist*

(**Added-AETC**) AFTO Form 102, *Munitions Inspection Document*

AFTO Form 103, *Aircraft/Missile Condition Data*

AFTO Form 242, *Nondestructive Inspection Data*

AFTO Form 244, *Industrial/Support Equipment Record*

AFTO Form 252, *Technical Order Publications Change Request*

AFTO Form 345, *Aerospace Vehicle Transfer Inspection Checklist and Certification*

AFTO Form 349, *Maintenance Data Collection Record*

AFTO Form 350, *Reparable Item Processing Tag*

AFTO Form 492, *Maintenance Warning Tag*

AFTO Form 726, *Transient Aircraft Service Record*

AFTO Form 781, *Arms Aircrew/Mission Flight Data Document*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

(**Added-AETC**) AFTO Form 781B, *Communication Security Equipment Record*

AFTO Form 781C, *Avionics Configuration and Load Status Document*

AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance*

AFTO Form 781J, *Aerospace Vehicle - Engine Flight Document*

AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*

DD Form 250, *Material Inspection and Receiving Report*

DD Form 1348-6, *DoD Single Line Item Requisition System Document*

DD Form 1610, *Request and Authorization for TDY Travel of DoD Personnel*

(**Added-AETC**) DD Form 2026, *Oil Analysis Request*

DD Form 2861, *Cross-Reference*

FAA Form 7460-1, *Notice of Proposed Construction or Alteration*

Abbreviations and Acronyms

ABDR—Aircraft Battle Damage Repair

AC—Aircraft Commander

ACC—Air Combat Command

(Added-AETC) ACES II—Advance Concept Ejection System II

(Added-AETC) ACO—Administrative Contracting Officer

ACR—Authorization Change Requests

AD—Airworthiness Directives

(Added-AETC) ADCC—Assistant Dedicated Crew Chief

ADR—Aircraft Document Review

(Added-AETC) ADR—Ammunition Distribution Request/Aircraft Document Review

AETC—Air Education and Training Command

(Added-AETC) AFCPCO—Air Force Corrosion Prevention and Control Office

AFCSM—Air Force Computer Systems Manual

(Added-AETC) AFCSM—Air Force Computer System Manual

AFETS—Air Force Engineering and Technical Service

AFI—Air Force Instruction

AFLCMC—Air Force Life Cycle Management Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFR—Air Force Reserve Command

AFREP—Air Force Repair and Enhancement Program

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Specialty Code

AFSCI—Air Force Sustainment Center Instruction

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

(Added-AETC) AI—Aircrew Instructor

(Added-AETC) AIR—Aviation In-plane Reimbursement

AIRCAT—Automated Inspection, Repair, Corrosion, and Aircraft Tracking

ALC—Air Logistics Complex

ALIS—Autonomic Logistics Information System

AMC—Air Mobility Command

(Added-AETC) AMD—Average Mission Duration

AME—Alternate Mission Equipment

(Added-AETC) AMIC—Acquisition Management and Integration Center

AMU—Aircraft Maintenance Unit

AMS—Air Mobility Squadron

AMXS—Aircraft Maintenance Squadron

ANG—Air National Guard

APU—Auxiliary Power Unit

AQL—Acceptable Quality Level

ARC—Air Reserve Component

AS—Allowance Standard

ASC—Aircraft Service Changes

(Added-AETC) ASD—Average Sortie Duration

ASIP—Aircraft Structural Integrity Program

ASM—Aircraft Structural Maintenance

(Added-AETC) ATO—Air Tasking Order

AVDO—Aerospace Vehicle Distribution Office

(Added-AETC) AWD—Awaiting Depot

AWM—Awaiting Maintenance

AWP—Awaiting Parts

(Added-AETC) BAI—Backup Aircraft Inventory

BCS—Bench Check Serviceable

(Added-AETC) BPO—Basic Post Flight

BSL—Basic Systems Listing

BSP—Base Support Plan

CA—Cannibalization Authority

CAAP—COMAFFOR Apportionment and Allocation Process

CA/CRL—Custodian Authorization/Custody Receipt Listing

CAD/PAD—Cartridge Actuated Device/Propellant Actuated Device

CAI—Critical Application Items

CANN—Cannibalization

(Added-AETC) CAP—Corrective Action Plan

(Added-AETC) CAR—Corrective Action Request

(Added-AETC) CASS—Centralized Aircraft Support System

CAT I—Category I

CAT II—Category II

CB—Customer Bulletins

CBM+—Condition-Based Maintenance Plus

CBRNE—Chemical, Biological, Radiological, Nuclear, and high-yield Explosive

CBU—Cluster Bomb Unit

(Added-AETC) CCE—Customer Comment/Complaint Evaluations

(Added-AETC) C-COR—Chief Contracting Officer Representative

CCY—Calculated Cycles

CD—Deputy Commander (MXG/CD)

CDA—Commercial Derivative Aircraft

CDB—Central Database

CDDAR—Crashed, Damaged or Disabled Aircraft Recovery

CE—Civil Engineer

CEMS—Comprehensive Engine Management System

CETS—Contractor Engineering and Technical Services

CFETP—Career Field Education and Training Plan

CFT—Contract Field Team

(Added-AETC) CI—Compliance Inspection

(Added-AETC) CLS—Contractor Logistics Support

CM—Configuration Management

CMD—Commercial Mobile Device

(Added-AETC) CMRS—Conventional Munitions Restriction and Suspension

CMS—Component Maintenance Squadron

CND—Can Not Duplicate

(Added-AETC) CO—Contracting Officer

COMAFFOR—Commander, Air Force Forces

(Added-AETC) COMBS—Contractor Operated and Maintained Base Supply

Cont/Exp—Contingency/Expeditionary

COMSEC—Communications Security

CONUS—Continental United States

(Added-AETC) COR—Contracting Officer Representative

(Added-AETC) CORT—Contracting Officer Representative Tracking

(Added-AETC) CPAB—Corrosion Prevention Advisory Board

(Added-AETC) CPAR—Contractor Performance Assessment Rating

CPINS—Computer Program Identification Numbering System

CRF—Centralized Repair Facility

CSI—Critical Safety Items

(Added-AETC) CSO—Combat Systems Officer

(Added-AETC) CT—Continuation Training

CTK—Composite Tool Kit

CCW—Counter Chemical Warfare

DAFI—Department of Air Force Instruction

DBM—Database Manager

DCA—Design Control Activity

DCC—Dedicated Crew Chief

DCMA—Defense Contract Management Agency

DDR—Daily Demand Rate

DEV—Deviation

DFT—Depot Field Team

DIAMONDS—Defense Integration and Management of Nuclear Data Services

DIFM—Due-in From Maintenance

DISA—Defense Information System Agency

DIT—Data Integrity Team

DLA—Defense Logistics Agency

(Added-AETC) DLM—Depot Level Maintenance

DMS—Decentralized Materiel Support

D23—Repair Cycle Asset Management Listing

(Added-AETC) DNIF—Duty Not Involving Flying

DOC—Designed Operational Capability

DoD—Department of Defense

DoDI—Department of Defense Instruction

DoDD—Department of Defense Directive

DOI—Date of Installation

DOM—Date of Manufacture / Director of Maintenance

DOP—Dropped Object Prevention / Director of Propulsion

DR—Deficiency Report

DLADS—Defense Logistics Agency Disposition Service

DRU—Direct Report Unit

DSV—Detected Safety Violations

(Added-AETC) DV—Distinguished Visitor

(Added-AETC) DVR—Document Validation Report

(Added-AETC) EMS—Engine Management System

(Added-AETC) ENJJPT—Euro-NATO Joint Jet Pilot Training

(Added-AETC) ERCC—Engine Running Crew Change

(Added-AETC) ERRC—Engine Regional Repair Center/Expendability, Recoverability, Reparability Code

eTools—Electronic Tools

E&E—Electrical & Environmental

EAWP—Engine Automated Work Package

ECM—Electronic Countermeasures

ED—Incapacitated

EHM+—Engine Health Management

EHR—Event History Recorder

E&I—Evaluation and Inspection

EID—Event Identification Description / Equipment Identification Designator

EM—Engine Management/Emergency Management

EMS—Equipment Maintenance Squadron

EMXG/CC—Expeditionary Maintenance Group Commander

ENMCS—Engine Not Mission Capable for Supply

EOD—Explosive Ordnance Disposal

EOR—End of Runway

EOT—Engine Operating Time

EPE—Evaluator Proficiency Evaluation

ER—Exceptional Release

ERRC—Expendability, Recoverability, Reparability Code

ES—Equipment Specialist

ESOH—Environment Safety and Occupational Health

ESOHMS—Environment, Safety, and Occupational Health Management System

ESP—Expeditionary Site Plan

ESS—Environmental Stress Screening

ETIC—Estimated Time in Commission

ETIMS—Enhanced Technical Information Management System

ET&D—Engine Trending and Diagnostics

ETS—Engineering and Technical Services/Engine Test Stand

EW—Electronic Warfare

EWS—Electronic Warfare System

EX—Exercises/Contingencies

FAA—Federal Aviation Administration

(Added-AETC) FAD—Force Activity Designator

FAR—Federal Acquisition Regulation

(Added-AETC) FAST—Failure Analysis Service Technology

(Added-AETC) FBF—Fighter/Bomber Fundamentals

FCC—Flying Crew Chief

FCF—Functional Check Flight

FHP—Flying Hour Program

FMxC2—Field Maintenance Command and Control

FO—Foreign Object

FOA—Field Operating Unit

FOD—Foreign Object Damage

FOM—Facilitate Other Maintenance

FOUO—For Official Use Only

FSL—Full Systems Listing

FSR—Field Service Representatives

FY—Fiscal Year

(Added-AETC) GA—Ground Abort

GBU—Guided Bomb Unit

GEOLOC—Geographical Location

(Added-AETC) GGFR—Ground Government Flight Representative

GITA—Ground Instructional Trainer Aircraft

GOX—Gaseous Oxygen

GP—Group

(Added-AETC) GPC—Government Purchase Card

GSU—Geographically Separated Units

HAF—Headquarters, US Air Force

HAZMAT—Hazardous Material

HF—High Frequency

HHQ—Higher Headquarters

HPO—Hourly Post-flight

HPT—High Pressure Turbine

HQ—Headquarters

HSC—Home Station Check

IAW—In Accordance With

ID—Identification / Integrated Defense

I-Deck—Initialization Deck

IETM—Interactive Electronic Technical Manuals

IFCS—Instrument and Flight Control Systems

IFE—In-Flight Emergency

(Added-AETC) IFF—Introduction to Fighter Fundamentals

IFR—In Flight Refueling

ILS-S—Integrated Logistics Systems-Supply

IMDS—Integrated Maintenance Data System

(Added-AETC) IMI—Interactive Multimedia Instruction

IMIS—Integrated Maintenance Information System

IP—Instructor Pilot

(Added-AETC) IP—In-progress

IPCOT—In-Place Consecutive Overseas Tour

IPI—In-Process Inspection

ISO—Isochronal Inspection

I/UA—Immediate and Urgent Action

ISU/DOR—Issue/Due-Out Release

JCN—Job Control Number

JDD—Job Data Documentation

JDRS—Joint Deficiency Reporting System

JEDMICS—Joint Engineering Data Management Information and Control System

JEIM—Jet Engine Intermediate Maintenance

JML—Job Standard Master Listing

JOAP—Joint Oil Analysis Program

JST—Job Standard

KTL—Key Task List

LAN—Local Area Network

LCN—Logistics Control Number

LEAP—Logistics Evaluation Assurance Program

LM—Limited-use Munition

LME—Locally Manufactured Equipment

LMR—Land Mobile Radio

LO—Low Observable

LOX—Liquid Oxygen

LPT—Low Pressure Turbine

LRS—Logistics Readiness Squadron

LRU—Line Replaceable Unit

LSC—Load Standardization Crew

LV—Emergency Leave

(Added-AETC) MA—Maintenance Authority

MAJCOM—Major Command

(Added-AETC) MASO—Munitions Accountability System Officer

MC—Mission Capable

(Added-AETC) MCD—Magnetic Chip Detector

MDF—Mission Data File

MDS—Mission Design Series

MEL—Minimum Equipment Level

MESL—Minimum Essential Subsystems List

MFG—Munitions Family Group

MFM—MAJCOM Functional Manager

(Added-AETC) MFT—Multi-Functional Team

MGN—Mission Generation Networks

MI—Management Inspection

MICAP—Mission Impaired Capability Awaiting Parts

MIL—Master Inventory List

MILSPEC—Military Specification

MIL-STD—Military Standard

MIS—Maintenance Information Systems

MMA—Maintenance Management Analysis

MMHE—Munitions Materiel Handling Equipment

MOA—Memorandum of Agreement

MOC—Maintenance Operations Center

MOU—Memorandum of Understanding

MPS—Military Personnel Section

(Added-AETC) MRD—Maintenance Requirements Director

MRPL—Minimum Required Proficiency Load

MRSP—Mobility Readiness Spares Package

(Added-AETC) MRT—Maintenance Recovery Team

MSA—Munitions Storage Area

MSE—Maintenance Scheduling Effectiveness

MSEP—Maintenance Standardization & Evaluation Program

MSG—Mission Support Group

MT—Maintenance Training

MSM—DS Maintenance Scheduling Module

MUNS—Munitions Squadron

MX—Maintenance

MXG—Maintenance Group

MXG/CC—Maintenance Group Commander

MXG/CD—Maintenance Group Deputy Commander

MXO—Maintenance Operations

MXS—Maintenance Squadron

MX SUPT—Maintenance Superintendent

NAF—Numbered Air Force

NATO—North Atlantic Treaty Organization

NCE—Nuclear Certified Equipment

NCOIC—Non-Commissioned Officer in Charge

NDI—Nondestructive Inspection

NIE—Normally Installed Equipment

NLT—Not Later Than

NMC—Non Mission Capable

NPA—Non-Powered AGE

NORAD—North American Aerospace Defense Command

NRTS—Not Repairable This Station

NSN—National Stock Number

NSS—Noise Suppression System

NWRM—Nuclear Weapons-Related Materiel

(Added-AETC) O&B—Out and Back

O&M—Operations and Maintenance

OAP—Oil Analysis Program

OBIGGS—On-Board Inert Gas Generating Systems

OBOGS—On-Board Oxygen Generating Systems

OCF—Operational Check Flight

OCONUS—Outside Continental U.S.

(Added-AETC) OEM—Original Equipment Manufacturer

OFP—Operations Flight Program

OG—Operations Group

G/CC—Operations Group Commander

OI—Operating Instruction

OIC—Operations-in-Charge

OJT—On-the-Job Training

OPLAN—Operational Plan

OPR—Office of Primary Responsibility

ORE—Operational Readiness Exercises

OS—Operational Squadron

(Added-AETC) OS—Operations Squadron

(Added-AETC) OSHA—Occupational Safety and Health Administration

OSS—Operations Support Squadron

OSS&E—Operational Safety Suitability and Effectiveness

(Added-AETC) OT—Other

OTI—One Time Inspection

OWC—Owning Work Center

P&R—Programs and Resources

(Added-AETC) PA—Programmed Allocation

PAA—Primary Aerospace Vehicle (Aircraft) Authorized

PACAF—Pacific Air Forces

PAFSC—Primary AFSC

PAI—Primary Aerospace Vehicle (Aircraft) Inventory

PAS—Protective Aircraft Shelter / Personnel Assignment Symbol (Code)

PBR—Percent of Base Repair

(Added-AETC) PCO—Procurement Contracting Officer

PCS—Permanent Change of Station

PDM—Programmed Depot Maintenance

PE—Personnel Evaluation/Periodic Inspection

PED—Portable Electronic Device

(Added-AETC) PFT—Programmed Flying Training

PH—Phase

PIC—Purpose Identifier Code / Pilot in Command

PIM—Product Improvement Manager

PIP—Product Improvement Program

PIT—Platform Information Technology

(Added-AETC) PIT—Pilot Instructor Training

(Added-AETC) PIWG—Product Improvement Working Group

PM—Primary Munition/Program Manager

(Added-AETC) PM—Program Management/Program Manager

PMA—Portable Maintenance Aids

PMC—Partially Mission Capable

PME—Precision Measurement Equipment

(Added-AETC) PME—Program Management Evaluation

PMEL—Precision Measurement Equipment Laboratory

PMO—Program Management Office

PO—Program Office

POC—Point of Contact

PPE—Personal Protective Equipment

(Added-AETC) PRA—Planning Requirement

PRP—Personnel Reliability Program

PRS—Performance Requirements Statement

PS&D—Plans, Scheduling, and Documentation

PWS—Performance Work Statement

QA—Quality Assurance

(Added-AETC) QAPC—Quality Assurance Program Coordinator

QASP—Quality Assurance Surveillance Plan

(Added-AETC) QC—Quality Control

QE—Quarterly Evaluation

QEC—Quick Engine Change

(Added-AETC) QMS—Quality Management System

(Added-AETC) QPD—Qualified Product Database

(Added-AETC) QPL—Qualified Product List

QRL—Quick Reference List

QVI—Quality Verification Inspections

RAMPOD—Reliability, Availability, Maintainability for Pods

RC—Recommended Change

(Added-AETC) RDO—Re-distribution Order

RegAF—Regular Air Force

REMIS—Reliability and Maintainability Information System

RIL—Routine Inspection List

RN—Repair Network

(Added-AETC) RNEP—Repair Network Enhancement Program

RNM—Repair Network Manager

RPA—Remotely Piloted Aircraft

(Added-AETC) RPM—Revolutions Per Minute

(Added-AETC) RTSC—Retained Task Service Center

SB—Service Bulletins

SCR—Special Certification Roster

SDAP—Special Duty Assignment Pay

SE—Support Equipment

SEI—Special Experience Identifier

(Added-AETC) SEMPL—System Engineered Maintenance Planning and Logistics

SI—Special Inspection

SIPRNET—Secret Internet Protocol Router Network

SM—Support Munitions

SME—Subject Matter Expert

SMR—Source of Maintenance and Recoverability

SNCO—Senior Non-Commissioned Officer

SOW—Statement of Work

(Added-AETC) SPO—System Program Office

SPRAM—Special Purpose Recoverable Authorized Maintenance

SQ—Squadron

SQ/CC—Squadron Commander

SRAN—Stock Record Account Number

SRU—Shop Replaceable Unit

SEL—Senior Enlisted Leader (Enlisted Duties)

(Added-AETC) SS—Service Summary

TA—Transient Alert

TAA—Training Aid Aircraft

TAC—Total Accumulated Cycles

TBA—Training Business Area

TCC—Transaction Condition Code

TCI—Time Change Item

TCTO—Time Compliance Technical Order

TD—Training Detachment

(Added-AETC) TDI—Time Distribution Index

TDV—Technical Data Violation

TDY—Temporary Duty

TFI—Total Force Integration

(Added-AETC) TI—Technical Inspection

(Added-AETC) TICMS—Theater Integrated Combat Munitions System

TMDE—Test Measurement and Diagnostic Equipment

TMS—Type Model Series

TNB—Tail Number Bin

TO—Technical Order

TODA—Technical Order Distribution Account

TODO—Technical Order Distribution Office

(Added-AETC) TRG—Training Group

(Added-AETC) TRIC—Transaction Identification Code

(Added-AETC) TRW—Training Wing

(Added-AETC) TSR—Target Serviceable Requirement

TTML—Test/Training Munitions List

TTP—Tactics, Techniques & Procedures

UCML—Unit Committed Munitions List

UCR—Unsatisfactory Condition Report

UEM—Unit Engine Manager

UFC—Unified Facilities Criteria

UHF—Ultra High Frequency

UII—Unique Item Identifier

(Added-AETC) UJT—Urgency Justification Code

UMD—Unit Manpower Document

UPMR—Unit Personnel Management Roster

(Added-AETC) UPT—Undergraduate Pilot Training

USAF—United States Air Force

(Added-AETC) USAFA—United States Air Force Academy

USAFE—United States Air Forces in Europe

UTC—Unit Type Code

UTE—Utilization (rate)

UTM—Unit Training Manager

(Added-AETC) VDCL—Vibration Debrief Checklist

VHF—Very High Frequency

(Added-AETC) VPMO—Vibration Program Management Office

W&B—Weight and Balance

WASP—Web Applications Software Product

(Added-AETC) WAWF—Wide Area Workflow

WCE—Work Center Event

WG—Wing

WG/CC—Wing Commander

WG/CD—Vice Wing Commander

WJQS—Work Center Job Qualification Standard

WLCMT—Weapons Load Crew Management Tool

WLCTP—Weapons Load Crew Training Program

WLT—Weapons Load Training

WRE—War Readiness Engine

WRM—War Reserve Materiel

WS—Weapons Standardization

WSM—Weapon System Manager

TQC—Weapons Task Qualification Crew

WTQM—Weapons Task Qualification Training Manager

WWID—Worldwide Identification (code for TCMax®)

WWM—Wing Weapons Manager

WX—Weather

WUC—Work Unit Code

(Added-AETC) XC—Cross Country

Office Symbols

(Added-AETC) 19 AF/A3—19 AF Operations Directorate

(Added-AETC) 19 AF/A3 R&A—19 AF Resource and Analysis

(Added-AETC) 19 AF/A3F—19 AF Undergraduate Formal Training Division

(Added-AETC) 19 AF/A4—19 AF Logistics Directorate

(Added-AETC) 19 AF/A4D—19 AF Aircraft Maintenance Branch

(Added-AETC) 19 AF/A4M—19 AF Systems Support Branch

(Added-AETC) 19 AF/A4MP—19 AF Propulsion Systems Branch

(Added-AETC) 19 AF/A4MS—19 AF Aerospace Systems Branch

(Added-AETC) 19 AF/A4MW—19 AF Munitions and Weapons Branch

(Added-AETC) 19 AF/A4P—19 AF Maintenance Management Branch

(Added-AETC) 19 AF/A4PA—19 AF Maintenance Analysis Branch

(Added-AETC) 19 AF/A4PP—19 AF Maintenance Policy and Procedures Branch

(Added-AETC) 19 AF/A4PR—19 AF Maintenance Resource Branch

(Added-AETC) 19 AF/A4R—19 AF Logistics Readiness Division

(Added-AETC) 19 AF/A4RP—19 AF Aircraft Maintenance Contracts Branch

(Added-AETC) 19 AF/DO—19 AF Director of Operations

(Added-AETC) AF/A1CM—Headquarters Air Force, Compensation and Workforce Management

(Added-AETC) HQ AETC/A3/6—HQ AETC Operations and Communications Directorate

(Added-AETC) HQ AETC/A4—HQ AETC Directorate of Logistics, Engineering, Force Protection

(Added-AETC) HQ AETC/A4P—HQ AETC Resource Integration Division

(Added-AETC) HQ AETC/A4PI—HQ AETC Information Systems Branch

(Added-AETC) HQ AETC/A5RF—HQ AETC A5 Flying Requirements Branch

(Added-AETC) HQ AETC/FM—HQ AETC Finance

Terms

(Added-AETC) "T" Designated Aircraft—A term used to describe AETC-assigned aircraft that are designated as trainers; that is, all MDSs of the T-1, T-6, and T-38 aircraft.

(Added-AETC) Additions—Sorties or missions or aircraft flown, but not printed, on the weekly utilization and maintenance schedule for a given day.

(Added-AETC) Adjustment—A formally coordinated change to a unit's annual FHP. An adjustment changes the total annual allocation and usually results in a reflow.

Aircraft and Equipment Impoundment—Isolation of an aircraft or equipment due to an unknown malfunction or condition making it unsafe for use or flight.

Aircraft Purpose Identifier Codes (PIC)—specified in DAFI 21-103, PIC are applied to assigned aerospace vehicles to facilitate standardization of reporting. Examples of PIC are: CC=Combat, BQ=major maintenance awaiting AFMC decision or action; DJ=awaiting depot level maintenance work. Refer to DAFI 21-103 for a listing of all specific PIC.

Air Reserve Component—The Air National Guard and Air Force Reserve together form the ARC.

Allowance Standard (AS)—Authorized document that identifies the amount and type of equipment for an organization.

Alternate Mission Equipment (AME)—Equipment identified to a higher end-item, not listed in the table of allowance. Normally, -21 equipment.

(Added-AETC) Assist—May perform all or parts of the task, but must be closely supervised by certified personnel.

(Added-AETC) Attrition (aircraft)—Excess to PAI requirements procured to ensure aircraft fleet size remains the same, both at the beginning and end of the life cycle. No operating resources are allocated for these aircraft in the defense budget.

(Added-AETC) Attrition (sorties or missions)—Losses expected based on historical data. Sorties or missions added by maintenance scheduling to a unit's sortie or mission requirement to

allow for expected losses due to maintenance, operations, supply, air traffic control, sympathy, higher headquarters, other cancels, and weather cancels. Attrition sorties or missions are not substitutes for capability shortfalls; they are added to the contract to ensure mission goals are met.

(Added-AETC) Attrition Rate (hours, sorties, or missions)—Percent of scheduled hours, sorties or missions that are cancelled (log zero time) for any reason (operations, maintenance, weather, other).

Automated Inspection, Repair, Corrosion, and Aircraft Tracking (AIRCAT)—is the Individual Aircraft Tracking Program (IATP) of record for the C-130 as mandated by the USAF Aircraft Structural Integrity Program (ASIP). This effort includes development and maintenance of an extensive Oracle database and a wide variety of both client, server, and web-based applications to provide data entry, reporting, and analysis.

(Added-AETC) Average Daily Sortie Rate—The number of sorties or missions planned for that month from the annual plan divided by the number of O&M days in that month.

(Added-AETC) Average Mission Duration (AMD)—The average time flown permission by type of aircraft, determined by dividing total hours flown by total missions flown. HQ AETC/A3 establishes the annual planning AMD. The AMD is not used as a flying objective.

(Added-AETC) Average Sortie Duration (ASD)—The average time flown per sortie by type of aircraft, determined by dividing total hours flown by total sorties flown. HQ AETC/A3 establishes the annual planning ASD. The ASD is not used as a flying objective.

Awaiting Maintenance (AWM)—Designation for a deferred discrepancy on an aircraft awaiting maintenance.

Awaiting Parts (AWP)—Designation for a deferred discrepancy on an aircraft awaiting parts.

(Added-AETC) Backup Aircraft Inventory (BAI)—Aircraft over and above the PAI to permit scheduled and unscheduled depot-level maintenance, modifications, inspections, and repair without a reduction of aircraft for the operation tasking. No operating resources are allocated for these aircraft in the defense budget.

Bench Stocks—Stores of expendability, recoverability, reparability coded (ERRC) XB3 items kept on-hand in a work center to enhance maintenance productivity.

(Added-AETC) Cancellation—A scheduled aircraft or sortie that is not flown for any reason other than a ground abort.

Cannibalization—Authorized removals of a specific assembly, subassembly, or part from one weapons system, system, support system, or equipment end-item for installation on another end-item to meet priority mission requirements with an obligation to replace the removed item.

Centralized Repair Facility—A facility that performs repairs for a specified region or bases.

(Added-AETC) Certification—A documented formal review of an individual's training and experience with demonstration of adequate task proficiency.

Certified Load Crew Member—A load crew member trained and certified by position according to **Chapter 10**.

(Added-AETC) Civilian Equivalent—Any civilian (DoD or contractor) who occupies an egress duty position and has completed all egress training as defined by DAFMAN 36-2100, *Military*

Utilization and Classification, this DAFI, and the current 2A6X3 Career Field Education and Training Plan. A civilian who has completed appropriate egress training but does not occupy an egress duty position is an augmentee.

Classified Processing Area (CPA)—Areas identified by the unit which have had an Emission Security assessment and have been approved by the by the wing Information Assurance office to be utilized to discuss or process classified information IAW AFI 16-1404.

Code 1, Code 2, Code 3, Code 4, Code 5—Landing status codes used by aircrew to inform maintenance of their inbound aircraft's condition. A Code 1 aircraft has no additional discrepancies other than those it had when it last departed; a code 2 aircraft has minor discrepancies, but is capable of further mission assignments; a code 3 aircraft has major discrepancies in mission-essential equipment that may require repair or replacement prior to further mission tasking; a code 4 indicates suspected or known nuclear, biological, or chemical contamination; and a code 5 indicates battle damage. Codes 4 and 5 are entered into the MIS as code 8.

Commercial Derivative Aircraft (CDA)—Any fixed or rotary-wing aircraft procured as a commercial Type Certified off-the-shelf aircraft, and whose serial number is listed on an FAA-approved Type Certified Data Sheet.

Commodity Time Compliance Technical Order—TCTO concerning a designated item, subsystem, or system that is not identified as a weapon or military system.

Composite Tool Kit (CTK)—A controlled area or container used to store tools or equipment and maintain order, positive control, and ease of inventory. CTKs are assembled as a kit and designed to provide quick, easy visual inventory and accountability of all tools and equipment. CTKs may be in the form of a toolbox, a shadow board, shelves, system of drawers (Stanley Vidmar®, Lista®), cabinets, or other similar areas or containers. The CTK contains tools and equipment necessary to accomplish maintenance tasks, troubleshooting, and repair.

Condition—Based Maintenance Plus—A set of maintenance processes and capabilities derived from real-time assessment of weapon system condition obtained from embedded sensors, external tests and measurements using portable equipment. The goal of CBM+ is to perform maintenance only when internal and/or external sensors indicate the need instead of performing maintenance on a periodic basis. **Consumable Items**—Also known as "Consumption" or "Expendable" Items designated XB3. Items which are consumed in use, or which lose their original identity during periods of use by incorporation into or attachments upon another assembly. Issued on an as required basis and consist of such supplies as maintenance parts or office supplies.

Contracting Officer Representative (COR)—A COR is an individual designated IAW Department of Defense Federal Acquisition Regulation Supplement subsection 201.602-2 and authorized in writing by the contracting officer to perform specific technical or administrative functions.

Crashed, Damaged or Disabled Aircraft Recovery (CDDAR)—The ability to move damaged or disabled aircraft using specialized equipment.

Critical Application Item (CAI)—An item that is essential to weapon system performance or operation, or the preservation of life or safety of operating personnel, as determined by the military

services. The subset of CAI whose failure could have catastrophic or critical safety consequences is called CSIs. Refer to **Attachment 7**.

Critical Safety Item (CSI)—A part, assembly, installation equipment, launch equipment, recovery equipment, or support equipment for an aircraft or aviation weapons system that contains a characteristic any failure, malfunction, or absence of which could cause a catastrophic or critical failure resulting in the loss or serious damage to the aircraft or weapons system, an unacceptable risk of personal injury or loss of life, or an uncommanded engine shutdown that jeopardizes safety. Damage is considered serious or substantial when sufficient to cause a 'Class A' mishap. The determining factor in CSIs is the consequence of failure, not the probability that the failure or consequence may occur. For the purpose of this instruction "Critical Safety Item", "Flight Safety Critical Aircraft Part", "Flight Safety Part", "Safety of Flight Item", and similar terms are synonymous.

(Added-AETC) Cross-country (XC) Mission—A scheduled mission planned to remain overnight at other than home station or auxiliary field.

Cross-tell—Cross-tells are used to highlight trends, benchmarks or safety conditions relating to maintenance equipment, personnel, training, or processes. A cross-tell is initiated to assist other maintenance or logistics personnel with similar equipment to do their jobs more safely and/or efficiently. Typically, a cross-tell will be initiated when a condition or trend is discovered regarding but not limited to, a weapon system or common components that should be shared with other users or potential users. This information should be transmitted using signed and encrypted e-mail to ensure widest dissemination and ensure it is brought to the attention of unit commanders in order to prevent or mitigate mishaps, injury or damage to AF personnel, equipment or property. Typically, cross-tells will provide relevant background information and history and can include such information as NSNs, part numbers, specific location of problem areas.

Customer Wait Time—Customer Wait Time for LRUs is the total elapsed time between the issuance of a customer order and satisfaction of that order, regardless of source (immediate issues or backorders), and can include issues from wholesale and/or retail stocks as well as various other arrangements. Customer Wait Time for end items (engines and pods) includes time for the retrograde and serviceable transportation legs.

Debriefing—Program designed to ensure malfunctions identified by aircrews are properly reported and documented.

Decertification—The removal of certification status from a person for a specific task

Dedicated Crew Chief—DCCs are first-level supervisors in the flightline management structure who manage and supervise all maintenance on their aircraft, and are selected on the basis of initiative, management and leadership ability, and technical knowledge.

Delayed or Deferred Discrepancies—Malfunctions or discrepancies not creating NMC or PMC status that are not immediately corrected.

Delayed Release—Munition or store that fails to eject from an aircraft upon firing of impulse cartridge, but releases sometime afterwards. Release times qualifying “delayed” bombs are outlined in MDS-specific technical orders.

Demand Response Team—Two-member team where one person reads technical order steps and the other person performs the task and responds when each step is completed.

Depot Level Maintenance—Provides the capability to maintain materiel coded for organizational, intermediate and depot levels of maintenance. Includes maintenance requiring the overhaul, upgrading, or rebuilding of parts, assemblies, or subassemblies, and the testing and reclamation of equipment as necessary IAW AFPD 21-1

(Added-AETC) Deviation—A departure from the printed weekly utilization and maintenance schedule.

Dispatchable CTK—CTK issued out and is designed to be used outside the work center.

(Added-AETC) Egress Augmentee—Any non-egress person who performs or assists in egress maintenance tasks.

(Added-AETC) Egress Final—Verification of total system integrity.

(Added-AETC) Egress Maintenance—Any maintenance action that changes the status or condition of an egress system. Excluded is the removal/installation of flight status safety pins and non-integral personnel parachutes and survival kits.

(Added-AETC) Egress Personnel—Military 2A6X3 Aircrew Egress Systems and civilian equivalent personnel.

(Added-AETC) Engine Running Crew Change (ERCC)—A sortie or mission scheduled to relaunch a tanker, airlift, tanker transport trainer, or rotary wing aircraft after a crewmember change without shutting down engines. The purpose of this scheduled event is to make up for partially missed operational training events that occurred on previous sortie or missions. An ERCC does not require any aircraft maintenance support except to meet local safety requirements (marshalling, safety or fire guard, etc.). If an ERCC is not printed in the weekly schedule, but required due to a missed operational training event, it must be added using an AF Form 2407. An ERCC is a scheduled event and is used in sortie scheduling effectiveness computations when printed in future weekly schedules. Do not use an ERCC in sortie scheduling effectiveness computations if the ERCC sortie or mission is added during the same week an objective is lost.

Equipment Custodian—Individual responsible for all in-use equipment at the organizational level whose duties include requisitioning, receiving, and controlling of all equipment assets.

Equipment Identification Designator (EID)—A number assigned to a piece of shop equipment, used to track status and accountability.

Equipment Items—Item authorized in the allowance standard within an organization.

Evaluated Load—A loading task that is assessed according to **Chapter 10**.

Expendability, Recoverability, Reparability, Category (ERRC)—Used to categorize Air Force inventory into various management groupings. The grouping determines the type of management used throughout the logistics cycle, designates the process to be used in computing requirements and are used in the correction and reporting of asset and usage data. (such as, XB3, XF3, XD2, NF2, NF4).

(Added-AETC) Ferry Sorties or Missions—Sorties or missions used to support unscheduled depot input and return, transfer, aircrew transport to recover XC aircraft, etc. When sortie or mission requirements are known prior to printing the flying schedule, include them in the weekly schedule and identify the type in the applicable remarks column. Any deviations that occur are nonchargeable and not used in scheduling effectiveness computations. Use the “other” category to

record sortie or mission cancellations. Ferry sortie or mission requirements generated too late for inclusion in the flying schedule will be documented as a new line and considered flown as scheduled.

(Added-AETC) First-go Sortie—The first scheduled takeoff for a single or group of aircraft.

Flight Chief—NCO responsible to the maintenance officer or superintendent for management, supervision, and training of assigned personnel.

FK or FV—Prefix used to identify the munitions supply account. FV denotes units utilizing the TICMS and FK denotes units utilizing ILS-S or manual records supply point within a munitions'' operations unit for conventional munitions.

Functional Checklist—locally developed checklists used to identify the steps required to react to specific events. Functional checklists are required for use by functional area(s) during actions such as aircraft crash, mass loads, severe weather warning or evacuation, self-inspections.

(Added-AETC) Historical Attrition—Average historical sortie or mission losses for maintenance, operations, weather, other, and supply. Schedulers use historical attrition when completing AETC Forms 206 and 206A. Attrition is always expressed as additions to the sortie or mission or hourly requirement.

Hung Ordnance—Any item attached to the aircraft for the purpose of dropping or firing which has malfunctioned or failed to release. In addition, hung ordnance includes the following items: (1) External fuel tanks after unsuccessful jettison attempt; (2) Remaining ordnance after an inadvertent release; (3) 20/30 mm ammunition after a gun malfunction (no fire, unplanned cease fire, runaway gun, or gun unsafe indication); (4) Any stores determined to be in an unsafe condition.

Inadvertent Release—Uncommanded launch or release of a store or ordnance or launch or release of a store or ordnance other than those selected when a launch or release command was generated (system malfunction); does not include an unintentional release. If commanding a single release, do not consider a double bomb release as an inadvertent release if the releases occur from a practice bomb dispenser.

Individual Tools and Equipment—Tools and equipment that are available for individual sign-out but stored in the tool room in storage bins, cabinets, shelves with every item having an assigned location (example, flashlights, ladders). **Integrated Logistics System-Supply (ILS-S)**—is the overarching term used to describe the system(s) used by base retail materiel management operations. ILS-S is comprised of the Enterprise Solution–Supply. In many cases the term ILS-S is used to identify system related functions and/or references.

(Added-AETC) Ineffective Sortie or Mission—A sortie or mission that did not complete minimum training requirements as determined by the aircrew. Therefore another sortie or mission is required to complete the original training objective. Commanders establish ineffective sortie or mission guidelines in the form of a local OI to ensure consistency in determining refly factors. See refly rate.

(Added-AETC) Integral Part of Egress System—Any component physically attached to the egress system that if improperly installed would cause improper operation of the egress system.

(Added-AETC) Interchange—Printed aircraft tail number swaps made to the daily portion of the weekly schedule.

Intermediate-Level Maintenance—Maintenance consisting of those off-equipment tasks normally performed using the resources of the operating command at an operating location or at a centralized intermediate repair facility.

In Process Inspection (IPI)—Inspection performed during the assembly or reassembly of systems, subsystems, or components with applicable technical orders. An IPI is accomplished and documented by an authorized IPI inspector other than the technician performing the specific step of a task that requires the IPI.

"Knock It Off"—"Knock it Off" empowers all Airman regardless of rank to terminate an operation or situation which they perceive is unsafe or too dangerous. "Knock it Off" includes using a recognizable "audible" (capable of being heard) from anyone in an effort to prevent a potential mishap.

Lead Crews—A load crew certified by the load standardization crew (LSC), which is assigned to WS to assist in conducting the weapons standardization program. **Levels**—Computed and authorized requirements for a quantity of assets.

Loading Standardization Crew (LSC)—A load crew designated by the WWM and the WS superintendent to administer the weapons standardization program. LSC members have certification and decertification authority.

Loading Task—The actions required by one crew member, in a designated position, to accomplish a munitions load.

Local Commander—The group commander with responsibility for maintenance (as applicable to loading technical data).

(Added-AETC) Local Sortie or Mission—Sorties or missions launched at the home station (includes O&B and XC) or a deployed location when launched and recovered by parent maintenance support. Includes deployed sorties or missions flown geographically away from home base or at simulated isolated areas on home base.

Maintenance Capability—Unit's ability to generate and sustain weapon systems to support the mission. It is composed of personnel, capacity (facilities, support equipment, and parts), and weapons systems and is affected by policies and business practices.

Maintenance Cyber Discipline—A focus on daily cyber hygiene activities which requires continuous attention in order to mitigate daily threats by creating a culture of cyber awareness, discipline, and strict compliance.

Maintenance Training—Any proficiency, qualification, or certification tasking required by a technician to perform duties in their primary AFSC.

Master Inventory List (MIL)—Primary source document for inventory of CTKs. The MIL indicates the total number of items in each drawer or section of the tool kit. MIL may be automated.

(Added-AETC) Mission—A primary objective for which an aircraft is operated. It may consist of an increment of one or more sorties. For example, a mission may involve two sorties or, in the case of an inflight refueling, several missions may be accomplished in one sortie (DAFMAN 11-401).

Mission Design Series (MDS)—Alpha and numeric characters denoting primary mission and model of a military weapons system.

Mission Generation Network—The MGN supports all Organizational-level, on-equipment and off-equipment maintenance and is optimized at the Wing-level across the USAF. MGN consists of the cumulative effort required to generate and sustain sortie and mission production to meet assigned mission requirements.

Minimum Required Proficiency Load (MRPL)—Recurring loading of munitions for which a person is certified.

(Added-AETC) Monthly Flying and Maintenance Plan—The combination of planned monthly sorties or missions and maintenance events planned in support of those sorties or missions that will be performed during the effective month. A systematic approach of matching operational requirements to maintenance capabilities.

(Added-AETC) Monthly Sortie or Mission Contract—A written agreement approved by the WG/CC that specifies the number of sorties or missions and hours to be flown during the monthly period designated. The contract does not include attrition sorties or missions nor are attrition sorties or missions substitutes for capability shortfalls. The contract is based on student production, UTE rates, and instructor and maintenance capabilities.

Munitions Decertification—Removal of the certification status of a person that precludes them from loading a specific type of munitions or MFG.

(Added-AETC) Non-egress Personnel—Other-than-egress personnel, such as egress maintenance augmentees, QA inspectors, and COR.

Normally Installed Equipment (NIE)—launchers, and pylons normally installed on an aircraft.

No-Lone Zone—Area where the two-person concept must be enforced because it contains nuclear weapons, nuclear weapons systems, or certified critical components.

Non-Consumable Item—Also referred to as a "non-expendable" or "equipment" item. Durable items that are capable of continuing or repetitive use by an individual or organization.

Non-Release—System malfunction in which a weapon does not release from the delivery system.

Off-Equipment Maintenance—Maintenance tasks that are not or cannot be effectively accomplished on or at the weapon system or end-item of equipment but require the removal of the component to a shop or facility for repair.

(Added-AETC) Off-station Sortie or Mission—All sorties or missions launched from other than the home station and/or auxiliary field not supported by the parent maintenance support.

On-Equipment Maintenance—Maintenance tasks that are or can be effectively performed on or at the weapon system or end-item of equipment.

Operating Stock—The bits and pieces needed to support a maintenance work center that does not meet the criteria of bench stock. It includes reusable items such as dust covers, hydraulic line covers, caps, items leftover from work orders, TCTOs. Items deleted from bench stock that are less than a full Unit of Issue (UI) are not considered operating stock but may be retained as work order residue.

(Added-AETC) Operation and Maintenance (O&M) Days—The number of calendar days in a year, month, or week minus Saturdays, Sundays, and Federal holidays.

Operational Safety, Suitability & Effectiveness (OSS&E)—OSS&E is an outcome of properly applied systems engineering principles, processes, and practices. Well-integrated configuration management and control, deficiency reporting and response, reliability, maintainability, integrity, and other engineering practices ensure that base-lined engineering characteristics of systems and end items are not allowed to degrade as a result of maintenance, repairs, parts substitutions, and similar activities. The PM is responsible for the assurance OSS&E throughout the life cycle of each configuration of each component of each system.

(Added-AETC) Operations Adds—Sorties or missions added by operations to the weekly schedule.

(Added-AETC) Operations Squadron—Synonymous with flying squadron, fighter squadron, training squadron, or airlift squadron.

Organizational Level Maintenance—Maintenance consisting of those on-equipment tasks normally performed using the resources of an operating command at an operating location.

(Added-AETC) Out and Back (O&B) Mission—A mission scheduled to depart and return on the same day, consisting of at least one off-station launch.

PACER WARE—is the unclassified term for an actual change or notification of a deficiency to an Electronic Warfare system.

Personnel Protective Equipment (PPE)—Equipment required to do a job or task in a safe manner.

Plan—A forecasted scheme of sequenced and timed events for accomplishing broad objectives. The plan is the product of annual, quarterly, and monthly planning of scalable operations and maintenance activities necessary to achieve long term mission requirements.

Preload—A complete munition and suspension equipment package ready for loading.

Primary Aerospace Vehicle Authorization (PAA)—The number of aircraft authorized to a unit for performance of its operational mission. The primary authorization forms the basis for the allocation of operating resources to include manpower, support equipment, and flying-hour funds.

Primary Aerospace Vehicle Inventory (PAI)—The aircraft assigned to meet the primary aircraft authorization. Includes PMAI, PTAI, PDAI and POAI.

(Added-AETC) Primary Aircraft Inventory (PAI)—Aircraft assigned to meet the primary aircraft authorization for performance of the operational and support mission to include wing-level maintenance requirements. PAI forms the basis of the allocation of operating resources to include manpower, support equipment, and flying hour funds. For aircraft managed under an Hourly UTE rate: Calculated as annual hours required divided by the programmed annual UTE rate divided by 12 months. For aircraft managed under a Sortie UTE rate: Calculate as annual hours required divided by programmed annual UTE rate divided by 12 months divided by the programmed ASD.

(Added-AETC) Prime Fliers—Number of aircraft committed to the daily schedule excluding spare aircraft, aircraft required for FCFs, and aircraft required for ferry sorties or missions.

Production Superintendent (Pro Super)—Senior NCO responsible for squadron maintenance production. Directs the maintenance repair effort.

Program Manager (PM)—The designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM will be accountable for credible cost, schedule, and performance reporting to the Milestone Decision Authority.

Programmed Depot Maintenance (PDM)—Maintenance activities requiring skills, equipment, or facilities not normally possessed by operating locations.

Project Funds Management Records—a record maintained in the material accounting system to provide for control over that portion of each responsibility center manager operating budget programmed for purchase of expense materiel from the Defense Business Operations Funds stock activity fund. It is used to record available expense authority, current month and fiscal year-to-date sales, sales returns, and due outs for both supplies and expense equipment.

Quality Assurance (QA)—Office or individual who monitors maintenance (organic or contractor) on a daily basis.

Quarterly Evaluation (QE)—Recurring calendar task evaluations required by munitions and weapons personnel.

Quick Reference List (QRL)—Listing of fast moving, high use items required for primary mission aircraft. The basic purpose of the QRL is to provide maintenance personnel with a speedy way to place a demand on the supply system.

Rag—A remnant of cloth purchased in bulk or a standardized, commercial quality, vendor-supplied shop cloth (uniform size and color) or similar material used in general industrial, shop, and flightline operations.

(Added-AETC) Recertification—Revalidation of an individual’s certification.

Reclama—A request to a duly constituted authority to re-consider its decision or its proposed action (see JP 1-02).

(Added-AETC) Reconstitution Reserve—Aircraft currently stored, but planned to return to operation. Commonly referred to as flyable storage aircraft.

Recoverability Code—A one position code assigned to end items and support items to indicate the recoverability intention and the level of maintenance authorized disposition action on unserviceable support items; and for reparable items, it is used to indicate the lowest maintenance level responsible for repair, disposition, or condemnation of the item.

Recurring Discrepancy—A recurring discrepancy is one that occurs on the second through fourth sortie or attempted sortie after corrective action has been taken and the system or sub- system indicates the same malfunction when operated.

(Added-AETC) Recurring Discrepancy—A recurring discrepancy is one that occurs on the second through the fifth sortie or attempted sortie after corrective action has been taken and the system or subsystem indicates the same malfunction when operated.

(Added-AETC) Reflow—A reallocation of program elements (hours, sorties or missions, ASD/AMD, UTE) carried out across the remainder of the month or year that does not change the total annual allocation. Reflows will always accompany a flying hour adjustment. Reflows of execution deviations may or may not be applied to execution models.

(Added-AETC) Refly Rate (hours, sorties, or missions)—Hours, sorties, or missions flown in excess of syllabus requirements, expressed as a percentage. Includes any student sorties or missions that were airborne, but were incomplete or unsatisfactory, required additional training, etc. Only applies to student training sorties or missions. Does not include cancelled hours, sorties, or missions.

Reliability-Centered Maintenance—A logical discipline for developing a scheduled-maintenance program that will realize the inherent reliability levels of complex equipment at minimum cost.

Remote Split Operations—Occurs when the ground control stations, the Unmanned Aerial Vehicle (UAV) launch and recovery functions, and the satellite uplink are geographically separated.

Repair Cycle Asset—Any recoverable item with an expendability, recoverability, reparability code (ERRC) category of XD or XF.

Repair Recommendation—An idea or proposal to repair an item that is not currently repaired or is beyond the capability of the work center. An AFREP initiative is generated when an asset has a demand level of "greater than three" per calendar year. All new AFREP initiatives will be staffed through the applicable organizations.

Repairable—Unserviceable items that can be economically repaired and restored to a serviceable condition.

Repeat Discrepancy—A repeat discrepancy is a pilot reported discrepancy (PRD) occurring on the same system or subsystem on the first sortie or sortie attempt after that PRD has been signed off.

(Added-AETC) Required Sorties or Missions—Number of sorties or missions to be flown to meet wing objectives. These are the numbers of sorties or missions that ensure training and proficiency requirements are met as reflected in the AETC PA. Includes refly sorties or missions. For an hourly UTE rate, required hours, sorties, or missions are the number of hours, sorties, or missions that ensure training and proficiency requirements are met by achieving the annual goal reflected in the AETC PA.

Retrograde—Returning assets (reparable assets) from the field to their source of repair.

(Added-AETC) Safe—Actions necessary to prevent or interrupt complete or partial operation of the egress system.

Schedule—Planned events that result in final review and agreement of how to execute a proposed plan of sequenced and timed events. Results in a binding commitment captured in writing and approved by signature between operations and maintenance to complete activities required to accomplish agreed upon objectives. Refers to the execution phase of weekly and daily operations and maintenance activities.

(Added-AETC) Scheduled Sorties or Missions—The sum of required and attrition sorties or missions.

(Added-AETC) Scheduled Takeoff—The takeoff time printed in the daily portion of the weekly schedule for each sortie sequence number or mission line number. If the sortie sequence number or mission line number takeoff time is changed at the daily scheduling meeting for the next day

and recorded on an AF Form 2407, that time becomes the new scheduled takeoff time. A sortie sequence number or mission line number takeoff time change of ± 15 minutes does not require an AF Form 2407, but it must be agreed to by maintenance and now becomes the new scheduled takeoff time.

SEEK EAGLE—The Air Force certification program for determining safe carriage, employment and jettison limits, safe escape, and ballistics accuracy, when applicable, for all stores in specified loading configurations on USAF aircraft.

SERENE BYTE—is the unclassified term for an exercise change or deficiency notification to an Electronic Warfare system.

Shop CTK—Tool kits (not dispatched) used by work center personnel during a shift, provided a single person is responsible for the tool kit.

Shop Stock—Includes items such as sheet metal, electrical wire, fabric, and metal stock, used and stored within a maintenance work center to facilitate maintenance.

(Added-AETC) Sortie—The definition of a sortie is outlined in DAFMAN 11-401, In addition the following rules apply. A sortie ends when performing a refuel operation (actual or simulated). A series of practice landings (touch and go's) will be debriefed as one sortie or mission. Helicopter sorties with multiple landings and takeoffs will be documented as one sortie (line #) unless stopped based on the definition in DAFMAN 11-401 and this instruction. Multiple helicopter takeoffs and landings involving FCF requirements will be documented as one sortie or mission. Each sortie or mission will be debriefed in the MIS with a unique sortie sequence number or mission line number. **Exceptions:** During training missions that require the uploading or downloading of paratroopers or passengers, the aircraft may be shut down during this operation and once readied for takeoff will be considered an extension of the original sortie or mission. (This does not include crewmembers.) **Exceptions:** AETC rotary wing aircraft on the ground for more than five minutes for the purpose of hot refueling and student crew change, may document these types of continuation sorties using a sortie modifier for sortie continuation.

(Added-AETC) Sortie Modifier (mod)—Sortie Mods do not need to be independently annotated on the weekly schedule. A Sortie Mod does not require its own sortie sequence number, but is an extension to the sortie sequence number to continue the same sortie with the same crew and affords for operational stops, where the engines/APU remain running or no maintenance or servicing is performed.

(Added-AETC) Sortie/Sortie Modifier Start Time—Synonymous with takeoff time. When the aircraft begins to move forward on takeoff or takes off vertically from rest at any point of support. The original time entered on the AF Form 781 will be the source document for this data.

(Added-AETC) Sortie/Sortie Modifier Stop Time—Synonymous with landing time. The original time entered on the AF Form 781 as the landing time will be the source data.

Source Code—Codes assigned to end items and support items to indicate the manner of acquiring items for the maintenance, repair, or overhaul of end items.

Source, Maintenance, Recoverability (SMR) Code—A code assigned to parts and assemblies that provides maintenance activities with repair level responsibilities, support method and disposition instructions. The SMR codes are also input into the supply and maintenance automated

data system. The uniform SMR code is composed of three parts, consisting of a two-position source code, a two-position maintenance code, and one position recoverability code.

(Added-AETC) Spare Aircraft—Aircraft committed to the flying schedule in addition to the prime flyers. Spares are identified on the flying schedule to be used at the discretion of the production supervisor to replace NMC or PMC aircraft when needed. However, spares should be used appropriately and not intentionally held or set aside for the purpose of selective deviation reporting. Other aircraft considered as useable spares are those that have flown in an earlier sortie or mission on the day needed, to include FCF- or OCF-released aircraft and those scheduled for a sortie or mission that has been cancelled or aborted.

Spares—Serviceable assets that are available for future use, and in the logistics pipeline. The term spare carries the assumption that there are already enough assets in the AF inventory to satisfy end item or quantity per aircraft requirements.

Special Certification Roster (SCR)—Management tool that provides supervisors a listing of personnel authorized to perform, evaluate, and inspect critical work.

Special Purpose CTK—Small individually issued tool kits that because of the nature of contents or type of container could preclude shadowing or silhouetting (example, launch kits, recovery kits, cartridge cleaning kits, oxygen servicing kits).

(Added-AETC) Student Sorties or Missions—Sorties or missions necessary to accomplish the current syllabus of instruction.

Subcrew—Two or more certified and/or qualified personnel who may perform specific tasks.

Supply Point—Forward warehouse located within or near the maintenance work center.

Supply Reports—There are many examples of "Supply Reports" used to record supply transactions. The Daily Document Register (D04) provides a means for organizations to review all document numbers processed during the day by the SBSS. The Project Funds Management Records and Organization Cost Center Record Update and Reconciliation (D11) show the current status and internal balance of the Project Funds Management Record by supplies and equipment. The Repair Cycle Asset Management Listing (D23) is used to monitor repair cycle assets and as a management product to monitor the stock position and repair cycle status of repairable (DIFM) assets. It may be produced in several sequences and is provided to the customer daily.

Sub-Pool—A parking area designated by the Airfield Operations Flight that provides authorized pooling of serviceable AGE to enhance close proximity support to using organizations.

(Added-AETC) Support Sorties or Missions—Nonstudent sorties or missions required in support of the mission by DAFMAN 11-401; AFMAN 11-202, Volume 2, *Aircrew Standardization and Evaluation Program;* and the applicable AETC 51-series directives.

(Added-AETC) Sympathy Aborts or Delays—Deviations that occur when a flight of two or more aircraft under the command of a flight leader or instructor pilot are cancelled, aborted, or late due to a cancellation, abort, or delay of one or more of the aircraft in the flight or a supporting flight. Dissimilar air combat tactics delayed by the other aircraft. Cancellations caused by an aircraft's scheduled tanker, receiver, or mission event.

Tactical/Theater Airborne Reconnaissance System (TARS)—is a sensor package offers improved timeliness, reduced support costs, and improved operational capability over film

systems. Once fielded, this system will provide the tactical commander with an organic system capable of responding in Near Real-Time (NRT) (in time) to battlefield requirements.

Tail Number Bins (TNB)—Locations established and controlled to store issued parts awaiting installation and parts removed to FOM. Holding bins are set up by tail number, serial number, or identification number.

Task Assignment List—Functional grouping of procedural steps from applicable -33 series TOs, by crew position, to be accomplished in sequence by each crew member during an operation.

Technical Administrative Function—Function responsible for ordering and posting instructions, processing all orders, enlisted performance ratings, and general administrative tasks for the section.

Technical Data—Information (regardless of the form or method of the recording) of a scientific or technical nature, including computer software documentation. As applied in this publication, it includes information required for the design, development, production, manufacture, assembly, operation, training, testing, repair, maintenance, or modification of defense articles.

Technical Order Distribution Office (TODO)—Function required to maintain records on TOs received and distributed.

Time Compliance Technical Order (TCTO)—Authorized method of directing and providing instructions for modifying equipment and performing or initially establishing one-time inspections.

Tool Storage Facility/Tool Room—A controlled area within a work center designated for storage and issue of tools and equipment.

(Added-AETC) Total Aircraft Inventory (TAI)—Aircraft assigned to operating forces for mission accomplishment. Includes PAI, attrition, BAI, and reconstitution reserve.

Total Asset Visibility—The capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, materiel, and supplies. It also includes the capability to act upon that information to improve overall performance of the Department of Defense's logistic practices.

(Added-AETC) Turnaround Time—The time from takeoff to takeoff for the same aircraft.

Unintentional Release—Store or ordnance launched or released through pilot error.

Unique Item Identifier (UII)—The set of data elements marked on items that are globally unique, unambiguous, and robust enough to ensure data information quality throughout life, and to support multi-faceted business applications and users.

Unit Committed Munitions List (UCML)/Test/Training Munitions List (TTML)—The UCML/TTML is a list of primary munitions (PM), support munitions (SM), and limited-use munitions (LM) necessary to meet unit operational and training requirements.

Unmanned Aerial Vehicle (UAV)—An unmanned aircraft that is either remotely piloted (such as, Predator) or programmed (such as, Global Hawk).

Urgency Justification Code—Two-digit code used to reflect the impact and type of need. The Urgency of Need Designator fills the first position of the Urgency Justification Code. Use of Urgency of Need Designator 1, A and J is restricted and is verified by designated personnel.

(Added-AETC) UTE Rate—The average number of required sorties or missions (or hours) flown (planned or actual) per PAI aircraft for a specific timeframe. HQ AETC/A4 establishes the annual maximum sustainable UTE rate. The monthly UTE rate is calculated as monthly sorties or missions (or hours) flown divided by PAI. The annual UTE rate is calculated as annual sorties or missions (or hours) flown divided by PAI divided by 12 months.

Utilization Rate (UTE Rate)—Average number of sorties or hours flown per primary assigned aircraft per period. Usually, time period is based on a monthly rate.

War Readiness Engine (WRE) Levels—The quantity of net serviceable engines required to support the Air Force war tasking and to sustain operational units' war efforts until pipelines are filled and repair capabilities are available. These engines are to be available to support a weapon system from the start of the war until re-supply (via base, intermediate, CRF or depot repair) is established.

War Reserve Materiel (WRM)—Consists of enterprise managed, dynamically positioned equipment and consumables that contribute to initial operations and provide initial support cross the full range of military operations. It enhances Agile Combat Support capability to reduce the time required to achieve an operational capability and/or produce an operational effect.

Weapons Certification—The act of verifying and documenting a person's ability to load a particular type of aircraft, and munition or MFG within established standards.

Weapons Locally-Manufactured Equipment (LME)—All equipment that measures, tests, or verifies system, subsystem, component, or item integrity. It also includes equipment such as handling dollies, storage racks (except storage shelves), maintenance stands, or transport adapters. It does not include simple adapter cables and plugs constructed as troubleshooting aids to replace pin-to-pin jumper wires specified in TOs.

Weapons Standardization (WS)—Organization comprised of the WWM, a Superintendent, the Load Standardization Crew, an academic instructor, and lead crews.

Weapons Task Qualification—A munitions related task not requiring certification.

Weight and Balance (W&B) Program—Program used in calculating, verifying, updating, and computing weight and balance on a weapon system.

Attachment 2

AIRCRAFT COMMANDER FEEDBACK ON FCC

Figure A2.1. Aircraft Commander Feedback on FCC.

MEMORANDUM FOR <Unit Designation/Office Symbol> *Date*
<Street>
<Base, State, and Zip Code>
FROM: <Aircraft Commander>
<Street>
<Base, State, and Zip Code>
SUBJECT: Aircraft Commander Feedback of the Flying Crew Chief
(FCC) Was the FCC knowledgeable of the aircraft and the systems?
a - Extremely knowledgeable c - Lacks knowledge
b - Sufficient knowledge d - Not observed
Did the FCC know the status of PMC and NMC discrepancies?
a - Always c - Rarely
b - Most of the time d - Never
Did the FCC perform duties willingly and enthusiastically?
a - Always c - Never b
- Sometimes d - Not
Observed
What type of working relationship did the FCC have with the aircrew?
a - Outstanding c - Fair
b - Good d - Poor
Rate the overall maintenance support provided by the FCC:
a - Outstanding c - Fair
b - Good d - Poor
This FCC was:
a - An asset to the FCC program c - Just getting by b - A hard
worker, but needs more experience d - Detriment to the FCC program
Remarks:
POC is <FCC Program Manager's Name, office symbol, duty phone number>.<signed>
Aircraft Commander

Note*:* Please fold and return to the squadron FCC Program Manager upon return to home station.

Attachment 3

QUARTERLY FCC REPORT FORMAT

Figure A3.1. Quarterly FCC Report Format.

MEMORANDUM FOR MAJCOM/A4L *Date*
FROM: <Unit Designation/Office Symbol>
<Street>
<Base and Zip Code>
SUBJECT: <State fiscal quarter (FY20/1)> Quarterly Flying Crew Chief Report (RCS: AF/A4L(Q&A)0011)

IAW AFI 21-101 <unit designations> report is submitted.
Number of C-coded FCC positions on the Unit Manpower Document entitled to be filled. Include approved changes (losses/increases):
Number of people filling C-coded positions:
Number of qualifying missions flown per quarter by C-coded crew chiefs. Include the number of TO directed missions:
Number of qualifying missions flown by personnel without C-coded prefix. Include TO directed missions flown by non-C-coded prefix personnel:
Number of all missions away from home station that required FCCs:
Total number of days TDY for all C-coded crew chiefs on qualifying missions:
Total number of days TDY for all non-C-coded crew chiefs on qualifying missions:
Unit and MAJCOM remarks and overall program assessment. Include remarks to justify vacant positions: FCC Program Manager is <rank, name>, office symbol, DSN number.
<Sign>
Commander, <Unit Designation>

Attachment 4

ANNUAL FCC REPORT

Figure A4.1. Annual FCC Report.

MEMORANDUM FOR MAJCOM/A4L or DOM *Date*

FROM: <Unit designation/Office Symbol>
<Street>
<Base and Zip Code>
SUBJECT:<state fiscal year (FY20)> Annual Flying Crew Chief Report RCS: AF/A4L(Q&A)0011) IAW AFI 21-101<unit designations> report is submitted.
Number of C-coded FCC positions on the Unit Manpower Document entitled to be filled. Include approved changes (losses/increases):
Number of people filling C-coded positions:
Number of qualifying missions flown per quarter by C-coded crew chiefs. Include the number of TO directed missions:
Number of qualifying missions flown by personnel without C-coded prefix. Include TO directed missions flown by non-C-coded prefix personnel:
Number of all missions away from home station that required FCCs:
Total number of days TDY for all C-coded crew chiefs on qualifying missions:
Total number of days TDY for all non-C-coded crew chiefs on qualifying missions:
Unit and MAJCOM remarks and overall program assessment. Include remarks to justify vacant positions: FCC Program Manager is <rank, name>, office symbol, DSN number.
<Sign>
Commander, <Unit Designation>

Attachment 5

FCC SDAP REQUEST

Figure A5.1. FCC SDAP Request.

MEMORANDUM FOR MAJCOM/A4L or DOM *Date*

FROM: <Unit Designation/Office Symbol>
<Street>
<Base and Zip Code>

SUBJECT: Flying Crew Chief (FCC) SDAP Positions <Increase/Decrease> Request

IAW <unit designations> requests <increase or decrease> of <state quantity of positions>. Provide brief justification; include comments about force structure changes, additional mission requirements. FCC Program Manager is <rank, name>, office symbol, DSN number.
<Sign>
Commander, <Unit Designation>

Attachment 6

FOREIGN OBJECT DAMAGE (FOD) REPORT

Figure A6.1. Foreign Object Damage (FOD) Report.

MEMORANDUM FOR *Date*

FROM:<Unit Designation/Office Symbol> <Street> <Base and Zip Code>
SUBJECT: <Foreign Object Report>. FOD program report number (unit, year, and month, followed by sequence number -- example, 301FW-060501).

Type of report: Initial/Formal Update/Final FOD Report
Date and Time of Incident:
Unit and Base of Incident:
Origin of Sortie:
When discovered (Preflight, Postflight, In-Coming, ETS)
Owning Unit, Base and MAJCOM
MDS and Tail Number (N/A for ETS incidents)
Engine Type, Model, Series (TMS):
Engine S/N:
Engine Position (If Applicable):
Time Since Overhaul:
Description of Incident:
Material Failure: (Yes or No)
Tech Data Deficiency: (Yes/No) Preventable/Non-Preventable:
Investigation Findings:
Action Taken to Prevent Recurrence:
Parts Cost: Labor Cost: Total Cost:
Additional Comments (if necessary):

<Sign>
FOD Monitor, <Unit Designation>

Attachment 7

CRITICAL APPLICATION ITEMS & CRITICAL SAFETY ITEMS

A7.1. CRITICAL APPLICATION ITEMS (CAIs). For the purpose of this instruction, it is an item that is essential to weapon system performance or operation, or the operating personnel as determined by AFI 20-106IP, *Management of Aviation Critical Safety Items*.

A7.1.1. Includes flight safety items, life support, critical safety items (CSI), and nuclear hardened items. For systems including radar, avionics, munitions, contact the PO for the system to obtain the CAI designation.

A7.1.2. The management of CAIs (contains unique repair and manufacturing qualifications; material and manufacturing process requirements; and extensive testing requirements after repair) is a complex process. These specified procedures rest with the program manager.

A7.1.3. Other than TO and PO approved repairs, Electronic Warfare (EW) Systems are Critical Application Items and prohibited from consideration under the AFREP program. Performing repairs on EW system components may render the entire EW system degraded. Environmental Stress Screening (ESS) of repaired EW components is mandatory. Many EW components cannot be repaired due to electrical characteristics that are not visible or evident without special test facilities and procedures, none of which are available to field personnel or unqualified contractors.

A7.2. CRITICAL SAFETY ITEMS (CSIs). For the purpose of this instruction, CSIs are items whose failure may cause loss of life, permanent physical disability or major injury, loss of a system, or significant damage to equipment.

A7.2.1. Special attention is placed on CSIs due to potential catastrophic or critical consequences of failure; Public Law 108-136, section 802, *Quality Control in Procurement of Aviation Critical Safety Items and Related Services*, was enacted to address aviation CSIs. The public law addresses three concerns:

A7.2.1.1. The Design Control Activity (DCA) is responsible for processes related to identification and management of CSIs used in procurement, modification, repair, and overhaul of aviation systems. The DCA is defined as the systems command of a military Service responsible for the airworthiness certification of the system in which a CSI is used.

A7.2.1.2. For contracts involving CSIs, DoD is restricted to DCA approved sources.

A7.2.1.3. The law requires that CSI deliveries and services meet the technical and quality requirements established by the DCA.

A7.2.2. ODM 4140.01, *DoD Supply Chain Materiel Management Procedures*, establishes procedures for the management of aviation CSIs. AFI 20-106IP, *Management of Aviation Critical Safety Items*, addresses requirements for identification, acquisition, quality assurance, management, repair, and disposition of aviation CSIs.

Attachment 8 (Added-AETC)

SAMPLE AIRCRAFT AND EQUIPMENT IMPOUNDMENT CHECKLIST

Table A8.1. (Added-AETC) Sample Aircraft and Equipment Impoundment Checklist.

	Impoundment Actions	Status
1	Impoundment authority directs impoundment and assigns an impoundment official.	
2	Enter a Red X in the applicable forms and MIS indicating the reason for impoundment and the name of individual assigned as impoundment official.	
3	Notify the MOC of impoundment decision.	
4	Select a team of highly qualified technicians to determine cause of problem that led to the impoundment.	
5	Control access to impounded aircraft or equipment and determine if an entry control point is required. If entry control point is established, use an access control log. If necessary, establish withdrawal distance for any unsafe aircraft/equipment systems.	
6	Determine necessary controls required for aircraft and equipment records.	
7	Review aircraft or equipment forms and MIS for historical data related to the malfunction causing impoundment.	
8	Ensure maintenance is limited until the cause of impoundment is determined.	
9	Ensure parts removed are carefully controlled.	
10	Once the cause of the malfunction has been determined and corrected, determine if an OCF or FCF is necessary or required.	
11	Ensure QA is intimately involved in the impoundment process and has reviewed all actions taken to correct the malfunction.	
12	QA determines the need for cross-tell based on the potential effect to other aircraft and equipment.	
13	Brief release authority on findings and corrective actions, and request release from impoundment.	
14	Impoundment release authority clears or directs the impoundment be cleared in the applicable aircraft or equipment forms.	

Attachment 9 (Added-AETC)

SAMPLE VIBRATION DEBRIEF CHECKLIST

Table A9.1. (Added-AETC) Sample Vibration Debrief Checklist.

This checklist is only a guide to help in troubleshooting. Please add any other information that will aid in our troubleshooting in the remarks section (item 10). These questions may seem repetitious, but your input is invaluable.

Date: _____

1. Aircraft Tail Number: _____

2. RPM: 100% NR 105% NR WEIGHT _____ lbs CG_____ _____

3. What type of vibration did you feel? LOW MEDIUM HIGH VERTICAL LATERAL

4. Was the vibration constant throughout the flight? YES NO

5. Did the vibration get worse or better at some point during the flight? WORSE BETTER

At what point did the vibration get worse? (turns, refueling, climbs, descents, airspeed changes)

At what flight regime was the vibration most pronounced?

6. Did the vibration get worse with airspeed increase/decrease?

7. Where was the vibration felt? FLIGHT DECK CABIN RAMP STATION NO._____

8. Did you attempt to isolate the vibration? YES NO

What did you do?

9. Discrepancy:

10. Remarks:

Attachment 10 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206C

A10.1. (Added-AETC) General. The MOC function will use AETC Form 206C to record information as events happen. **Note:** A locally developed product may be used in lieu of the AETC Form 206C, but it must include all data listed in this attachment.

A10.2. (Added-AETC) Header Information for AETC Form 206C. The top of the Form summarizes the day's flying. Enter the date, page numbers, and the following header information:

A10.2.1. **(Added-AETC) MDS.** Aircraft MDS.

A10.2.2. **(Added-AETC) Squadron.** OS number designation.

A10.2.3. **(Added-AETC) Sorties Required.** Number of required sorties or missions (from AETC Form 206A, Block 4a).

A10.2.4. **(Added-AETC) Local Sorties Sched.** Number of total student and support local sorties or missions scheduled (from AETC Form 206A, Block 6a). These are the sorties or missions used for sortie or mission effectiveness rates.

A10.2.5. **(Added-AETC) Acft CAP.** Number of prime fliers and spare aircraft (from AETC Form 206A, Block 5a).

A10.2.6. **(Added-AETC) MX Cancel.** Total number of aircraft cancelled from the schedule.

A10.2.7. **(Added-AETC) Ops Add.** Total number of operational sorties or missions added.

A10.2.8. **(Added-AETC) Ops Cancel.** Total number of operational sorties or missions cancelled.

A10.2.9. **(Added-AETC) WX Add.** Total number of weather adds.

A10.2.10. **(Added-AETC) WX Cancel.** Total number of weather cancels.

A10.2.11. **(Added-AETC) Oth Add.** Total number of other adds.

A10.2.12. **(Added-AETC) Oth Cancel.** Total number of other cancels.

A10.2.13. **(Added-AETC) FCF.** Total number of FCFs or OCFs flown for that date.

A10.2.14. **(Added-AETC) Ferry.** Total number of ferry sorties or missions flown for that date.

A10.2.15. **(Added-AETC) Local Sorties.** Total local sorties or missions flown for deviation reporting.

A10.2.16. **(Added-AETC) Total Sorties.** All sorties or missions flown.

A10.3. (Added-AETC) Lower Part of AETC Form 206C. Enter the following in the lower part of the Form:

A10.3.1. **(Added-AETC) Acft Serial No.** Aircraft ID number.

A10.3.2. **(Added-AETC) Spare.** Yes or No.

A10.3.3. **(Added-AETC) Launch No.** The launch period for that aircraft for the day on which the deviation happened. For example, if the aircraft deviated on the first launch of the day, enter a "1."

A10.3.4. **(Added-AETC) Work Unit Code (WUC).** The WUC that most accurately identifies the component that caused the deviation; for example, the lowest possible WUC. Use system or subsystem WUCs (for example, 23000 or 23A00) only on CND actions with how malfunction code 799. Use general support WUCs only for actions such as no fuel, no oxygen, or de-icing. The function responsible for the repair action will provide the WUC to the MOC. If, by the end of the day, the aircraft is still in work and the precise WUC is not known, use the WUC of the component being worked at the time or WUC of the component on order.

A10.3.5. **(Added-AETC) How Mal.** Use the how malfunction code that best describes the nature of the defect. The function responsible for the repair action provides this code. Use how malfunction code 799 when the reported discrepancy is a CND. Enter three zeros (000) if a support general WUC is used.

A10.3.6. **(Added-AETC) Time Out.** The time the aircraft deviated.

A10.3.7. **(Added-AETC) Event ID.** The four-character sequence number.

A10.3.8. **(Added-AETC) Other, Air Abort, Gnd Abort, Add and Cancel.** Mark the applicable blocks to record deviations. A ground abort may also qualify as a maintenance cancellation. Identify deviations as C for chargeable and N for nonchargeable.

A10.3.9. **(Added-AETC) Cause/Comments.** Identify the cause and a brief description of the deviation; for example, MX - LANTIRN will not ID target or OPS - add in excess of cumulative prorated attrition.

A10.3.10. **(Added-AETC) Corrective Action.** Describe the corrective action.

A10.3.11. **(Added-AETC) Subtotal.** Number of chargeable (C) and nonchargeable (N) deviations per row.

A10.3.12. **(Added-AETC) Total.** Summarizes total chargeable (C) and nonchargeable (N) deviations.

Attachment 11 (Added-AETC)

FORMAT FOR NEW PROGRAM SUBMISSION OR PROGRAM CHANGE OR UPDATE (ANNUAL PLAN)

Table A11.1. (Added-AETC) Example Format for New Program Submission or Program Change or Update (Annual Plan).

SUBJECT:	FY(XX) UTE AND FLYING HOUR PROGRAM (UNIT) (MDS)				
1. THE FOLLOWING PROGRAM SUBMISSION OR UPDATE IS FORWARDED FOR YOUR REVIEW AND APPROVAL:					
MONTH	**PAI**	**UTE**	**SORTIES OR MISSION**	**ASD/AMD**	**HRS**
OCT	XX	XX.X	XXXX	X.XX	XXX
NOV	XX	XX.X	XXXX	X.XX	XXX
DEC	XX	XX.X	XXXX	X.XX	XXX
JAN	XX	XX.X	XXXX	X.XX	XXX
FEB	XX	XX.X	XXXX	X.XX	XXX
MAR	XX	XX.X	XXXX	X.XX	XXX
APR	XX	XX.X	XXXX	X.XX	XXX
MAY	XX	XX.X	XXXX	X.XX	XXX
JUN	XX	XX.X	XXXX	X.XX	XXX
JUL	XX	XX.X	XXXX	X.XX	XXX
AUG	XX	XX.X	XXXX	X.XX	XXX
SEP	XX	XX.X	XXXX	X.XX	XXX
OCT	XX	XX.X	XXXX	X.XX	XXX
TOTAL	XX	XX.X	XXXX	X.XX	XXX
2. (Specific justification for changes in total annual hours or cumulative UTE are required. Identify hours, sorties, or missions, removed or added from the fiscal year total, that are awaiting submission for FHP adjustments per **paragraph 14.5.5.5.1**).					
3. POC IS (name), (office symbol) and (DSN).					
Note: Based on the flying operation, use only sorties and ASD or missions and AMD.					

Attachment 12 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206, MONTHLY FLYING COORDINATION

A12.1. (Added-AETC) Cumulative FY UTE Data (Block 1). Fill in the header information as appropriate. **Note:** A locally developed product may be used in lieu of AETC Form 206, but it must include all data listed in this attachment.

A12.1.1. **(Added-AETC) Block 1a.** Planned cumulative data for hours, sorties, or missions and UTE to date.

A12.1.2. **(Added-AETC) Block 1b.** Actual cumulative data for hours, sorties, or missions and UTE flown to date.

A12.1.3. **(Added-AETC) Block 1c.** Variance cumulative data or delta for the fiscal year. The difference between Blocks 1a and 1b.

A12.2. (Added-AETC) Student Event Time-Line Position (Block 2): Note: For students not tracked by time-line position, this data is not required.

A12.2.1. **(Added-AETC) Block 2a.** Current student event time-line position.

A12.2.2. **(Added-AETC) Block 2b.** Projected student event time-line position based on flying the planned month's UTE.

A12.3. (Added-AETC) Attrition Data (Block 3):

A12.3.1. **(Added-AETC) Block 3a.** Planned cumulative attrition (sorties, missions, or hours).

A12.3.2. **(Added-AETC) Block 3b.** Actual cumulative attrition (sorties, missions, or hours) experienced.

A12.3.3. **(Added-AETC) Block 3c.** Variance cumulative attrition or delta (sorties, missions, or hours).

A12.4. (Added-AETC) Historical Attrition (Block 4). The percent of attrition forecast to be lost for weather, maintenance, supply, operations (not sorties or missions lost to aircrew DNIF, ERCC, or ineffective sorties or missions), other, and total.

A12.4.1. **(Added-AETC)** Block 4a. The top lists the weather percent factor, and the bottom lists the prorated weather attrition sorties or missions added each day for the month. Prorated weather attrition sorties or missions are used for managing nonchargeable weather additions. For prorated sorties or missions computation application, local scheduled sorties or missions are divided by 1 minus the weather factor equals weather sorties or missions scheduled. Weather sorties or missions scheduled subtracted from required sorties or missions equals expected weather losses. Then divide expected weather losses by O&M days. These are the daily-prorated weather additions. For example, if Block 5a is 2,102 and the top of Block 4a is 20%, 2,102 / (1-.20) equals 2,628 sorties or missions, 2,628 minus 2,102 equals 526 weather attrition sorties or missions, and 21 O&M days equals 25 sorties or missions added each day for weather.

A12.4.2. **(Added-AETC) Block 4b.** Percentage of projected maintenance losses.

A12.4.3. **(Added-AETC) Block 4c.** Percentage of projected losses for supply.

A12.4.4. **(Added-AETC) Block 4d.** Percentage of projected operational losses.

A12.4.5. **(Added-AETC) Block 4e.** Percentage of projected losses due to factors other than maintenance, supply, or operations.

A12.4.6. **(Added-AETC) Block 4f.** Total attrition factor used for additions to the monthly plan.

A12.5. (Added-AETC) Sortie Data (Block 5). Squadron operations scheduling determines the required sortie or mission variable to use for attrition application (student only or student and support). Compute scheduled sorties or missions as required—sorties or missions divided by 1 minus the attrition factor. For example, if Block 5a is 2,102 and Block 4f is 25%, 2,102 divided (1-.25) equals 2,803 sorties or missions. **Note:** For hourly UTE, compute as hours planned divided by the ASD/AMD.

A12.5.1. **(Added-AETC) Block 5a.** The number of sorties or missions required to meet and/or maintain the cumulative and planned UTE rate for the month planned.

A12.5.2. **(Added-AETC) Block 5b.** The number of sorties or missions the attrition factor will be applied against.

A12.5.3. **(Added-AETC) Block 5c.** Equals Block 5b (1 - Block 4f).

A12.5.4. **(Added-AETC) Block 5d.** The sum of Blocks 5a and 5c.

A12.6. (Added-AETC) Forecast UTE Data (Block 6):

A12.6.1. **(Added-AETC) Block 6a.** Required UTE data. The total number of flying hours required to meet and/or maintain the current annual plan and syllabus. Enter the required hours, sorties, or missions; UTE; and planned ASD/AMD.

A12.6.2. **(Added-AETC) Block 6b.** Scheduled UTE data (requirement plus attrition). Number of flying hours scheduled to be flown. Then enter scheduled hours, sorties or missions, UTE, and ASD/AMD.

A12.7. (Added-AETC) Sortie Breakdown (Block 7). Monthly plan as follows:

A12.7.1. **(Added-AETC) Block 7a.** Local sorties or missions scheduled, separated by student, support, and total.

A12.7.2. **(Added-AETC) Block 7b.** Off-station sorties or missions scheduled, separated by student, support, and total.

A12.7.3. **(Added-AETC) Block 7c.** FCF, ferry sorties, or missions scheduled, separated by student, support, and total.

A12.7.4. **(Added-AETC) Block 7d.** Total sorties or missions scheduled, separated by student, support, and total.

A12.8. (Added-AETC) Remarks. Free area. To be used as needed.

Attachment 13 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206A, WEEKLY FLYING COORDINATION

A13.1. (Added-AETC) Monthly Utilization Progress Data (Block 1). Fill in the header information as appropriate. **Note:** A locally developed product may be used in lieu of this Form, but must include all data listed in this attachment.

A13.1.1. **(Added-AETC) Block 1a.** Planned monthly cumulative hours, sorties, missions, and UTE up to the as-of date.

A13.1.2. **(Added-AETC) Block 1b.** Actual monthly cumulative hours, sorties, missions, and UTE up to the as-of date.

A13.1.3. **(Added-AETC) Block 1c.** Monthly comparison of any variance or delta experienced during the attainment of the monthly goal for hours, sorties, missions, and UTE.

A13.2. (Added-AETC) Student Event Time-Line Position (Block 2): Note: For students not tracked by time-line position, this data is not required.

A13.2.1. **(Added-AETC) Block 2a.** Current event position.

A13.2.2. **(Added-AETC) Block 2b.** Projected event position based on the weekly flying schedule.

A13.3. (Added-AETC) Attrition Data (Block 3):

A13.3.1. **(Added-AETC) Block 3a.** The planned or added attrition of the monthly plan.

A13.3.2. **(Added-AETC) Block 3b.** The actual attrition experienced.

A13.3.3. **(Added-AETC) Block 3c.** Any variance or delta of attrition planned and experienced.

A13.4. (Added-AETC) Sortie Data (Block 4):

A13.4.1. **(Added-AETC) Block 4a.** The required sorties or missions for each day of the week and total.

A13.4.2. **(Added-AETC) Block 4b.** The quantity of sorties or missions the monthly total attrition variable will be applied to each day of the week and a total figure. Local decision as to what sortie or mission categories may be used. For example, student time only or all, including support.

A13.4.3. **(Added-AETC) Block 4c.** The quotient of Block 4b, attrition applied, divided by the total attrition variable for the month for each day of the week and a total.

A13.4.4. **(Added-AETC) Block 4d.** The sum of Blocks 4a and 4c equals total scheduled for each day of the week.

A13.5. (Added-AETC) Planning Data: Note: For maintenance and operations schedulers.

A13.5.1. **(Added-AETC) Block 5a.** The number of prime and spare aircraft required to support the flying schedule for each day of the week.

A13.5.2. **(Added-AETC) Block 5b.** The number of aircraft off-station (O&B, XC, or deployed) that are still possessed.

A13.5.3. **(Added-AETC) Block 5c.** The first takeoff time of the first sortie or mission the operations attrition rate is the average percentage of scheduled sorties or missions not flown for operational reasons (for example, aircrew nonavailability) for each day of the week.

A13.5.4. **(Added-AETC) Block 5d.** The last takeoff time of the last sortie or mission for each day of the week.

A13.5.5. **(Added-AETC) Block 5e.** The last land time for each day of the week.

A13.6. (Added-AETC) Sortie Breakdown. By student and support sorties or missions for each day of the week, as follows:

A13.6.1. **(Added-AETC) Block 6a.** Locals planned (to include a total).

A13.6.2. **(Added-AETC) Block 6b.** Off-station scheduled (to include a total).

A13.6.3. **(Added-AETC) Block 6c.** FCF, OCF, ferry, or any other maintenance or cost of business type sorties or missions (to include a total).

A13.6.4. **(Added-AETC) Block 6d.** Summary of the totals by day.

Attachment 14 (Added-AETC)

PROPOSED QASP LAYOUT

Table A14.1. (Added-AETC) Proposed QASP Layout.

Proposed QASP Layout	FAR	DFARS	AFFARS	AFI
Section A – Performance Planning & Preparation				
Performance Planning				
- Identify results MFT is striving to achieve				
- Identify strategy, methods, tools CORs & MFT use to assess contractor performance				
- Incorporate management approaches used to address/validate Acquisition Strategy				DAFI 21-101
- Panel (ASP) objectives & goals				DAFI 21-101
-- Risks associated with contractor providing PWS required services	46.4	237.172		
-- Work requiring surveillance	46.401(a)(1)			
-- Acceptable performance levels	44.101			
-- Quality requirements for contract services provided	46.103			
-- Surveillance methods for contractor surveillance	46.401(a)(2)			
- Identify procedures for determining contractual non-conformity				DAFI 21-101
- Identify financial withholding process for performance based services (if any)	32.1004, (a) & (b) & (e)(1)(ii)			
Performance Preparation and Administration				
- Identify MFT and COR responsibilities				
- Identify procedures to ensure contractor's QC System is effective				DAFI 21-101,

- Identify process for maintaining contract performance documentation		PGI 201.602-2(ii)	MP5301.602-2(d), 2.5	
- Identify forms for surveillance along with documentation procedures				DAFI 21-101
- Identify GFE management procedures				AFMAN 23-122
- Identify surveillance process for monitoring human trafficking	52.222-50	PGI 237.172, 222.1703(4)		
- Ensure QASP effectively measures contractor performance through life of contract				
Section B – Performance Assessment Surveillance				
Identify Surveillance Assessment Requirements				DAFI 21-101
- Technical inspections				
- Work center program management evaluations				
- Unscheduled inspections				
- “As observed” inspections				
- Customer complaint inspections				
- Non-Service Summary related inspections				
Identify Monthly Schedule Procedures				DAFI 21-101
Section C – Performance Results Analysis and Reporting				
End of Month Summary Procedures				
- Technical and work center program management evaluations				
- Non Service Summary inspections				
Procedures for reporting results of MAJCOM Inspections				DAFI 21-101
Procedures for Financial Reporting				DAFI 21-101
- WAWF invoicing				
- Cost reimbursable				

- Contractor submitted proposals				
- Contractor REA adjustments				
Corrective Action Procedures for Non-Conforming				DAFI 21-101
- CARs				
- Corporate letters, cure notice, show cause, etc.				
- CPARs				
CPARS Reporting Procedures				DAFI 21-101
- End of month summaries				
- MAJCOM Inspections				
- CARs, corporate letters, cure notice, show cause, etc.				
Section D – Performance Follow-Up				
Procedures for Following-up Contractor Performance				DAFI 21-101
- TIs, PMEs, CCEs, “as observes,” and Follow-up inspections				
- CARs				
- MAJCOM Inspections				
- Corporate letters, Cure notice, Show Cause, etc.				
Procedures for Closing out Substandard Contractor Performance Items				DAFI 21-101

Attachment 15 (Added-AETC)

MONTHLY COR SURVEILLANCE SCHEDULE TEMPLATE

Table A15.1. (Added-AETC) Monthly COR Surveillance Schedule Template.

MEMORANDUM FOR (ACO office symbol) Date

FROM: (COR office symbol)

SUBJECT: COR Surveillance Schedule

1. Attached is the COR surveillance schedule for (month/year). All scheduled inspections will be accomplished using the periodic method of surveillance. Any questions should be directed to the chief COR at (phone #).

PT/SS	Number of Scheduled Inspections	Comments
#1 – (PT/SS description)		
#2 – (PT/SS description)		
#3 – (PT/SS description)		
#4 – (PT/SS description)		
#5 – (PT/SS description)		
#6 – (PT/SS description)		
#7 – (PT/SS description)		
#8 – (PT/SS description)		
#9 – (PT/SS description)		
Non-PT/SS Items	**Performance Work Statement Ref**	**Comments**
(Non- PT/SS description)		
(Non- PT/SS description)		
(Non- PT/SS description)		

2. This inspection schedule is not for release to the contractor.

//SIGNED//
Chief COR signature

1st Ind, (Maintenance Requirements Director office symbol)

Approve/Disapprove

//SIGNED//
Maintenance Requirements Director signature

Date

Attachment 16 (Added-AETC)

AIRCRAFT AND MUNITIONS TECHNICAL INSPECTION REQUIREMENTS

A16.1. (Added-AETC) Aircraft and Munitions Inspection Requirements. Table A16.1 lists the minimum aircraft and munitions technical inspection requirements. Inspections and evaluations in the areas and quantities listed are monthly requirements unless otherwise noted. When computing frequency, round off requirements to the next whole number. Inspection requirements apply to each MDS assigned. Schedule quarterly surveillance requirements on a random yet adequately distributed basis. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter.

Table A16.1. (Added-AETC) Aircraft and Munitions Inspection Requirements.

ITEM	A Categories	B Frequency	C Notes
Inspection (Per MDS)			
1	Preflight, basic post-flight (BPO) and thru-flight inspection (includes combined pre-flight/post-flight)	7 percent	1, 2
2	Hourly post-flight	5 percent	1, 3
3	PE inspection/PH	10 percent	1, 3
4	Liquid servicing	1	
5	Gaseous servicing	1	
6	Ground movement/Ground handling	2	
7	Flight control rig/maintenance	1	
8	Landing gear rig/maintenance (includes wheel and tire)	1	
9	Canopy rig/maintenance	1	
10	Throttle rig/maintenance	1	
11	Egress maintenance tasks	2	
12	Egress 36-month seat	1	
13	Brake system maintenance	1	
14	T-38 boat tail installation	2	
15	Aircraft wash and corrosion control	2 percent	3
16	Environmental systems maintenance	1	
17	Avionics system maintenance	1	
18	Electrical system maintenance	1	
19	Fuel system maintenance	1	
20	Installed engine run	1	
21	Structural maintenance	1	
22	TCTOs	First 2 percent	
23	AETC special inspection (if applicable)	Determined locally	

ITEM	A Categories	B Frequency	C Notes
24	Transfer/acceptance inspections	Determined locally	
25	Document file inspection	2 percent	3
26	Maintenance information system	2	
Engines			
27	Uninstalled engine run	1	
28	Engine PE/HPO inspections (only if performed by unit)	10 percent	1, 5
29	Built-up engines (only if built by the unit)	5 percent	1, 6
30	Engine rig (if applicable)	1	
31	Engine installation/removal	1	
32	Engine retained task maintenance	2	
33	Engine blade blending	1 per month as available	
34	Propeller blending	1 per month as available	
35	TCTOs	First 2 percent	
36	AETC special inspection (if applicable)	Determined locally	
37	Transfer/acceptance inspections	Determined locally	
38	Document file inspection	2 percent	5
39	Maintenance information system	1	
Support equipment			
40	Powered AGE service	2	
41	Powered AGE and CASS periodic	2 percent	1, 7
42	Nonpowered AGE	1 percent	
43	TMDE	2	8
44	Industrial/test equipment, and special tools	1	
45	TCTOs	First 2 percent	
46	AETC special inspection (if applicable)	Determined locally	
47	Transfer/acceptance inspections	Determined locally	
48	AGE/SE equipment FO inspection	1	
49	Document file inspections	2 percent	7
50	Maintenance information system	2	
Other			
51	Training (tasks and recurring)	2	

ITEM	A Categories	B Frequency	C Notes
52	Area FO inspection (FO walks)	4	10
53	Historical static display	Determined locally	1, 11
Munitions			
54	TCTOs	First 2 percent	
55	AETC special inspection (if applicable)	Determined locally	
56	Munitions storage/inspection tasks (for example, return munitions inspection, SI, movement, pre-issue inspection	4 per month	9,12,13,14,15,16,17
57	6-month fire drill	1 every 6 months	18

Notes:
1. Perform an active forms and documents (to include the MIS) inspection in conjunction with all aircraft, engine and support equipment inspections (this includes each PE and PH inspection). Documentation errors not directly related to the equipment technical inspection will be documented as "as observed".
2. Number of required inspections is based on percentage of aircraft possessed, or percentage of inspections scheduled monthly, whichever is less. Any combination of pre-flight, BPO, and thru-flight, etc., selected to meet the monthly inspection requirement may be used. **Example:** If 55 aircraft are in unit's possession, 4 inspections are required. One pre-flight, one thru-flight, and two basic post-flight inspections would meet the minimum requirement of four inspections. (Do not include aircraft in storage or at forward operating locations in computations for inspection requirements to be performed at home station.)
3. Number of required inspections is based on percentage of aircraft possessed or percentage of inspections, washes, TCTOs, etc., scheduled monthly, whichever is less. For T-6, T-38 and T-1 aircraft, the sum of all areas equals one aircraft.
4. Units with less than 12 equipment items assigned may distribute inspections as appropriate, providing each item is inspected at least once during the calendar year.
5. Number of required inspections is based on a percentage of inspections scheduled for the month.
6. Number of required inspections is based on the monthly average number of engines processed through the propulsion repair facility during the previous 6 months. It consists of technical requirements that can be inspected without disassembly of the engine.
7. Number of required inspections is based on total number of inspections required for assigned support equipment, regardless of MDS. Provide equitable inspection distribution between equipment assigned to different aircraft MDS.
8. Inspect TMDE for adequacy of user inspections, repairs, serviceability, calibrations, and corrosion control.
9. Review certification/recertification documentation, verify they are not outdated and current munitions requirements are listed.

ITEM	A Categories	B Frequency	C Notes
10. Areas include flight line, maintenance hangars, AGE yard, etc. CORs should ensure all areas are looked at on a random basis. 11. Number of required inspections is based on the percentage of displays possessed or percentage of inspections, washes, etc., scheduled monthly, whichever is less. Each display must be inspected at least once every 2 years. 12. Check fire and chemical hazard signs are properly posted and timely notification of appropriate agencies, e.g. fire department, and security forces. 13. Check for proper storage and correct documentation on applicable AFTO Forms 102, movement sheets, and 1500 series condition code tags. (AFTO Form 102, *Munitions Inspection Document* is prescribed by AFMAN 21-201. Refer to this publication for guidance on filling out the form.) 14. Make sure munitions inspectors are properly appointed and recertified. 15. Ensure proper documents are enclosed and shipments have correct transportation control numbers. 16. Verify proper containers markings using TO 11A-1-10 and the item TO. 17. Ensure the item is same as described on the issue document, and if applicable, TO 11A-1-53, *General Instructions for Ammo Color Coding, Identification of Empty and Inert Loaded Ammunition Items and Components, and Assignment of Version Numbers to Training and Dummy Ammunition Items*, inspections were accomplished. 18. Ensure the appropriate agencies are contacted prior to the drill. Ensure all safety directives are followed and buildings and keys are properly secured prior to evacuation.		

Attachment 17 (Added-AETC)

TRAINING WING (TRW) TECHNICAL INSPECTION CATEGORIES AND FREQUENCIES

A17.1. (Added-AETC) Inspection Requirements. Table A17.1 lists the minimum inspection categories and frequencies. Inspections in the areas and quantities listed are monthly requirements unless otherwise noted. When computing frequency, requirements will be rounded off to the next whole number. A representative sample is defined as at least one inspection.

Table A17.1. (Added-AETC) Inspection Categories.

ITEM	A Categories	B Frequencies	C Notes
Trainers			
1	End item trainers (GITA, missiles, vehicles, engines, etc.,) used for training	5 percent	1, 2
2	Subsystem trainers (landing gear, fuel system, flight control, etc.) used in lieu of system or end item	5 percent	1, 2
3	Other trainers that do not fall in the above categories	5 percent	1, 2
4	Maintenance information system inspection	1	
Support Equipment			
5	AGE (powered and nonpowered) scheduled inspections	5 percent	1, 3
6	AGE (powered and nonpowered) maintenance actions	8 powered, 4 nonpowered	1,9
7	TMDE	4	4
8	Industrial equipment	1	
9	Maintenance information system inspection	1	
Special Inspections			
10	Historical static displays	5 percent	1, 5
11	Document file	2 percent	6,8
12	Transfer and acceptance	As required	
13	TCTOs	Representative sample	
14	FO	Determined locally	7
15	TO files	Determined locally	7,8

Notes:
1. Perform an inspection of all active forms and documents (to include the MIS) in conjunction with equipment inspections and maintenance actions.
2. Number of required inspections is based on the percentage of trainers possessed **or the percentage of maintenance actions/inspections scheduled and/or completed by the**

contractor, whichever is less. **Note:** If the number of inspections is zero, then the number of required inspections will be based on the percentage of trainers possessed and maintained by the contractor.
3. Number of required inspections is based on total number of inspections regardless of MDS. Provide equitable inspection distribution. As a minimum, one of each MDS must be inspected at least once each 6 months.
4. Inspect TMDE for adequacy of user inspections, repairs, serviceability, calibration, and corrosion control.
5. Number of required inspections is based on the percentage of displays possessed or percentage of inspections, washes, etc., scheduled monthly, whichever is less. Inspect each display at least every 2 years.
6. Inspect document file for each item of equipment (if maintained) as a minimum, once each year.
7. Inspection frequency is determined locally. Consider the size of the TO file and or work center (for FO inspections) when establishing inspection baselines or acceptable quality levels.

Attachment 18 (Added-AETC)

TRANSIENT MAINTENANCE TECHNICAL INSPECTION REQUIREMENTS

A18.1. (Added-AETC) Inspection Requirements. Table A18.1 lists the minimum monthly requirements for transient maintenance functions (contracts where the primary function is transient maintenance). CORs surveilling transient maintenance functions with additional maintenance requirements such as AGE/SE inspection and maintenance or fabrication responsibilities will review their contract requirements (to include the contractor's QC/QA), and establish technical inspections as required. Inspections and evaluations in the areas and quantities listed below are monthly requirements unless otherwise noted. Schedule surveillance requirements on a random yet adequately distributed basis.

Table A18.1. (Added-AETC) Transient Maintenance Technical Inspection Requirements.

ITEM	A Categories	B Frequency	C Notes
1	Aircraft Recovery	20 percent	1,4
2	Aircraft Servicing	20 percent	1,4
3	Aircraft Inspection (BPO, pre-flight, thru flight, etc.)	20 percent	1,4
4	Aircraft Launch	20 percent	1,4
5	Aircraft Maintenance (if performed)	10 percent	1,4
6	Ground Movement of Aircraft	10 percent	,4
7	Aircraft/Equipment Forms/MIS Documentation	20 percent	1, 2,4
8	Area FO Inspection	1	3,4

Notes:
1. Perform an inspection of active forms and documents (to include the MIS) in conjunction with aircraft, AGE and support equipment maintenance actions and inspections.
2. Number of required inspections is based on documentation of transient aircraft forms and assigned equipment that transient maintenance is responsible for (if applicable). Documentation inspections will include applicable MIS entries.
3. Areas include flight line, maintenance hangars, AGE yards, etc., for which the contractor is responsible or performs maintenance. CORs will ensure all areas are looked at on a random basis. Perform these inspections within a reasonable time after the contractor has completed the FO inspection.
4. Percentages should be based on annual historical data.

Attachment 19 (Added-AETC)

FLYING UNIT WORK CENTER AREA REQUIREMENTS

A19.1. (Added-AETC) Work Center Area Requirements. Schedule periodic surveillance requirements on a random yet adequately distributed basis. See **Table A19.1** for the required surveillance areas and frequencies. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter. **Note**: All flying unit work center requirements may not apply to smaller flying units, i.e., rotary wing aircraft. Smaller flying units will determine and surveil those areas that apply.

Table A19.1. (Added-AETC) Surveillance Requirements.

ITEM	A Work Areas	B Frequency
1	Data management and analysis	Q
2	Maintenance operations center	M
3	Plans and scheduling	M
4	Quality control/assurance	Q
5	Documentation	M
6	Training management (includes plans)	Q
7	Repair cycle monitor function	M
8	Maintenance supply liaison (if applicable)	M
9	Electro/environmental	Q
10	Avionics—guidance and control	Q
11	Avionics—communication/navigation	Q
12	PMEL (if applicable)	Q
13	Plating (if applicable)	Q
14	Transportation (if applicable)	Q
15	Structural Maintenance	Q
16	Welding (includes chemical cleaning if applicable)	Q
17	Engine management	M
18	Engine (includes flight line support if applicable)	Q
19	Sound suppressor/hush house	Q
20	Test cell	Q
21	Fuels (includes fuel cell)	Q
22	NDI	Q
23	Transient maintenance	Q
24	Post dock	Q
25	CASS (if applicable)	Q
26	AGE	Q
27	Battery	Q
28	Egress	Q

ITEM	A Work Areas	B Frequency
29	Pneudraulics	Q
30	Machine	Q
31	Paint (includes paint hangar and disposal of hazardous waste)	Q
32	Corrosion	Q
33	Wash rack	Q
34	Aircraft flight line (includes offices)	Q
35	Aircraft scheduled maintenance facility	Q
36	Aircraft unscheduled maintenance facility	Q
37	Plastic media blasting facility	Q
38	Auxiliary fields (if applicable)	SA
39	Crash recovery (crane and equipment)	SA
40	Aero repair (if applicable)	Q
41	Wheel and tire	Q
42	COMBS (CLS contracts)	Q
43	Armament systems maintenance/weapons loading facility	Q
44	Debrief	Q
45	Environmental plans and programs (includes hazardous waste collection)	Q
46	Munitions programs (control/management programs)	Q
47	Munitions stockpile inspection/maintenance	Q
48	Munitions accountability/custody accounts	Q
LEGEND: M – Monthly Q – Quarterly SA – Semiannually		

Attachment 20 (Added-AETC)

TRW QUARTERLY WORK CENTER REQUIREMENTS

A20.1. (Added-AETC) Work Center Requirements. The following list of work area requirements should be used as a guide. CORs identify actual work center requirements in the performance plan based on the actual organization of the unit. Schedule quarterly surveillance requirements on a random yet adequately distributed basis. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter.

A20.1.1. **(Added-AETC)** Data management and analysis.

A20.1.2. **(Added-AETC)** Maintenance operations center.

A20.1.3. **(Added-AETC)** Plans and scheduling.

A20.1.4. **(Added-AETC)** Quality control/assurance.

A20.1.5. **(Added-AETC)** Documentation.

A20.1.6. **(Added-AETC)** Training management (including plans).

A20.1.7. **(Added-AETC)** Repair cycle monitor function.

A20.1.8. **(Added-AETC)** Maintenance supply liaison.

A20.1.9. **(Added-AETC)** Electro/mechanical.

A20.1.10. **(Added-AETC)** Avionics—guidance and control.

A20.1.11. **(Added-AETC)** Avionics—communication/navigation.

A20.1.12. **(Added-AETC)** Precision Measurement Equipment Laboratory.

A20.1.13. **(Added-AETC)** Plating.

A20.1.14. **(Added-AETC)** Sheet metal.

A20.1.15. **(Added-AETC)** Welding (includes chemical cleaning).

A20.1.16. **(Added-AETC)** Engine management.

A20.1.17. **(Added-AETC)** Engine.

A20.1.18. **(Added-AETC)** Meteorological maintenance.

A20.1.19. **(Added-AETC)** Auto flight control and instrument.

A20.1.20. **(Added-AETC)** Airborne missile maintenance.

A20.1.21. **(Added-AETC)** Ground missile maintenance.

A20.1.22. **(Added-AETC)** Cryogenics maintenance and environmental.

A20.1.23. **(Added-AETC)** AGE.

A20.1.24. **(Added-AETC)** Battery.

A20.1.25. **(Added-AETC)** Bomb navigation.

A20.1.26. **(Added-AETC)** Electronic trainer.

A20.1.27. **(Added-AETC)** Pneudraulics.

A20.1.28. **(Added-AETC)** Machine.

A20.1.29. **(Added-AETC)** Corrosion.

A20.1.30. **(Added-AETC)** Paint (includes paint hangar and disposal of hazardous waste).

A20.1.31. **(Added-AETC)** Defensive fire control.

A20.1.32. **(Added-AETC)** B-1B avionics.

A20.1.33. **(Added-AETC)** Tactical sensor.

A20.1.34. **(Added-AETC)** F-15 avionics.

A20.1.35. **(Added-AETC)** F-16 avionics.

A20.1.36. **(Added-AETC)** Weapons maintenance.

A20.1.37. **(Added-AETC)** Weapons suspension equipment storage area.

A20.1.38. **(Added-AETC)** Precision imagery/audio.

A20.1.39. **(Added-AETC)** Munitions programs (control/management programs).

A20.1.40. **(Added-AETC)** Munitions stockpile inspection/maintenance.

A20.1.41. **(Added-AETC)** Munitions accountability/custody accounts.

Attachment 21 (Added-AETC)

TRANSIENT MAINTENANCE WORK CENTER INSPECTION REQUIREMENTS

A21.1. (Added-AETC) Surveillance Requirements. See **Table A21.1** for the required inspection areas and their frequencies. Schedule periodic surveillance requirements for transient maintenance functions on a random yet adequately distributed basis. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter.

Table A21.1. (Added-AETC) Transient Maintenance Inspection Requirements.

	A	B	C
ITEM	**Work Areas**	**Frequency**	**Note**
1	Quality control/assurance	Q	
2	Documentation	M	
3	Technical order and publications management	Q	
4	Supply products	Q	2
5	Environmental plans and programs (includes hazardous waste collection)	Q	
6	Tool and equipment management (includes TMDE and equipment accounts)	M	1
7	Flight line	M	
8	Maintenance facilities (only those the service provider is responsible for or routinely uses)	M	
9	Training	Q	
LEGEND: M – Monthly Q – Quarterly			
Notes: 1. Inspect TMDE for adequacy of user inspections, serviceability, calibrations, and corrosion control. 2. 56 MXG transient maintenance has no supply account thus no frequency for supply products.			

Attachment 22 (Added-AETC)

MINIMUM ESSENTIAL CRITICAL ITEMS

A22.1. (Added-AETC) Munitions Surveillance Guides. Table A22.1 provides the minimum essential critical items that must be included in the munitions surveillance guides. Inspections and evaluations in the areas and quantities listed are monthly requirements unless otherwise noted. When computing frequency, round off requirements to the next whole number. Schedule quarterly surveillance requirements on a random yet adequately distributed basis. For example, an inspection completed in the last week of a quarter should not be scheduled for inspection again during the first week of the new quarter.

Table A22.1. (Added-AETC) Munitions Surveillance Critical Items.

ITEM	A Minimum Critical Items	B Frequency	C Notes
1	Certificate of transfer/joint inventory/account review	After MASO change	1,2
2	Appointment letters	SA	1,3
3	Re-distribution orders (RDO)	Q	1,4
4	Requisition follow-up	Q	1,4
5	Ammunition disposition request (ADR)	Q	1,5
6	Stockpile cycle counts	SA	1,6
7	Inventory adjustments	SA	1,7
8	Theater Integrated Combat Munitions System (TICMS) levels	SA	1,8
9	Custody cycle counts	Q	1,9
10	Conventional munitions restriction and suspension (CMRS)	SA	1,10
11	Due-in-from-maintenance (DIFM)	Q	1,4
12	Management of courtesy storage and courtesy storage agreements	SA	1,11
13	AF Forms 68	SA	1
LEGEND: Q – Quarterly SA - Semiannually			

Notes:
1. This critical inspection item must be placed in at least one munitions PME guide.
2. Review associated documentation in accordance with AFMAN 21-201.
3. Make sure all required letters are current and contain mandatory elements.
4. Review order management status in TICMS
5. Utilize TICMS inquiries to ensure timely submission of ADRs and execution of disposition instructions. Specific requirements outlined in AFMAN 21-201 and TICMS user's guide.
6. Review stockpile inventory against requirements contained in AFMAN 21-201 and TICMS user's guide.
7. Compare completed inventory adjustment packages against requirements in AFMAN 21-201.
8. Utilize TICMS inquiries to ensure munitions are not issued or expended without appropriate allocation.
9. Review custody inventory against requirements outlined in AFMAN 21-201 and TICMS user's guide.
10. Ensure CMRS notifications and associated documentation are processed in accordance with AFMAN 21-201.
11. Review required documentation in accordance with AFMAN 21-201.

Attachment 23 (Added-AETC)

END OF MONTH SUMMARY TEMPLATE

Table A23.1. (Added-AETC) End of Month Summary Template.

Day Month Year

MEMORANDUM FOR 19 AF/A4RP
FROM: (COR OFFICE SYMBOL)
Address
Address
SUBJECT: Summary of Contract Services, December 2020

1. SUMMARY OF COR SURVEILLANCE: Example: There were 273 inspections performed during December, of which 254 were rated conform, and 19 were rated non-conform, equating to an overall pass rate of 93%. A total of 84 discrepancies were detected this reporting period: 18 PME's, 64 TI's, and 2 QMS. There were four "AS OBSERVED" reports written and two unscheduled inspections added to the schedule. Technical inspections were rated 93% conform and Program Management Evaluation Guides were rated 96% conform. There were 30 inspections performed against the Quality Management System (QMS) personnel with a 97% conform rate.

2. COR inspection category breakdown.

DEC-19	SCHEDULED INSPECTIONS	CONFORM	NON-CONFORM	NOT COMPLETED	RATING %	STANDARD
TECHNICAL INSPECTIONS						
T-1	54	51	3		94%	PWS %
T-6	46	40	6		87%	PWS %
T-38	60	54	4	2	93%	PWS %
AGE	15	13	0	2	100%	PWS %
ENGINE	21	20	0		95%	PWS %
MUNITIONS	7	4	1	2	80%	PWS %
OTHER	8	8	0		100%	PWS %
QC	30	29	1		97%	PWS %
SPECIALIZED EQUIP	2	2	0		100%	PWS %
SUPPORT EQUIP	5	5	0		100%	PWS %
TOTAL	248	226	15	6	93%	PWS %
PROGRAM MANAGEMENT EVALUATIONS						
		25	24	1	96%	PWS %
UNSCHEDULED						
		2				
AS OBSERVED						
		4				
TOTAL						
		251	39	7	16%	PWS %

3. Prior 3 months number of inspections performed, conform, non-conform and monthly rating.

MONTH	TOTAL INSPECTIONS	CONFORM	NON-CONFORMS	ASOB	RATING
19-Dec	273	254	19	4	93%

19-Nov	188	180	8	0	96%
19-Oct	150	148	2	5	99%

4. Insert your inspection plan here. This will vary depending on what database system you use to track your inspections. *For Behind QC Inspections, please annotate whether each inspection was an OTS or a follow up*.
5. Trending data (3 months minimum).
6. Customer Comment/Complaint Inspections.
7. Scheduled Inspections not complied with and reason why.
8. Follow-up Inspections (by MDS/Functional Areas)
9. PT/SS items against the standard (by MDS). Tailor to meet your specific PWS requirements. Example:

T-38C SUPT Service Summary Items	**Standard**	**Oct 19**	**Nov 19**	**Dec 19**	**1Qtr FY19**
MC Rate	65.0%	70.0%	60.0%	65.0%	65.0%
Fleet Time	220	220	220	220	220
Fleet Time Interval	9.0%	9.0%	9.0%	9.0%	9.0%
Maintenance Non Delivery (MND)	3.0%	4.5%	2.6%	3.0%	3.4%
Ground Abort Rate	4.0%	6.5%	3.5%	4.0%	4.7%
REP Rate	2.5%	1.7%	3.6%	2.5%	2.6%
REC Rate	2.5%	3.0%	2.4%	2.5%	2.6%
T-1A Service Summary Items	**Standard**	**Oct 19**	**Nov 19**	**Dec 19**	**1Qtr FY19**
MC Rate	65.0%	70.0%	60.0%	65.0%	65.0%
Fleet Time	220	220	220	220	220
Fleet Time Interval	9.0%	9.0%	9.0%	9.0%	9.0%
Maintenance Non Delivery (MND)	3.0%	4.5%	2.6%	3.0%	3.4%
Ground Abort Rate	4.0%	6.5%	3.5%	4.0%	4.7%
REP Rate	2.5%	1.7%	3.6%	2.5%	2.6%
REC Rate	2.5%	3.0%	2.4%	2.5%	2.6%
T-1A Service Summary Items	**Standard**	**Oct 19**	**Nov 19**	**Dec 19**	**1Qtr FY19**
MC Rate	65.0%	70.0%	60.0%	65.0%	65.0%
Fleet Time	220	220	220	220	220
Fleet Time Interval	9.0%	9.0%	9.0%	9.0%	9.0%
Maintenance Non Delivery (MND)	3.0%	4.5%	2.6%	3.0%	3.4%
Ground Abort Rate	4.0%	6.5%	3.5%	4.0%	4.7%
REP Rate	2.5%	1.7%	3.6%	2.5%	2.6%
REC Rate	2.5%	3.0%	2.4%	2.5%	2.6%

10. Non-PT/SS items (not currently included in a PME)
11. Data Integrity as applicable to the PWS (unless included in PT/SS reporting)
13. Government Performance Threshold Waivers.
14. Local COR Miscellaneous items to include FCF Release rate info, Quality of Force Release rates etc.
15. CAR Tracking.
a) Submitted/Issued CARs.
b) Closed CARs.
c) Open CARs.

CAR Tracking #	Description of CAR	Contractor Proposed "Get-Well" Date	Current CAR Status	Comments
0904	T-6 Mission Capable (MC) Rate – Contractor failed to meet the performance threshold standard of 70%	30 Jul 2020	Open	Adding back the 986.9 NMCS hours to the MC rate would increase it to 66.8 for an adjusted MC rate, still missing the 70% standard.
0905	T1A Ground Abort Rate – Contractor failed to meet the performance threshold standard of 3%	30 Aug 20	Open	Adding back the 6 CND ground aborts that could be considered beyond Contractor control to the GA rate would decrease it to 6.2% for an adjusted rate, still missing the 3.0% standard.

//SIGNED//
Chief COR signature

1st Ind, XX FTW/ MRD Day Month Year
MEMORANDUM FOR XX FTW/MAQ
MRD approves COR end of month summary for December 2019.

//SIGNED//
Maintenance Requirements Director signature

cc:
19AF/A4PP
19AF/A4RP

Attachment 24 (Added-AETC)

AIRCRAFT MARKING LOCATIONS

A24.1. (Added-AETC) C-17 Globemaster. Refer to TO 1C-17A-23-WA-1, *Org and Intermediate Manual – System Peculiar Corrosion Control (Douglas ACFT)*, for common aircraft markings.

A24.1.1. **(Added-AETC)** Tail Flash (Stripe). Apply to both sides of the vertical stabilizer; 2-inch top and bottom border with an 18-inch colored band in the middle. Proper placement is the top edge of the tail flash 12 inches below the letters AETC. It extends from the leading edge of the vertical stabilizer to the trailing edge of the upper rudder.

A24.1.2. **(Added-AETC)** AETC Lettering. Apply the letters AETC in 18-inch single-stroke; military block lettering to both sides of the vertical stabilizer. Proper placement on the vertical stabilizer is 12-inches below and centered on the front edge of the United States (US) flag.

A24.1.3. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Proper placement is 6 inches below and centered on the command insignia; applied inside a 6- by 30-inch block to the left side of the forward fuselage.

A24.2. (Added-AETC) C-130 Hercules. Note: Special operations aircraft must conform to the most current lead command guidance and locally developed operating instruction regarding aircraft markings. Refer to applicable MDS -23 Technical Order for common aircraft markings.

A24.2.1. **(Added-AETC)** Tail Flash (Stripe). Proper placement, starts at trailing edge of the vertical stabilizer leading edge, ends at leading edge of the rudder trim tab, (not onto the tab) 9-inch military block lettering, starting 1 inch from the rudder leading edge, stabilizer trailing edge, and centered from top to bottom; 2-inch top and bottom flat black border with a 12-inch color band in the center. (Special operations aircraft are not authorized tail flashes.)

A24.2.2. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply in a box 12 inches high by 28 inches wide to the left forward area of the fuselage. Proper placement is the top of the box even with and 3 inches forward of the top of the crew entry door.

A24.2.3. **(Added-AETC)** Landing Gear Wheels. Wheels installed on all C-130 aircraft assigned to AETC will be painted white IAW T.O. 4W-1-61, *Maintenance and Overhaul Instructions All Type Aircraft Wheels*, pg. 1-6, Table 1-2.. Aircraft being transferred will be reconfigured to conform to lead command guidance/instruction. **Exception:** AETC assigned C-130 aircraft at Kirtland AFB are authorized to utilize black wheels IAW Air Force Special Operations Command configuration (SAE-AMS STD 595, #37038).

A24.3. (Added-AETC) CV-22 Osprey. Note: Special operations aircraft must conform to the most current lead command guidance regarding aircraft markings and locally developed operating instruction. Refer to TO/Supplement No, 1V-22 (C) B-2-DB-1, *Database Containing Org. Maintenance— CV-22 Technical Information System Database – Bell-Boeing*, for common aircraft markings.

A24.4. (Added-AETC) KC-135 Stratotanker. Refer to lead command for common aircraft marking guidance.

A24.4.1. **(Added-AETC)** Tail Flash (Stripe) and AETC Lettering. Refer to applicable KC-135 technical data for location of US Flag, MAJCOM, stripes and tail number.

A24.4.2. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply inside a 6- by 30-inch box on the left side of the forward fuselage. Proper placement is the top edge of the box 6-inches below and centered on the command insignia.

A24.5. (Added-AETC) F-16 Fighting Falcon. Refer to lead command for common aircraft marking guidance.

A24.5.1. **(Added-AETC)** Tail Flash (Stripe). Apply to both sides of the vertical stabilizer; 6 inches high. Proper placement is the top of the tail flash even with the top of the rudder.

A24.5.2. **(Added-AETC)** Bird of Prey Silhouette. Apply to both sides of the forward fuselage backbone; 18 inches high. Proper placement is the beak and bottom feathers lined up with panels 2406 and 2409 just aft of 2401 and 2402 respectively and painted in the opposing gray to the area to which they are applied.

A24.5.3. **(Added-AETC)** Aircrew and Crew Chief Names (optional).

A24.5.3.1. **(Added-AETC)** A and C Models. Center aircrew name on the left canopy rail with dedicated crew chief (DCC) name centered on the right canopy rail (font for aircrew and crew chief names will be at unit discretion, but letter height will not exceed 3 inches). No more than two assistant dedicated crew chief (ADCC) names may be applied to the inside surface of the nose landing gear door centered above the bottom edge (font shall be consistent with aircrew and DCC names, but letter height will not exceed 1.5 inches).

A24.5.3.2. **(Added-AETC)** B and D Models. Center first aircrew name on the left forward canopy rail, with additional aircrew name centered on the left aft canopy rail. Center the DCC name on the right forward canopy rail, with one ADCC name centered on the right aft canopy rail (font for aircrew and crew chief names will be at unit discretion, but letter height will not exceed 3 inches). One additional ADCC name may be applied to the inside surface of the nose landing gear door centered above the bottom edge (font shall be consistent with aircrew and DCC names, but letter height will not exceed 1.5 inches).

A24.6. (Added-AETC) F-35. Refer to lead command for common aircraft marking guidance. **Note:** No markings will be applied to rudder control surfaces and all lettering/numbering applied to designated F-35 “blackboard” areas will meet vertical block type/style font/lettering and Arabic numerals as specified in T.O. 1-1-8, Appendix B, Figure B-3 (Form of Letters and Numerals) or similar computer generated font.

A24.6.1. **(Added-AETC)** Command Insignia. Overall height is 12 inches (apply in JTD approved contrasting shade of gray); bottom of insignia will be 43 inches above lower edge of vertical stabilizer blackboard area for aircraft with Special Unit Markings and centered in vertical stabilizer blackboard area. Bottom of insignia will be 47 inches above lower edge of vertical stabilizer blackboard area for aircraft without Special Unit Markings and centered in vertical stabilizer blackboard area.

A24.6.2. **(Added-AETC)** Unique Markings/Paint. Commanders aircraft: Authorized 6 inch (subdued) commander designation, i.e. 56 FW, etc. with bottom of marking centered in and 14 inches above the bottom edge of blackboard area. **Note:** Shadowing is only permitted on commander designated aircraft as stated in **paragraph 11.46.13.5**.

A24.6.3. **(Added-AETC)** Unit Identifier. Overall height is 12 inches (apply in JTD approved contrasting shade of gray); bottom of the designator will be placed 25 inches above the bottom edge, and centered in the vertical stabilizer blackboard area.

A24.6.4. **(Added-AETC)** Tail Stripe. Not Authorized due to space limitations of the blackboard areas, sensitivity of flight control surfaces, and Joint Strike Fighter fleet standardization. **Note:** This requirement cannot be waived.

A24.6.5. **(Added-AETC)** Pilot and Crew Chief Names (optional). Overall height is 2 inches (apply in JTD approved contrasting shade of gray). Pilot: end of name will be located 2 inches forward of inboard aft apex (BL 0) and 2 inches from BL 0 door edge (left Nose Landing Gear door); crew chief: beginning of rank/name will be located 2 inches forward of inboard aft apex (BL 0) and 2 inches from BL 0 edge (right Nose Landing Gear door).

A24.6.6. **(Added-AETC)** Nose Number. Overall height will be 4 inches (apply in JTD approved contrasting shade of gray); last four digits of tail number, positioned 4 inches from the inboard door forward apex (BL 0) and 2 inches from BL 0 door edge.

A24.6.7. **(Added-AETC)** Organizational Insignia. Overall height is 12 inches (apply in JTD approved contrasting shade of gray); wing insignia positioned on right side of fuselage and squadron positioned on left side. Centered vertically in blackboard area below chine & formation light and centered in the blackboard area.

A24.6.8. **(Added-AETC)** Tail Numbers. Overall height is 6 inches (apply in JTD approved contrasting shade of gray). Bottom of the tail number will be centered 2 inches above the bottom edge and centered in vertical blackboard area.

A24.6.9. **(Added-AETC)** Special Unit Markings. 19 AF/A4 is the office of primary responsibility for the approval of special unit markings. Submit all requests for approval of special unit markings through 19 AF/A4MS to 19 AF/A4. Overall height will not exceed 9 inches (apply in JTD approved contrasting shades) and centered within upper most 9 inches of the blackboard area on vertical stabilizer. **Note:** Markings will not be applied to rudder control surfaces.

A24.7. (Added-AETC) H-1 Helicopter (UH-1N/UH-1H/TH-1H Huey/Iroquois). Paint the TH-1H aircraft gloss gray color code # 12794 with contrasting markings in gloss black color code #17038. **Note:** Special operations aircraft must conform to the most current lead command guidance and locally developed operating instruction regarding aircraft markings. Refer to TO 1H-1(U)N-3-WA-1, *USAF Models TH-1H, UH-1H and UH-1N Helicopters*, for common aircraft markings.

A24.7.1. **(Added-AETC)** Aircraft Tail Numbers. Apply 6-inch single-stroke, military block lettering. Apply to both sides of the vertical tail-boom assembly. Proper placement is the bottom of the digits is 17 inches above the tail boom lower fin fairing line (item 8 fig 2-6 TO 1H-1(T)H-2-1, *Aviation Unit and Intermediate4 Maintenance Manual, Airframe TH-1H Helicopter*, 1 November 2018), aligned parallel with the ground. In addition, the leading edge and trailing edge of the first and last digits must be centered between the trailing edge of the vertical fin and the leading edge of the tail rotor drive shaft.

A24.7.2. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Place the aircrew and crew chief names inside a box 22 1/2 inches by 5 1/2 inches in size. Proper location is the pilot

name centered horizontally and vertically on the right crew door with the crew chief name placed similarly on the left.

A24.7.3. **(Added-AETC)** Command Insignia. Apply to both sides of the vertical stabilizer; 10 inch subdued insignia. Proper placement is centered horizontally on stabilizer and bottom of insignia is 1 inch above aircraft unit designator marking. **Exception:** AETC assigned TH-1H aircraft are authorized to utilize 8 inch subdued insignia on left and right hinge panel doors centered and 4 inches below bottom edge of window.

A24.7.4. **(Added-AETC)** Nose Numbers. Apply 6-inch single-stroke, military block lettering. Proper placement is 6 inches aft from the leading edge of the nose access door (TO 1H-1(T)H-2-1, Figure 2-5., Item 1) and centered on door.

A24.7.5. **(Added-AETC)** Tail Flash (Stripe). Apply to both sides of the vertical tail-boom assembly; 9 inches high. Apply to upper portion of vertical stabilizer.

A24.7.6. **(Added-AETC)** Unit Designator. Apply to both sides of the vertical stabilizer; 10" height "military block" or computer equivalent font. Proper placement is 24 inches above the tail boom lower fin fairing line (TO 1H-1(T)H-2-1, Figure 2-6., Item 8). The letters of the designator shall be centered on the vertical fin; Aligned parallel with the ground.

A24.7.7. **(Added-AETC)** U. S. Air Force. Apply 6-inch single-stroke, military block lettering. Apply to both sides of the tail boom. Proper placement is the bottom of the letters is in-line with the aft upper corner of the national star insignia and centered between the star and elevator, aligned parallel with the star.

A24.8. (Added-AETC) H-60 Helicopter (HH-60G Pave Hawk). Note: Special operations aircraft must conform to the most current lead command guidance and locally developed operating instruction regarding aircraft markings. Refer to TO 1H-60(H)G-23-WA-1, *Organizational, Intermediate and Depot Corrosion Control HH-60 Series Helicopter*, for common aircraft markings.

A24.9. (Added-AETC) T-1A Jayhawk:

A24.9.1. **(Added-AETC)** Command Insignia. Apply to both sides of the vertical stabilizer; 10 inch full color. Proper placement is centered on the stabilizer 4 1/2 inches below the bottom edge of the tail flash.

A24.9.2. **(Added-AETC)** Unit Insignia. Unit insignias are not authorized on T-1 aircraft.

A24.9.3. **(Added-AETC)** Tail Flash (Stripe). Apply to both sides of the vertical stabilizer; 6 inches high. Proper placement is the bottom edge of the tail flash even with the top of the rudder. The tail flash extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

A24.9.4. **(Added-AETC)** Unit Designator. Apply to both sides of the vertical stabilizer; 15 inch single-stroke, military block lettering. Proper placement is the top of the letters 19 inches below the bottom edge of the tail flash, with the aft-most portion of the last letter 4 inches forward of the vertical stabilizer and rudder split line.

A24.9.5. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply to the forward section of both sides of the fuselage. Proper placement of the pilot name is on the left side of the fuselage centered horizontally between water line 0 and the black stripe, parallel to the

ground and centered vertically 2 inches forward of seam at Fuselage Station (FS) 108. The crew chief name is applied similarly on the right side.

A24.9.6. **(Added-AETC)** [Change] Tail Numbers. Apply to both sides of the vertical stabilizer; 8 inch single-stroke, military block lettering. Tail numbers will be blue; color code # 85285.

A24.10. (Added-AETC) T-6 Texan II:

A24.10.1. **(Added-AETC)** Command Insignia. Apply full color command insignias to both sides of vertical stabilizer, centered between the top of the unit designator and the bottom of the Instrument Landing System antenna. Units are authorized to lower decal placement centered between the rivet rows directly above the unit designator reducing the size as necessary to 7" for proper fitment between Rib 5 VSS 41.260 & Rib 6 VSS 56.220. Either location will be standardized across the fleet through succession.

A24.10.2. **(Added-AETC)** Unit Insignia. Unit insignias are not authorized on T-6 aircraft.

A24.10.3. **(Added-AETC)** Aircraft Tail Numbers. Apply to both sides of the vertical stabilizer; 5 1/2-inch single-stroke, military block lettering. Proper placement is 38 1/2 inches below the top edge of vertical stabilizer fixed skin panel, 2.47 inch AF precedes the first digit; 2.47 inch last two of year of manufacture is placed 41 inches below the top edge of vertical stabilizer fixed skin panel and directly below the AF, aligned parallel with the ground. Apply in blue, color code #15044. Tail numbers may be applied in vinyl and applied between rivet rows. **Note:** Assigned aircraft must be uniform.

A24.10.4. **(Added-AETC)** Tail Flash (Stripe). Wrap around the upper portion of the vertical stabilizer antenna; 4 to 6 inches high. It extends from the leading edge of the vertical stabilizer to the trailing edge of the rudder. On aircraft with the vertical leading edge painted, the strip will extend from the leading edge to the trailing edge of the rudder.

A24.10.5. **(Added-AETC)** Unit Designator. Placement 1: Apply to both sides of the vertical stabilizer; 7 inch single-stroke, military block lettering. Proper placement is 26 inches below top edge of vertical stabilizer fixed skin panel. Align parallel with the ground. Apply the unit designator in blue, color #15044. Placement 2: Reduce size to 6 inch single-stroke and place between protruding head fasteners. **Note:** Assigned aircraft must be uniform.

A24.10.6. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply aircrew names to the left side of forward fuselage, centered between hoist point and tip of canopy handle open arrow. Crew chief names go on right side of the forward fuselage and 6" aft of hoist point. Top of the letters must be located 6 inches above the top of the red line (original paint scheme) or blue line (new paint scheme) on the fuselage; color code #15044.

A24.10.7. **(Added-AETC)** Aircraft Specific. Use color code #17925 on all white surfaces. Paint vertical stabilizer leading edges white. Paint horizontal stabilizer leading edges blue color code#15044. Place a single danger ejection seats placard below the canopy rail in line on the center canopy bow on both sides of the aircraft. The ejection placard relocation must be accomplished during aircraft repaints.

A24.11. (Added-AETC) T-38 Talon:

A24.11.1. **(Added-AETC)** Command Insignia. Height is 10 inches, contrasting gray colors, applied to both sides of the vertical stabilizer. Proper placement is the top of the insignia 7

inches below the bottom edge of the tail flash with the center point of the insignia 16 3/8 inches forward of the stabilizer and rudder split line.

A24.11.2. **(Added-AETC)** Unit Insignia. Unit insignias are not authorized for T 38 aircraft.

A24.11.3. **(Added-AETC)** Aircraft Tail Numbers. Apply to both sides of the vertical stabilizer; 10 inch single-stroke and military block lettering. Proper placement is the top of the numbers 6- inches below and centered on the unit designator. Apply in contrasting gray color.

A24.11.4. **(Added-AETC)** USAF. Apply to both sides of the center fuselage; 6 inches, military block lettering and contrasting gray color. Proper placement is the forward edge of the first letter (for left side, last letter for right) 8 inches aft of FS 325 seam and parallel to the wing. The bottom edge of the letters shall be 5 1/2 inches up from the wing 15 percent and 44 percent spars.

A24.11.5. **(Added-AETC)** National Star Insignia (fuselage). According to TO-1-1-8, apply camouflage style cut-out, with no breaks in the lines and contrasting gray color. Apply to both sides of the aft fuselage. Proper placement is centered vertically on the "U.S. AIR FORCE" with the aft edge of the bar 1 inch forward of the hydraulic reservoir access door hinge.

A24.11.6. **(Added-AETC)** National Star Insignia (wings). According to TO 1-1-8, apply camouflage style cut-out, with no breaks in the lines and contrasting gray color. Apply to the upper left wing and the lower right wing. Proper placement is the outboard and/or forward bar; edge points 9 inches from the leading edge and/or wing seam and 1 inch from the wing tip and/or wing seam. The outboard edge of the bar is parallel with the wing and only wing tip seam.

A24.11.7. **(Added-AETC)** USAF (wings). Apply to the upper right wing and lower left wing; 6-inch military block lettering and contrasting gray color. Proper placement is the same as the wing national star insignia.

A24.11.8. **(Added-AETC)** Tail Flash (stripe). Apply to both sides of the vertical stabilizer; 10 inches high. Proper placement is the top edge of the tail flash grounded against the vertical fin cap seam. It extends from the leading edge of the vertical stabilizer to the trailing edge.

A24.11.9. **(Added-AETC)** Unit Designator. Apply to both sides of the vertical stabilizer; 15-inch, single- stroke military block lettering. Proper placement is the top of the letters 23 inches below the bottom edge of the tail flash, centered under the command insignia. Apply all tail markings (unit designator, serial number, etc.) in contrasting gray color.

A24.11.10. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Center on the forward cockpit canopy rails. Apply the pilot name to the left forward canopy rail and the crew chief name to the right forward canopy rail.

A24.11.11. **(Added-AETC)** Other Aircraft Markings. Battery, grounding, no step, rescue, ejection, data legend, engine fire doors, servicing and other required markings (those currently mandatory on the current T-38A paint scheme) must be applied in opposite shades of gray, color code numbers #16473 or 16081, for example, if the marking is in the dark gray areas of the fuselage or empennage, they must be in color code #16473. Those in the light gray areas must be gray, color code # 16081. The pitot tube must be painted dark gray color code #16081. On IFF aircraft painted in specialized undergraduate upgrade training colors, paint the V-tip color code #16473.

A24.12. (Added-AETC) T-41:

A24.12.1. **(Added-AETC)** National Star. Apply to both sides of fuselage and on top left wing and bottom right wing.

A24.12.2. **(Added-AETC)** USAF. Centered on both sides of engine cowl on top right wing and lower left wing.

A24.12.3. **(Added-AETC)** United States Air Force Academy (USAFA) Emblem. Centered on both sides of the vertical stabilizer.

A24.12.4. **(Added-AETC)** Tail Numbers. Apply to both sides of the rear fuselage forward of the vertical stab.

A24.12.5. **(Added-AETC)** Crew Names (optional). Apply to both crew entry doors below window.

A24.13. (Added-AETC) T-51:

A24.13.1. **(Added-AETC)** National Star. Apply to both sides of fuselage and on top left wing and bottom right wing.

A24.13.2. **(Added-AETC)** USAF. Center on both sides of engine cowl on top right wing and lower left wing.

A24.13.3. **(Added-AETC)** USAFA Emblem. Center on both sides of the vertical stabilizer.

A24.13.4. **(Added-AETC)** Tail Numbers. Apply to both sides of the rear fuselage forward of the vertical stab.

A24.13.5. **(Added-AETC)** Crew Names (optional). Apply to both crew entry doors below window.

A24.14. (Added-AETC) T-53:

A24.14.1. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply to both crew entry doors below window.

A24.14.2. **(Added-AETC)** National Star. Apply to both sides of fuselage and on top left wing and bottom right wing.

A24.14.3. **(Added-AETC)** USAF. Apply on top right wing and lower left wing.

A24.14.4. **(Added-AETC)** US Air Force. Apply to both sides of fuselage. Proper placement is centered vertically within horizontal blue strip and 4.25” in height.

A24.14.5. **(Added-AETC)** Tail Numbers. Apply to both sides of vertical stabilizer; 5.5 inches in height. Proper placement is 2.5” above red fuselage strip and last digit straight in-line with vertical aft edge of “F” designator.

A24.14.6. **(Added-AETC)** Unit Designator. Apply to both sides of vertical stabilizer; 12.6 inches in height. Proper placement is 6” above tail number and vertical aft edge of “F” in-line with trailing edge of tail number.

A24.14.7. **(Added-AETC)** AF Symbol (flagship only). Apply to both sides of vertical stabilizer; wings will be 4.375 inches in height. Proper placement is bottom of wings 5.5” above top of unit designator and centered on vertical aft edge of “F”.

A24.14.8. **(Added-AETC)** Tail Flash (stripe). Apply to both sides of vertical stabilizer; 5.25 inches in height. Proper placement is top edge of tail flash 8" below top of rudder and level with fuselage stripe.

A24.15. (Added-AETC) TG-10B/C:

A24.15.1. **(Added-AETC)** Tail Numbers. Apply to both sides of the vertical stabilizer.

A24.15.2. **(Added-AETC)** Crew Names (optional). Apply to left side of fuselage below canopy.

A24.16. (Added-AETC) TG-15A/B:

A24.16.1. **(Added-AETC)** Tail Numbers. Apply to both sides of the vertical stabilizer.

A24.16.2. **(Added-AETC)** Crew Names. Apply to both sides of fuselage below canopy.

A24.17. (Added-AETC) TG-16A:

A24.17.1. **(Added-AETC)** Aircrew and Crew Chief Names (optional). Apply to both sides of fuselage below canopy.

A24.17.2. **(Added-AETC)** Tail Numbers. Apply to both sides of the vertical stabilizer.

A24.17.3. **(Added-AETC)** Command Insignia. Apply to both sides of the vertical stabilizer.

A24.17.4. **(Added-AETC)** National Star. Apply to top of left wing and lower right wing.

A24.17.5. **(Added-AETC)** Tail Flash (stripe). Apply to both sides of vertical stabilizer.

A24.17.6. **(Added-AETC)** Unit Designator. Apply to both sides of vertical stabilizer.

A24.17.7. **(Added-AETC)** USAF. Apply to top right wing and lower left wing.

A24.17.8. **(Added-AETC)** U.S. AIR FORCE. Apply to both sides of forward fuselage.

A24.18. (Added-AETC) UV-18:

A24.18.1. **(Added-AETC)** National Star. Apply to both sides of fuselage and on top left wing and bottom right wing.

A24.18.2. **(Added-AETC)** USAF. Apply to center of top right wing and lower left wing.

A24.18.3. **(Added-AETC)** U. S. AIR FORCE. Apply to both sides of forward fuselage.

A24.18.4. **(Added-AETC)** Tail Numbers. Apply to both sides of the vertical stabilizer.

A24.18.5. **(Added-AETC)** Tail Flash. Apply to top, both sides of vertical stabilizer.

A24.18.6. **(Added-AETC)** Crew Names (optional). Apply to both crew doors below window. Apply jumpmaster name to left storage door.

A24.19. (Added-AETC) KC-46. Refer to lead command for common aircraft marking guidance.